ADVANCING SCIENCE
PROMOTING COMMUNITY
INSPIRING HOPE

4th World Parkinson Congress
Portland, Oregon, USA
September 20 – 23
2016

FINAL PROGRAM

Bringing the Parkinson’s Community Together!
The purpose of the World Parkinson Congresses is to create a worldwide dialogue to discuss the multifaceted problems of Parkinson’s disease (PD), propose solutions including new approaches to research, build innovative collaborations and create better treatment options for people with PD. It is the only meeting in the field of PD that addresses a need to bring the whole PD community together for high-level scientific sessions and discussions on current work being done to advance science, improve care for people with PD and help sensitize researchers to the needs of people with PD and conversely help people living with PD understand the challenges researchers and health professionals face in their effort to find a cure and offer better care.

World Parkinson Coalition Inc.
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Tel: +1 800 457-6676
info@worldpdcoalition.org
www.worldpdcoalition.org

World Parkinson Coalition is the nonprofit organization that is responsible for designing and running the triennial Congresses. WPC Inc hires the secretariat, runs the website, connects with organizational partners, is fully responsible for the meeting design including the program content, selection of faculty, renewal room, video competition and all social activities held during the Congresses.

STAFF
Elizabeth Pollard, Executive Director
Christiana Thurton, Outreach Coordinator
Kathleen Jordan, Intern
Dear friends:

On behalf of the WPC 2016 Steering Committee and the Board of Directors of the World Parkinson Coalition®, we welcome you to the Fourth World Parkinson Congress and to Portland, Oregon.

WPC 2016 will unite the global Parkinson community for a high-level, inspirational Congress with one pre-congress day and three days of plenary sessions, workshops, roundtables, technology talks, and discussions on the most recent and cutting edge scientific and clinical research as well as advances in care and quality of life for people living with Parkinson disease (PD).

We will welcome registrants from 60 countries including people living with PD, care partners, neuroscientists, clinicians, nurses, rehabilitation specialists, policy makers and others. Our 193 Organizational Partners from 46 countries have graciously endorsed the Congress and, by so doing have helped to ensure the success of the WPC 2016 and the diversity of our delegates.

Be sure to visit the exhibit area to view the 600 plus scientific and living-with-Parkinson’s posters and sign up for the evening poster tours right in the poster area. We encourage you also to visit our exhibitors, from around the world, representing both industry and non-profit organizations.

While there, plan to stop by the WPC Theater, where you can hear talks on technology and how it is impacting the lives of people living with PD, or meet some of the amazing authors who were selected to be part of our new “Meet & Greet” sessions. While in the exhibit hall, make sure you stop by the Book Nook to check out the nearly 60 books that we’ll have on display and take an order form so you can remember which book you want to order when you return home!

When in the exhibit hall, be sure to also visit our Clinical Research Village, where science will meet advocacy and where experts, both researchers and clinical trial participants, will be available to talk about clinical trials, why we need them, how you can help and what you need to know before signing up.

If you need a break from the science, visit the Wellness Way where you can find the Renewal Room to sign up for a session on yoga, dance, boxing, or singing. Or perhaps you might like to sign up for a massage or Reiki treatment, or try out meditation over lunch one day. For our care partners, we invite you to visit the new Care Partner Lounge to connect, learn, and relax throughout the Congress.

When walking the halls, be sure to check out our first ever Art Walk, showcasing three art exhibits produced by people with Parkinson disease, highlighting the power of creativity as part of a wellness plan and the talented community in which we live. And don’t forget to stop by the Parky statue for a picture to take home!

The World Parkinson Congresses are the only global conferences that bring together the entire Parkinson community, including the dedicated researchers and health professionals who study the disease and care for those who live with it, alongside the people and care partners who live with PD day in and day out – the real experts. This is the fourth time the WPC has convened. We will continue to strive to build a stronger, more cohesive PD community with a better understanding of PD and the treatment options currently available, always looking forward to newer advances and moving closer to a cure. We are pleased you have decided to join us for this unique learning opportunity.

This is a meeting of hope. The hope for a cure, and until that time comes, the hope for a better quality of life for those touched by Parkinson disease. This is also a meeting of inspiration. A meeting where researchers and clinicians meet people with PD who inspire them to continue their work and to never give up. It’s also a place where people with PD and families meet others in the community who inspire them to power through their disease knowing they are part of a global Parkinson family that is working toward a common goal – to end PD once and for all.

We look forward to meeting many of you during the Congress.

Sincerely,

Serge Przedborski
M.D., Ph.D.
WPC 2016 Co-Chair

A. Jon Stoessl
C.M., M.D., FRCP
WPC 2016 Co-Chair
Dear friends:

On behalf of the Program Committee, we thank you for your participation in the Fourth World Parkinson Congress this week in Portland, Oregon. The program you now hold in your hands was conceived by the members of the Program Committee who worked over the last three years to identify some of the most important and exciting topics being discussed and researched today and then invited experts from the global community to share their knowledge and experience.

Our goal was to create a vibrant and comprehensive program that would appeal to our diverse audience. We not only wanted you to feel inspired by the research, and hopeful for where it will lead us, but also for you to learn things about Parkinson disease that you could start using as soon as you returned home, whether in your homes, your clinics or your laboratories.

Sessions were created for people with Parkinson and care partners, neuroscientists, clinicians, whether general practitioners, neurologists, or movement disorder specialists, nurses, rehabilitation specialists and others involved in all aspects of Parkinson disease. Some sessions are designed for a specialized audience but many are meant to offer information of interest to a large cross-section of participants. The focus and level of technicity of each session is clearly indicated in the program, so you know what to expect in designing your own plan for each day of the meeting.

The pre-congress day on Tuesday offers three daylong courses followed by the opening ceremony and welcome reception. We then launch into the core program on Wednesday with Hot Topics presentations that start at 8 AM highlighting some of the outstanding poster abstracts we received this year followed by the daily morning plenaries which have been structured for maximum interest across the diverse delegate body.

Following these plenaries, each day over lunch we have a unique special lecture, with the first to be delivered on Wednesday, September 21 by Dr. John Nutt as our James Parkinson Lecturer looking at the history of levodopa. The Thursday special lecture will take a look at living well with PD with stories and talks by people with Parkinson who are inspiring their communities, and the third special session on Friday will be chaired by Dave Iverson as he discusses with panelists the challenges between focusing on a cure versus care and how these decisions are made and who makes them. Over lunch each day in the exhibit hall, we also have series of Technology talks in the WPC Theater, a chance to meet authors in the Book Nook, and time to learn about clinical research in the Clinical Research Village.

Each afternoon, we have concurrent sessions that start at 1:30 PM and 3:30 PM covering a broad range of topics from basic science, clinical science, and comprehensive care that will be in large session halls, smaller workshop settings, and roundtable sessions that require sign-up each morning for very intimate small group discussions with experts on targeted topics.

One of the highlights at the WPC is the poster area in the exhibit hall. Many talented researchers, clinicians and advocates showcase their work in this area. These posters will be on display for the full Congress and authors are asked to be present at their poster on either Thursday or Friday over lunch. Some of these posters will be selected for poster tours on Wednesday and Thursday evening.

We hope that your time at the WPC 2016 will be enjoyable and inspiring. We welcome your feedback to continuously improve the meeting in future years.

Welcome to Portland.

Warm regards,

Marie-Françoise Chesselet M.D., Ph.D.
Chair, Program Committee

Peter LeWitt M.D.
Co-Chair, Program Committee

Peter Fletcher M.B.Ch.B., M.Sc.
Co-Chair, Program Committee
Dear friends:

It has been a decade since the first World Parkinson Congress was held in Washington, D.C., and now here we are, welcoming you to the fourth iteration of this Congress. Help us realize and celebrate our vision of “Advancing Science, Promoting Community and Inspiring Hope!”

As the second group of Ambassadors for World Parkinson Congress we represent a global community of people with Parkinson’s. Because we know how important WPC 2016 can be, we took our role seriously and reached out to the world to invite neuroscientists and nurses; physiotherapists and physicians; those seeking a cure and those seeking to care. We invited you to Portland. You heard us, you responded, and here you are. You need to know that, whatever your reason for coming, your presence is an inspiration to us, as well as to millions of others who gain hope and encouragement from your passion to help in the battle against Parkinson’s.

You see, each of us spend much of our time fighting this dogged disease alone. PD was not our choice. It is not just a matter of the head sending faulty messaging to the limbs. It is not just stiffness and tremors, fatigue and falling, or pain and poverty of movement. It is a disease that invades our hearts and robs us of our spirit, and our confidence. And when that loneliness strikes again in the middle of some dark winter’s night when we cannot sleep, we need the memories we will take from this place. We will replay our remembrances of seeing the pride and passion you displayed when speaking of advances made; memories of the sweat and strain you expend on our behalf; and recollections of the hope, laughter, and enthusiasm we gained by looking in your eyes.

And so we welcome you, and sincerely thank you for making people with Parkinson’s your priority. We hope to meet you all personally as we share the information and inspiration of this fourth World Parkinson Congress. So please, make new friends as you enjoy this country, this city and this super special global event. Friendships make the best memories.

Sincerely,

WPC 2016 Ambassadors

Fulvio Capitanio  
Barcelona, Spain

Andrew Curran  
Ireland, U.K.

Dilys Parker, R.N.  
New Zealand

Allison Smith, M.A., L.M.F.T.  
California, U.S.A.

Jillian Carson, P.T.  
British Columbia, Canada

Kevin Krejci  
California, U.S.A

Sara Riggare  
Stockholm, Sweden

Ryan Tripp  
Ontario, Canada

Carey Christensen  
Washington, U.S.A.

Samuel Ng  
Malaysia

Israel Robledo  
Texas, U.S.A.
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Wolfgang Oertel, MD
Werner Poeve, MD
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Fernando Pagan, MD

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Patricia Davies
Karen Northrop
Robert Gardino

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Dan Baker

Michael Okun, MD
Barry Snow, MD
Caroline Tanner, MD, PhD
Eduardo Tolosa, MD
Daniel Weintraub, MD

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Sonia Mathur, MD
Rebecca Miller, PhD
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Magne Frederickson
Karl Friedl, PhD (Lt. Col. Ret)
Malcolm Irving
Sara Lew
Israel Robledo
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Amy Montemarano, JD
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Leliani Pearl
Christiana Thurton
Cathy Whitlock
Alicia Wrobel

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Carey Christensen
Andrew Curran
Kevin Krejci
Samuel Ng
Dilys Parker, RN
Sara Riggare
Israel Robledo
Allison Smith, MA, LMFT
Ryan Tripp

*World Parkinson Coalition Board Member
GENERAL INFORMATION

BADGES
Delegates must wear their badge at all times in the Convention Center.

- Health Professionals
- Non-health Professionals
- Accompanying Person
- Media
- Exhibitor Staff (floor only)
- Volunteers/Registration Staff

BANKING AND EXCHANGE FACILITIES
Weekday hours for banks are 9:00 AM – 5:00 PM. You will find branches of all the major high street banks in Portland city center. There are three ATMs conveniently located within the OCC: Gingko Berry Concourse, to the right of the entry doors; MLK Lobby, in the elevator alcove; Pre-function A Lobby.

BUSINESS CENTER
Eleven Wireless hosts a self-service business center, located directly above the main MLK Lobby. Services include computer access, faxing, copying and printing. Contact information is posted for the local UPS store which can provide additional services including large print jobs, banner creation or small individual shipping services. The center is open seven days a week from 7:00 AM to 11:00 PM when the facility is in use.

CAR PARKING AND ACCESS
A map showing access to the Oregon Convention Center can be found by clicking on this link: https://www.oregoncc.org/visitors/inside-occ Parking rates at the OCC start at $5 (1 hour) to $10 (4-18 hrs max).

DISCLAIMER
All best efforts will be made to present the program as printed. However, the Congress hosts and secretariat reserve the right to alter or cancel, without prior notice, any arrangements, timetables, plans or other items relating directly or indirectly to the Congress, for any cause beyond its reasonable control. The Congress hosts and secretariat are not liable for any loss or inconvenience caused as a result of such alteration. In the event of cancellation of the Congress all pre-paid fees will be refunded in full. However, the Congress hosts and its agents are not liable for any loss or inconvenience caused as a result of such cancellation. Delegates are advised to take out their own travel insurance and to extend their policy to cover personal possessions as the Congress does not cover individuals against cancellation of bookings or theft or damage to belongings.

DRESS CODE
You may dress informally for the congress. The dress code for the social program and special events is also informal.

ELECTRICITY
The voltage in the USA is 110 volts (60 cycles). You may require an adapter or converter if coming from abroad.

EMERGENCIES & FIRST AID
The convention center has a fully equipped first aid room located in the Pre-Function A. An emergency medical technician is on site during events with attendance over 1,000, or when otherwise deemed appropriate for the safety of attendees. EMTs may be contacted by picking up any house phone and dialing “0” or contacting any staff member. The building also has three defibrillator stations located in public spaces for immediate response to a medical emergency.
EXHIBITION

All participants are invited to complete evaluations for the congress and each session they attend. Forms for individual sessions are available in the meeting rooms. A general evaluation survey for the whole congress will be sent to delegates after the congress dates.

EXHIBIT HALL PASSPORT

The WPC Passport sponsors invite you to visit their booths to discover their products and services and to get your passport stamped for the raffle. One lucky winner will walk away with an iPad Mini at the end of each day. Raffles take place in the WPC Theater (Exhibit Hall) at 6:30 PM on Wednesday and Thursday and at 1:20 PM on Friday.

EVALUATIONS

All participants are invited to complete evaluations for the congress and each session they attend. Forms for individual sessions are available in the meeting rooms. A general evaluation survey for the whole congress will be sent to delegates after the congress dates.

FOOD SERVICES

Tea and coffee during the official afternoon breaks is included in your registration fee. Coffee stations and food concessions are open to delegates in the Exhibit Hall at the Oregon Convention Centre.

INTERNET ACCESS

Complimentary Wi-Fi is available throughout the meeting rooms and exhibit hall.

- Network: WPC2016
- Password: PARKY2016

LANGUAGE

The official language of the congress is English.

MAPS & FLOOR PLAN

See back of program, pages 128–129.

MEDIA ROOM

Used by registered media and staffed by WPC Communications team, this is a hub for media professionals to work as they file stories, take a break, speak to the team at WPC, and get support in connecting with speakers for stories.
GENERAL INFORMATION

MOBILE APP
Available for download beginning of September, this WPC 2016 Mobile App will enable the delegates to access WPC details on their smart phone or tablet, including the program, general information, side activities, list of participants and the opportunity to exchange messages with fellow delegates. To download visit the WPC2016 website or visit the App Store online and look for World Parkinson Congress 2016.

MOBILE PHONES AND DEVICES
Mobile phones must be switched off or muted in the session meeting rooms.

PHOTOGRAPHY AND VIDEOGRAPHY
Photography and videotaping are not permitted in any of the oral or poster sessions without the express permission of the relevant oral presenter or poster authors.

An official photographer/videographer will be on site to capture the essence of the congress for the WPC web site and records. These images may be used for promotion of the World Parkinson Coalition.

POSTERS
Posters will be displayed throughout the congress dates in the Exhibit Hall B (Level 1). Official poster sessions are scheduled on Thursday and Friday from 11:30 AM to 1:30 PM, at which time poster presenters will be stationed by their poster to discuss with delegates. See the poster session program for details on when posters will be hosted.

Poster set-up time is Tuesday from 8:00 AM to 5:00 PM and Wednesday 8:00 to 10:30 AM. All posters must be taken down by 3:00 PM on Friday.

POSTER TOURS
Poster tours will be held from 5:15 to 6:30PM on Wednesday and Thursday evenings, September 21 and 22, at which times a select number of posters to be highlighted for their work.

PRAYER ROOM
The Meditation Room (C121), when not being used daily from 12:00 – 1:00 PM for guided meditation, may be used for personal prayer. Please be respectful of others.

REGISTRATION SCHEDULE
At DoubleTree and Hilton Portland & Executive Tower

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
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<tbody>
<tr>
<td>Sunday, September 18</td>
<td>2:00 – 6:00 PM</td>
</tr>
<tr>
<td>Monday, September 19</td>
<td>9:00 AM – 4:00 PM</td>
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At the Oregon Convention Center (Pre-Function A)

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Monday, September 19</td>
<td>5:00 – 7:00 PM</td>
</tr>
<tr>
<td>Tuesday, September 20</td>
<td>7:00 AM – 8:00 PM</td>
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<tr>
<td>Wednesday, September 21</td>
<td>7:00 AM – 7:30 PM</td>
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<tr>
<td>Thursday, September 22</td>
<td>7:00 AM – 7:30 PM</td>
</tr>
<tr>
<td>Friday, September 23</td>
<td>7:00 AM – 6:30 PM</td>
</tr>
</tbody>
</table>

SMOKING POLICY
Smoking is not allowed in public spaces (e.g.: restaurants, bars, stores, shopping centers, cinemas). Many buildings have cigarette disposal arrangements outside. You must be 21 years or older to buy tobacco in Oregon.
GENERAL INFORMATION

SOCIAL MEDIA

Connect with other delegates and Congress organizers using social media.

- Like us on Facebook at World Parkinson Congress and watch as the global community posts about their journey to Portland!
- The WPC 2016 Twitter handle is @WorldPDCongress – The WPC 2016 hashtag is #wpc2016.
- The WPC YouTube channel is WorldPDCongress.
- The World Parkinson Coalition Inc., is on LinkedIn. “Follow” our company page to connect to the global Parkinson’s community.
- See the great WPC pictures on our Instagram at @worldpdcongress! Join our photo feed by using hashtag #wpc2016.

SPEAKER READY ROOM AND PRACTICE ROOM

(Rooms A109 and A108)

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Monday, September 19</td>
<td>3:00 – 7:00 PM</td>
</tr>
<tr>
<td>Tuesday, September 20</td>
<td>7:00 AM – 6:00 PM</td>
</tr>
<tr>
<td>Wednesday, Sept 21 / Thursday, Sept 22</td>
<td>7:00 AM – 6:00 PM</td>
</tr>
<tr>
<td>Friday, September 23</td>
<td>7:00 AM – 3:30 PM</td>
</tr>
</tbody>
</table>

All invited speakers are requested to go to the Speaker Ready Room A109 to upload their PowerPoint presentation file(s) as soon as they have picked up their badges and congress materials. Computers are available to invited speakers wishing to review or modify their presentation. In addition, room A108 has been set up as a practice room for speakers with a podium and lectern. Speakers wishing to book this space can sign up for the space in the Speaker Ready Room.

Please note that all speakers should submit their presentation to the Speakers’ Ready Room no less than 3 hours in advance of their session. Speakers with early morning sessions are required to submit their material no later than 5 PM on the evening before their session is scheduled.

TRANSPORTATION

Portland’s TriMet MAX light rail will take you from the city center to the Oregon Convention Center 300 times a day. An adult ticket costs $2.50 (Youth $1.25, Honored Citizen $1). MAX ticket machines return change in coins, so small bills are recommended.

Every WPC 2016 delegate will receive a complimentary 7-day pass for the week of the Congress at registration. This pass will be in your registration material given to you on site.

Taxi rates start at $2.50 minimum flag drop and $2.90 per mile, with a $1 charge per extra passenger. A taxi ride from the downtown area to Portland International Airport costs a flat rate of $35 not including tip.

The Downtown Airport Express by Blue Star runs every 30 minutes and costs $14 one-way and $24 round-trip to downtown and Lloyd Center/Convention Center hotels. Other shuttle services are available, and many airport hotels provide free shuttles.

VOLUNTEERS

The WPC would like to thank all the people who have volunteered their time at WPC 2016. Their help is crucial in making this meeting a success! You can find volunteers wearing the red WPC 2016 Volunteer t-shirt. Thank them.

WPC STORE

Visit our store in the registration area to support the WPC and get some fun mementos from the congress. The store will be open 11:00 AM – 5:00 PM from Wednesday to Friday.
JOIN US AT AD/PD™ 2017
The 13th International Conference on Alzheimer’s & Parkinson’s Diseases
March 29 - April 2, 2017 | Vienna, Austria

Abstract Submission Deadline: September 29, 2016

Early Registration Deadline: December 14, 2016

ORGANIZING COMMITTEE
Abraham Fisher, Israel, President
Roger M. Nitsch, Switzerland, Executive Organizer
Manfred Windisch, Austria, Executive Organizer

adpd2017.kenes.com
At Adamas, we share your commitment to people living with Parkinson’s disease.

Adamas Pharmaceuticals, Inc. is driven to improve the lives of those affected by chronic disorders of the central nervous system.

For more information, please visit our website at www.adamaspharma.com.
Offering an oasis from the hustle and bustle of the WPC, this area of the Congress provides four rooms where delegates can take a break from the science. All these spaces have one thing in common: giving individuals the tools and experiences to enjoy a better quality of life.

Supported by Acadia Pharmaceuticals

**RENEWAL ROOM (C123 – 124)**
This room offers an extensive program full of interactive sessions such as yoga, dance, singing, drumming and other musical activities. Sign up each morning outside the Renewal Room for sessions taking place that day.

### WEDNESDAY, SEPTEMBER 21, 2016

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 9:00 AM</td>
<td>Yogadopa: yoga for people with Parkinson’s disease and care partners*</td>
<td>Kaitlyn Roland (Canada)</td>
<td>Join Kaitlyn for yoga tailored to persons with Parkinson’s disease and their partners. The yoga poses are accessible to any body and ability and the session will focus on creating balance. Kaitlyn combines her research training in physiology with her personal experiences in the PD community to encourage improved body awareness, self-confidence, strength and joy!</td>
</tr>
<tr>
<td>11:30 AM – 12:30 PM</td>
<td>Fighting Back Against Parkinson’s with Rock Steady Boxing*</td>
<td>Joyce Johnson (USA)</td>
<td>Rock Steady Boxing empowers people with Parkinson’s to “fight back.” We will introduce participants to noncontact, boxing-inspired exercise, provide an opportunity to learn basic boxing moves and discuss the science behind its success in reducing, reversing and delaying symptoms.</td>
</tr>
<tr>
<td>12:45 – 1:45 PM</td>
<td>Mighty Maestro Singing!</td>
<td>Judith Spencer (USA)</td>
<td>Come sing with Judi, WPC Choir Director and the Mighty Maestro! Stretch those singing muscles and have fun.</td>
</tr>
<tr>
<td>2:00 – 3:00 PM</td>
<td>PD Movement Lab*</td>
<td>Pamela Quinn (USA)</td>
<td>In Pam Quinn’s PD Movement Lab we find different ways to transform ourselves: we use imagery to change our posture, rhythm to increase our tempo, touch to dispel our rigidity. We learn how to work with our bodies through dancing together to a wide selection of music. Fun, practical, transformative.</td>
</tr>
<tr>
<td>3:15 – 4:15 PM</td>
<td>Vocal Energetics – Voice for Joyous Health &amp; Peaceful Mind</td>
<td>Judith Lynne (USA)</td>
<td>Discover the healing and transformative power of your voice. PWP Judith Lynne’s holistic vocal method helps meet many challenges of PD. Use your voice to sound your body/mind/heart/soul into harmony and joy.</td>
</tr>
<tr>
<td>4:30 – 5:30 PM</td>
<td>Spreading SMILEs and Healing Through Art*</td>
<td>Saba Shahid (USA)</td>
<td>Discover the transformative power of creativity. Combat symptoms of Parkinson’s such as tremors, micrographia, loss of fine motor control, and depression. Art is medicine!</td>
</tr>
</tbody>
</table>

*NOTE: Sessions with an asterisk (*) indicate physical movement required for session. Any participant who may present any concern for him/herself or others when performing physical movement must attend with a helper.
## WELLNESS WAY

**RENEWAL ROOM (C123 – 124)**

**THURSDAY, SEPTEMBER 22, 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 9:00 AM</td>
<td>Synchronizing Breath &amp; Movement for Body Alignment and Posture Integrity (Chair Yoga)*</td>
<td>Aminta St Onge (USA)</td>
<td>Class will focus on breathing techniques that assist with and creates body awareness. Participants will be guided thru specific movements, starting with feet and working all the way up the torso to help improve spinal integrity and posture. Class will end with a guided meditation. (Standing is optional)</td>
</tr>
<tr>
<td>11:30 AM – 12:45 PM</td>
<td>Dance for PD*</td>
<td>David Leventhal (USA)</td>
<td>Discover the healing and transformative power of dance.</td>
</tr>
<tr>
<td>1:00 – 2:00 PM</td>
<td>The Triad – Voice, Movement and Cognition*</td>
<td>John Dean (USA) &amp; Josefa Domingos (Portugal)</td>
<td>Voice, movement and cognition are the three core components of many common activities. Each one of these skills, individually and in combination, are critical to successfully navigating daily life. This hands-on session will demonstrate how to seamlessly integrate these three components into “dual task” activities and exercises that can be applied immediately to your daily life.</td>
</tr>
<tr>
<td>2:15 – 3:15 PM</td>
<td>PWR! Nexus – Brain/Body Agility*</td>
<td>Becky Farley (USA)</td>
<td>PWR! Nexus is the integration of PD-specific functional fitness with high level cognitive challenges involving attention, inhibition, task shifting, sequencing, and working memory. Learn how this may enhance your ability to negotiate everyday situations bigger, faster, and safer. More FUN and FUNction than playing brain games on a computer!</td>
</tr>
<tr>
<td>3:30 – 4:30 PM</td>
<td>The Rhythm of Life – Drumming</td>
<td>Jim Boneau (USA) &amp; Judith Spencer (USA)</td>
<td>Discover the healing and transformative power of drumming and rhythm!</td>
</tr>
<tr>
<td>4:45 – 5:45 PM</td>
<td>Face Yoga*</td>
<td>Renee Le Verrier (USA)</td>
<td>This session brings the benefits of yoga’s awareness, movement, stretching and relaxation to the face. With its 40+ muscles (there are 13 in one leg), it’s time to loosen our lips, turn frowns upside-down, look wide-eyed and face exercise with a smile.</td>
</tr>
</tbody>
</table>

*NOTE: Sessions with an asterisk (*) indicate physical movement required for session. Any participant who may present any concern for him/herself or others when performing physical movement must attend with a helper.*
## WELLNESS WAY

### RENEWAL ROOM (C123 – 124)

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 9:00 AM</td>
<td>Tai Chi for Parkinson’s*</td>
<td>Daniel Loney (Israel)</td>
<td>Learn basic Tai Chi principles and discover why research proves that it surpasses other practices in reducing Parkinson’s symptoms. Experience how its implementation in your daily life improves your ability to prevent falls and aids in walking, turning in place, coping with frozen/Off situations and negotiating in crowds. Daniel, a long term PWP, has markedly alleviated his own Parkinson’s symptoms. He shares 25+ years of Tai Chi experience and conducts Tai Chi for Parkinson’s workshops internationally.</td>
</tr>
<tr>
<td>11:15 – 11:45 AM</td>
<td>Laughter Therapy: Humor &amp; PD</td>
<td>Whit Deschner (USA)</td>
<td>At 46 Whit Deschner assumed he would grow cynical and a Buddha belly. Instead he grew nose hairs and got Parkinson’s. It could have been worse. He could have been diagnosed as a Norwegian... Whit’s talk is 22 minutes long, 5 minutes wide and has no depth whatsoever.</td>
</tr>
<tr>
<td>12:00 – 1:00 PM</td>
<td>Nia Brain Body Exercise for Parkinson’s*</td>
<td>Caroline Kohles (USA)</td>
<td>Discover the healing and transformative power of Nia Brain Body exercises.</td>
</tr>
<tr>
<td>1:15 – 2:15 PM</td>
<td>Manage Symptoms and Find Hope: Alexander Technique for Daily Living*</td>
<td>Candace Cox (Canada) &amp; Morgan Rysdon-Moulitsas (USA)</td>
<td>Learn to improve balance, range of motion and vocal volume while reducing rigidity and other symptoms in regular daily activities using the Alexander Technique. Based on Candace’s teaching and research at Parkinson’s Alberta, Canada, and Morgan’s weekly classes with the JCC Manhattan in partnership with Edmond J. Safra Parkinson’s Wellness Program, NYC.</td>
</tr>
<tr>
<td>2:30 – 3:30 PM</td>
<td>Dance with Dance for Parkinson’s Oregon/Dance for Parkinson’s Boulder (affiliates of the Dance for PD® network)*</td>
<td>Virginia Belt (USA), Madeleine Denko-Carter (USA) &amp; Viki Psihoyos (USA)</td>
<td>Join us for a fun get-together as we explore dance and music. Former ballerina, Viki Psihoyos offers specifically designed movement for people with Parkinsons. In chairs then across the floor, all levels of ability are welcome at this dance party.</td>
</tr>
<tr>
<td>3:45 – 4:45 PM</td>
<td>Move and Shout Full Body Workout, Power for Parkinson’s Style*</td>
<td>Nina Mosier (USA) &amp; Susan Stahl (USA)</td>
<td>This high-energy class uses group fitness principles in a fun engaging atmosphere. We address both physical and cognitive symptoms of Parkinson’s, stimulating neuroplasticity to improve strength, balance, coordination, endurance and mood!</td>
</tr>
</tbody>
</table>

*NOTE: Sessions with an asterisk (*) indicate physical movement required for session. Any participant who may present any concern for him/herself or others when performing physical movement must attend with a helper.
WELLNESS WAY

Supported by Acadia Pharmaceuticals

MASSAGE & REIKI ROOM (C120)
A place to relax and unwind, this room will offer short complimentary massage and Reiki treatments on massage tables or massage chairs. Participants remained fully clothed.

*We are grateful to the volunteer therapists in this space from the Northwest Reiki Association and the University of Western States.*

MEDITATION ROOM/ PRAYER ROOM/ QUIET ROOM (C121)
This room will have organized meditation sessions daily from 12:00 PM – 1:00 PM. Other times of the day, it will be open for delegates to enjoy the space quietly either resting and letting meds kick in or using the space as a prayer room. Zero gravity chairs and cushions will be available along with a water station.

*We are grateful to Siamak Shirazi for his expertise offering guided meditation.*

CARE PARTNER LOUNGE (C125)
This room will be a safe space for care partners to meet and greet each other and will be used both as a support group space during lunch time and have a formal roundtable talk each day geared to care partners.

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**Wednesday, September 21**

12:15 – 1:15 PM  
Facilitated Support Group *(participants encouraged to bring their lunch)*  
*Facilitator: Elaine Book (Canada)*

3:30 – 5:00 PM  
Intimacy and Maintaining a Relationship with your partner  
*Speaker: Lissa Kapust (USA)*

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**Thursday, September 22**

12:15 – 1:15 PM  
Facilitated Support Group *(participants encouraged to bring their lunch)*  
*Facilitator: Elaine Book (Canada)*

3:30 – 5:00 PM  
Cognitive challenges: How to recognize them and get the help you need  
*Speaker: Amy Lemen (USA)*

---

**Friday, September 23**

12:15 – 1:15 PM  
Facilitated Support Group *(participants encouraged to bring their lunch)*  
*Facilitator: Elaine Book (Canada)*

3:30 – 5:00 PM  
Tips for managing your own health  
*Speaker: Lissa Kapust (USA)*
WPC THEATER

This space in the Exhibit Hall A will have activities daily. Stop by to exercise your body, learn about technology, hear some great music, or meet some phenomenal authors. When sessions are not on stage, the screen will show videos from the WPC Video Competition. Be inspired!

WEDNESDAY, SEPTEMBER 21

11:30 – 11:45 AM  Power Through Project Work Out!
12:00 – 1:00 PM  Technology Talks
    Host: Kevin Krejci (USA)
    Talk: Treating targets with objective measurements
        Speaker: Malcolm Horne (Australia)
        Supported by Global Kinetics Corporation
    Talk: From Subjective to Objective – Measuring Tremors Through Wearable Devices and Big Data Analytics
        Speakers: Josh Lemieux (USA) and Chen Admati (Israel)
        Supported by Intel
3:00 – 3:30 PM  Live musical performances!
5:15 – 6:30 PM  Meet the Authors (see details in daily program)
6:30 PM  WPC Passport Raffle – Win a mini iPad!

THURSDAY, SEPTEMBER 22

11:30 – 11:45 AM  Power Through Project Work Out!
12:00 – 1:00 PM  Technology Talks
    Host: Kevin Krejci (USA)
    Talk: Improving history taking with objective measurements
        Speaker: Rajesh Pahwa (USA)
        Supported by Global Kinetics Corporation
    Talk: Expanding the Care Continuum with Access to Full-Body MRI with Medtronic DBS Therapy
        Speaker: Yair Safriel (USA)
        Supported by Medtronic
3:00 – 3:30 PM  Live musical performances!
5:15 – 6:30 PM  Meet the Authors (see details in daily program)
6:30 PM  WPC Passport Raffle – Win a mini iPad!

FRIDAY, SEPTEMBER 23

11:30 – 11:45 AM  Power Through Project Work Out!
12:00 – 1:00 PM  Technology Talks
    Host: Kevin Krejci (USA)
    Talk: Optimizing Therapy with Boston Scientific Deep Brain Stimulation System
        Speaker: Stephen Carcieri (USA)
        Supported by Boston Scientific
1:20 PM  WPC Passport Raffle – Win a mini iPad!
Designed to improve your day-to-day experiences
Welcome to the first WPC Art Walk. Whether creativity is in the shape of a museum quality art show, like at WPC 2006, or in video or musical format, or even showcased as dance, poetry, or on a quilt, it is impactful on our wellbeing. We know people with Parkinson’s use creativity and art as part of their wellness plan. We are honored to showcase three amazing art projects to inspire you to head home and pick up your camera, paintbrush, or sewing needle.

Visit these unique art installations during the Congress – follow the Parky paw prints! Meet artists over lunch each day in their respective areas.

This initiative, created by Norwegian photographer and person with Parkinson’s Anders M. Leines, has moved audiences with its compelling portraits, real-life stories, and critical approach towards the general status quo image of the person with Parkinson’s disease.

With its highly emotive and personal images, the initiative showcases proud young individuals living with PD. The images capture with stunning simplicity their emotions and abilities, including self-respect and humor. They are young, they have dreams, and they want action.

This art Installation brings together thousands of journeys of resilience from the global Parkinson’s community. The installation features a 10-foot metal tree, which is lit from within and holds thousands of copper and paper leaves. Each leaf shares a quote or message from someone in our world living with or impacted by Parkinson’s. By sharing their stories and quotes, contributors to the project inspire, connect and help to build our tree of resilience. In combination with our tree sculpture, we are also featuring environmental portraits with personal stories of resilience.

This project was the first ever, and only, global quilt to focus the world’s attention on the seven to 10 million people worldwide living with Parkinson’s. The project, created in 2009, aims to raise awareness of the impact that the disease has on people living with Parkinson’s – along with their families, care partners and friends – and on our continued urgency to find a cure. More than 600 people created the quilt panels to generate the 41 quilts that make up the project. Panels include photos, illustrations and items that express each quilter’s experience with PD. This is the third time the Parkinson’s Quilt Project will be shown in its entirety.
**WPC AWARDS**

The World Parkinson Congress Award for Distinguished Contribution to the Parkinson Community was created to honor those who whose efforts best embody the goals of the World Parkinson Congress: to inspire more community building and expand collaboration on basic and clinical research, medical practices, care partner initiatives, and advocacy that impact the Parkinson community. The WPC is thrilled to honor the three individuals listed below, the first ever recipients to receive this award, for their outstanding contributions and service to the community. Their years of service combined come to 68 years of serving and inspiring the community.

**DAVID LEVENTHAL (USA)** is someone who’s truly making a difference through a unique combination of talents: as an artist, an educator, a writer, a leader and a passionate advocate for people living with Parkinson’s. During a fabled career as a principal dancer with the Mark Morris Dance Group, David was known as one of the world’s great modern dancers. And it was during this time that he began a new affiliation that would wind up altering the direction of his life: he started teaching a dance class for people with Parkinson’s. And in 2011 he decided to give up performing and devote all his time to Dance for PD®. Under David’s leadership, Dance for PD has become a global phenomenon. Not only do classes now take place in over a hundred of cities around the world, David has brought widespread attention to the critical role that movement training can play in the lives of people with Parkinson’s. David Leventhal has helped change our understanding of what living with Parkinson’s can mean and in so doing has changed the lives of thousands.

**JULIE CARTER (USA)** joined the Oregon Health & Science University (OHSU) Neurology and Movement Disorders faculty in 1979 and co-founded of the Parkinson’s Center of Oregon (PCO), where she has been fully engaged as a clinician, clinical investigator, and educator ever since. For more than a decade, Julie served as the Director of Clinical Research for the PCO. In this role she served as site PI for more than a dozen clinical trials, and has published more than 75 manuscripts in peer-reviewed journals. It was in the role of Director of Education and Outreach, a position Julie held for more than two decades that she became a locally and nationally recognized speaker on topics related to the care of people with PD and their families. She is a dedicated, hands-on clinician, providing direct care to people with PD and to their families. Over her career she has identified a number of gaps in patient care and went on to create initiatives to address them, such as: OHSU’s Parkinson Center’s Newly Diagnosed program; ‘Strive-to-Thrive’, a self-efficacy program designed to engage and empower patients and their families; and the ‘Next Steps Clinic’, a PD-specific multidisciplinary palliative care clinic at OHSU. Julie has impacted the lives of the patients and health professionals around her for more than three decades leaving a long legacy of care.

**TOM ISAACS (UK)** was diagnosed with Parkinson disease (PD) at the age of 26. Now aged 48, he has been living with PD for over 21 years. He has one enduring ambition - to see a life where PD can be reversed for the 150,000 people living with this condition in the UK – and ten million people worldwide. In 2002, seven years into his Parkinson’s journey, Tom took a sabbatical from his career as a surveyor in a property company in London. He undertook an incredible physical and fundraising challenge, to walk 4,500 miles around the coastline of Britain, climb the highest mountains in England, Scotland and Wales and at the end of all that, run the London Marathon, whilst meeting thousands of people with Parkinson and researchers en route. The walk united Tom’s interests in research and advocacy. Two years later The Cure Parkinson’s Trust came into being to fund research to slow, stop, and reverse Parkinson’s, with the aim of making a difference to those living with the disease within five years. Since its creation, the Trust has raised £12 million for research. His vision is to help find a cure for Parkinson’s - a quest that is too massive for one person alone. He believes that only through talking about PD that we can raise the profile of the disease, and with that the necessary funding needed to fast track research to a cure.
SPEAK OUT!® around the world…

Meet Tonya Walker
Mother, law professor and fashion blogger living with young-onset PD stars in our newest digital video series. Meet her at the More than Motion™ booth!

Also Appearing:
- Lynn Ross, MSW
  - Tips From a Social Worker
- Ashish Advani, PharmD
  - Finding Credible Sources of Information
- Lauren Sanders, MS, NCC, LPC
  - Communicating with Family and Children
- Amy Morse, PT
  - Exercising Together: A Family Affair

Visit booth 107 to get a free copy of More than Motion™ magazine and the expert speaking schedule!

Join our online community at facebook.com/parkinsonsmorethanmotion
SOCIAL PROGRAM and SPECIAL EVENTS

**WELCOME RECEPTION**

**Tuesday, September 20**

7:45 – 10:00 PM | Exhibit Hall A-B

All registered delegates are welcome to attend the Welcome Reception to meet old acquaintances, make new friends, and be motivated to learn about the new things on the horizon from our many exhibitors.

**WPC FILM NIGHT**

**Wednesday, September 21**

7:00 – 9:00 PM | DoubleTree by Hilton – Lloyd Center Ballroom

A first-time event for the WPC where we will showcase five short films from, and about, the community. Once again, showing how video can be uplifting, educational, and inspiring.

**WPC MUSIC, MOVEMENT, AND PD LOUNGE**

**Thursday, September 22**

7:00 – 9:00 PM | Eastlund Hotel – Cosmopolitan Ballroom

A first-time event for the WPC where WPC delegates and Parkinson’s community members entertain us with music, movement, and humor.

**CLOSING CEREMONY**

**Friday, September 23**

6:15 – 7:00 PM | Exhibit Hall C

Come join us for the closing remarks of the WPC 2016. Drop off your raffle ticket when you enter the room and you might win free registration to WPC 2019 or other giveaways. Light fare to be served.

**OPTIONAL TOURS**

Tours are still open for sale, based on availability up to the day of tour date. Last-minute tickets may be available for purchase based on capacity. We encourage you to contact our tour operator, America's Hub World Tours or book online:


Tel.: 1-800-637-3110 or 503-896-2464 – info@hubworldtravel.com

Tour desk is located near the registration desk (Pre-function A) at the Oregon Convention Center.

*Tour Pick-up Location:* Oregon Convention Center on N.E. Holladay Street except for the “Portland Architectural Walking Tour” (your guide will be meeting you at the Pioneer Square Center Courtyard). Please make sure you arrive at your meeting point 20 minutes before departing time. For more information, consult the mobile app or go to the tour web site at [http://www.wpc2016.org/?page=Tours](http://www.wpc2016.org/?page=Tours)
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Innovate. Incubate. Invigorate.
TRAVEL GRANTS

JUNIOR RESEARCHERS AND HEALTH PROFESSIONALS

Ahmed Wafaa Abdalla (Egypt)
Katrina Albert (Finland)
Aneya Alleva (Russia)
Marilyn Araujo (Canada)
Lisa Barnhill (United States)
Mitchell Bartlett (United States)
Zacharie Beaune-Seguin (Canada)
Judith Bek (United Kingdom)
Esther Bekkers (Belgium)
Seti Belay (Ethiopia)
Abderrahmane Chahidi (Morocco)
Cristina Colon-Semenza (United States)
Vidyadhara D J (India)
Ernest Dalle (South Africa)
Kenneth Dalton (United States)
Ria de Haas (Netherlands)
Tanya Denne (United States)
Josefa Domingos (Portugal)
Helene Doucet-Beaupre (Canada)
Nicole Dsouza (India)
Ryan Duncan (United States)
Seyed-Mohammad Fereshtehenejad (Canada)
Jori Fleisher (United States)
Ana Claudia Fortaleza (Brazil)
Emanuele Frattini (Italy)
Preston Ge (United States)
Catarina Godhinho (Romania)
Richard Gordon (Australia)
Marie-Anne Gougeon (Canada)
Priti Gros (Canada)
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Richa Gupta (India)
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Navaz Irani (India)
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George Kannarkat (United States)
Donghoon Kim (United States)
Jayasankar Kosaraju (Macau)
Pardeep Kumar (India)
Blake Lawrence (Australia)

Breiffni Leavy (Sweden)
Angus Macleod (United Kingdom)
Robert Marongiu (United States)
Inis Martins (Portugal)
Rustambek Matmurodov (Uzbekistan)
Marie McNeely (United States)
Paola Montenegro (United States)
Rosie Morris (United Kingdom)
Juliane Muehlhaus (Germany)
Amarnath Mullapudi (India)
Peter Myers (United States)
Ahmed Negida (Egypt)
Njideka Okubadejo (Nigeria)
Sabina Omarova (Russia)
Eunsun Park (United States)
Daniel Peterson (United States)
Kumar Punnusamy (India)
Kelly Richardson (United States)
Colby Samstag (United States)
Anna Sauerbier (United Kingdom)
Christian Schlenstedt (Germany)
Yun Shen (China)
Arun Singh (United States)
Ranjit Singh (India)
Sandy Staye (Australia)
Sam Stuart (United Kingdom)
Bayasgalan Tserensodnom (Mongolia)
Mattia Volta (Italy)
Romina Vuono (United Kingdom)
Lisa Wechzellberger (Canada)
Irene S. Wong-Yu (Hong Kong)
Tony Ye (United States)
Lei Zhou (Canada)

MICHAELECHUK (Canada)
Ahmed Negida (Egypt)
Njideka Okubadejo (Nigeria)
Sabina Omarova (Russia)
Eunsun Park (United States)
Daniel Peterson (United States)
Kumar Punnusamy (India)
Kelly Richardson (United States)
Colby Samstag (United States)
Anna Sauerbier (United Kingdom)
Christian Schlenstedt (Germany)
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Arun Singh (United States)
Ranjit Singh (India)
Sandy Staye (Australia)
Sam Stuart (United Kingdom)
Bayasgalan Tserensodnom (Mongolia)
Mattia Volta (Italy)
Romina Vuono (United Kingdom)
Lisa Wechzellberger (Canada)
Irene S. Wong-Yu (Hong Kong)
Tony Ye (United States)
Lei Zhou (Canada)

PEOPLE WITH PARKINSONS & OTHERS

John Baumann (United States)
Meg Bernard (Canada)
Madonna Brady (Australia)
Henning Bruun (Norway)
Gretchen Church (United States)

Michael Church (United States)
Anita Connaughton (Ireland)
Rafael Cisneros (Argentina)
Bob Dembinski (United States)
Irene ‘Sue’ Dubman (United States)
Marvin Ebens (Canada)
Sandra Elms (Australia)
Marbella Estrada (Puerto Rico)
Tzipporah Feiglin (Israel)
Tarja Fotiou (Finland)
Murray Franks (Australia)
Gerald Ganglbauer (Austria)
Moshe Gruskin (United States)
Linda Hall (United States)
Jari Hämäläinen (Finland)
Adele Hensley (United States)
Anu Janis (Finland)
Lloyd Jenkins (New Zealand)
Mary Killian (United States)
Deanna Krywy (Canada)
Anders Leines (Norway)
William Lindsay (Australia)
Lily Liu (United States)
Tuula Maija Liukkonen (Finland)
Daniel Loney (Israel)
Hellen Mithiga (Kenya)
Elizabeth Ogren (United States)
Glen Prestidge (New Zealand)
Allen Rabinowitz (United States)
Paul Recker (United States)
Beverly Ribaudo (United States)
Elizabeth Ruinard (Australia)
Alfredo Ruiz (United States)
Eeva Helena Salminen (Finland)
Elmer Sepulveda Rincon (Colombia)
Debbie Shapiro (Israel)
Anish Suri (United States)
Maria Mihaela Szerac (Romania)
Tian Seng Tan (Singapore)
Allison Toepnerwein (United States)
Rune Vetle (Norway)

The WPC was able to offer travel grants to the following junior researchers & clinicians and to people with Parkinson’s because of the generous support from the following sponsors: AbbVie Inc., Travel Portland, Edmond J. Safra Foundation, The Kenneth Aidekman Family Foundation, Pat Davies, Stephen McCarthy & Lucinda Parker McCarthy, Parkinsons Creative Collective, 444 Parkinson’s Foundation.

The WPC also enjoyed amazing support from delegates who offered to help students or people with Parkinson’s, in whole or in part, to attend the WPC via the WPC Travel Grants Program. Their donations from other delegates helped to cover the registration fees of nearly 80 people.
TRAVEL GRANTS PROGRAM SUPPORTERS

Susan Abrams
Helen Aguilar
Kenneth Aidekman
Ruth Almen
Julio Angulo
John Arena
Satya Prakash Aseem
Patricia Auston
Krystof Bankiewicz
Roger Barker
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Yolanda Smith
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George Veomett
Eugene Vila
William Virgin
Debra Virtanen
Romina Vuono
Todd Gordon Wallace
Carol Walling
Hirohsa Watanabe
Charlene A. White
Anthony (Tony) White
Andrew Whilton
Joe Williams
Ron Winck
Meng chuo Wong
A. C. Wogomah
Jianwei Xu
Jennifer Yau
Danica Zupic
CONTINUING EDUCATION

Accreditation: This activity has been planned and implemented in accordance with the Essentials and Standards of the Accreditation Council for Continuing Medical Education through the joint providership of Oregon Health & Science University (OHSU) and World Parkinson Coalition Inc. OHSU is accredited by the ACCME to provide CME for physicians. Credit: OHSU School of Medicine, Division of CPD, designates this live activity for a maximum of 30.25 AMA PRA Category 1 Credits™. OHSU also recognizes 30.25 hours of accredited training for the program of the 4th World Parkinson Congress. For all other participating professionals (PTs, OTs, SLPs etc.) this program provides a certificate of participation of 30.25 hours for the 4th World Parkinson Congress. Participants should claim only the credit commensurate with the extent of their participation in the activity. (See details online: http://www.wpc2016.org/CME.)

CLAIMING CREDITS

Delegates who wish to collect continuing education credits may do so for a nominal fee of $30, which may be paid at the registration desks in the Oregon Convention Center. Registered delegates who arrived on site and who have paid the $30 fee will receive an email from the Oregon Health & Science University (OHSU) with instructions for confirming their time at the congress and claiming their credits.

THE MANY FACES OF OFF™

Join us for a conversation led by movement disorder specialists and people with Parkinson’s

RAJ PAHWA, MD | LARRY ELMER, MD, PhD | STEVEN DeWITTE | ISRAEL ROBLEDO

Come learn more about motor fluctuations, hear real-life stories of the impact of OFF periods, and participate in an interactive panel discussion on enhancing communication between people with Parkinson’s and their physicians.

Thursday, September 22, 2016 • 7:00PM–8:30PM
DoubleTree by Hilton, 1st Floor, Pacific Northwest Ballroom. Light fare will be served

Let’s continue the conversation, visit us at... TheManyFacesOfOFF.com
We are driven by science, guided by patients.

ACADIA is a biopharmaceutical company focused on the development and commercialization of innovative medicines to address unmet needs in Central Nervous System (CNS) disorders.

**Visit Booths #700 and #612 to learn more.**
UCB WELCOMES YOU TO THE WORLD PARKINSON CONGRESS

Neupro®
(rotigotine transdermal system)

Visit us at BOOTH 706 for information on NEUPRO
Courses take place on Tuesday, September 20. These three, day-long courses focusing on specific areas of Parkinson’s disease are require pre-registration. Participants will need a ticket to enter the course.

Each morning, just before the opening plenary, four of the hottest topics from the poster abstracts will be selected for presentation to the broader audience. Presentations will be given orally and are generally given by up and coming researchers and clinicians who are introducing exciting, cutting-edge work that adds great value to the community. Come support the future leaders in the field.

Designed to bring together all Congress attendees each morning, plenary sessions will offer presentations on specific topics to highlight the daily themes. These will be held in a large auditorium each morning, starting just after the Hot Topics presentations. Plenaries will offer very limited question and answer periods, but experts will be available in workshops or roundtables later each day to continue discussing the topics in more detail.

Designed to offer in-depth sessions focused on specific cutting-edge research in the field of Parkinson’s. These sessions will appeal to those who want to understand the basic and clinical science underlying the research conducted to better understand the many facets of Parkinson’s disease. These will be set in larger lecture halls of up to nearly 500 delegates and will offer question and answer periods but they will be less interactive than the workshops.

Designed for smaller groups of attendees, workshops will give an overview of the assigned topic and will highlight the topic in ways that are educational, unique and easy to digest. These sessions are designed to allow for more discourse and longer question and answer periods for the participants.

Three special sessions will be held during the WPC over lunch each day. Learn more about our special guests for these lectures by viewing the program in the following pages.

The wrap-up sessions are designed to bring together delegates at the end of the day to discuss many of the highlights from the day. Panelists will be leaders in the field who will have the tough task of preparing these talks each day. This is a great way to catch some key topics you may have missed.

Tours to meet and greet young researchers and clinicians and hear about their work will be held on Wednesday and Thursday evenings from 5:15 – 6:30 PM. Be sure to stick around and hear about some of the most exciting things on the horizon and to thank the researchers for dedicating their time to help the Parkinson’s community.
**Target Audience:** Non-clinicians, people with Parkinson’s, others.

**Goal:** Expose participants to key topics that will be elaborated on in the main program. Highlight the positive things happening with Parkinson’s research, treatment options and care, so delegates will leave hopeful about their Parkinson’s journey. Introduce participants to the world of clinical trials, the idea of self-care, and how to build effective care team for oneself.

**Learning Objectives:**
1. Gain a basic understanding of Parkinson’s, including the research into the cause(s) of the disease, symptoms, and therapies;
2. Learn the spectrum of care and rehabilitation options starting at diagnosis through the continuum of the Parkinson’s journey;
3. Understand how to build an effective and meaningful care team once diagnosed.

**Morning EMCEE:** Peter Fletcher (UK)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>8:50 AM</td>
<td>Welcome and introduction to goals and overall course</td>
<td>Tom Isaacs (UK)</td>
</tr>
<tr>
<td>9:00 – 10:10 AM</td>
<td>Clinical features of Parkinson’s disease</td>
<td>Anthony E. Lang (Canada)</td>
</tr>
<tr>
<td>10:10 – 10:30 AM</td>
<td>COFFEE BREAK</td>
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<tr>
<td>10:30 – 11:40 AM</td>
<td>Treatments – Overview, opening people’s eyes to what’s available and what’s on the horizon</td>
<td>Peter LeWitt (USA)</td>
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<td>Talk #1: Medical &amp; surgical, the old and the new</td>
<td>Joseph Friedman (USA)</td>
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<td></td>
<td>Talk #2: Therapies, personalized medicine, genetic testing and its impact on treatment</td>
<td>Pamela Quinn (USA)</td>
</tr>
<tr>
<td>11:45 – 11:55 AM</td>
<td>STRETCH</td>
<td>with Pamela Quinn (USA)</td>
</tr>
<tr>
<td>11:55 AM – 12:30 PM</td>
<td>Nutrition</td>
<td>Heather Zwickey (USA)</td>
</tr>
<tr>
<td>12:30 – 1:20 PM</td>
<td>LUNCH</td>
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**Afternoon EMCEE:** Bob Kuhn (Canada)

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<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>1:20 – 2:30 PM</td>
<td>So you want new treatments? How are you helping bring new treatments to the pharmacy? Or are you waiting for someone else to do the work?</td>
<td>Pat Davies (USA), Michael Schwarzschild (USA) Panelists: Veronica Todaro (USA), Claire Stephenson (UK), Richard Windle (UK), Sohini Chowdhury (USA), Israel Robledo (USA)</td>
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<tr>
<td>2:30 – 2:40 PM</td>
<td>STRETCH</td>
<td>with Pamela Quinn (USA)</td>
</tr>
<tr>
<td>2:40 – 2:55 PM</td>
<td>How can SELF-care impact your Parkinson’s?</td>
<td>Bob Kuhn (Canada)</td>
</tr>
<tr>
<td>2:55 – 4:20 PM</td>
<td>How to pick a good healthcare team and why it’s so important to ask the right questions</td>
<td>Dilys Parker, RN (New Zealand), Peter Fletcher (UK) Mov. Dis. Specialist: Sotirios Parashos (USA) Physiotherapist: Terry Ellis (USA) Occupational Therapist: Erin Foster (USA) Registered Nurse: Julie Carter (USA) Speech Therapist: Cynthia Fox (USA) Social Worker: Lissa Kapust (USA) Person with Parkinson’s: Soania Mathur (Canada)</td>
</tr>
<tr>
<td>4:20 – 4:30 PM</td>
<td>Wrap-up &amp; How to get the most out of the WPC</td>
<td>Alice Templin (Canada)</td>
</tr>
<tr>
<td>6:30 – 7:30 PM</td>
<td>Opening Ceremony</td>
<td>Exhibit Hall C</td>
</tr>
<tr>
<td>7:30 – 10:00 PM</td>
<td>Welcome Reception</td>
<td>Exhibit Hall A-B</td>
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Supported through an unrestricted grant from St. Jude Medical
## Interdisciplinary and patient-centered care for Parkinson’s disease

**Location:** Oregon Ballroom 203  
Supported by Acorda Therapeutics

### Target Audience:
Members of inter & multidisciplinary teams (including neurologists, Parkinson nurse specialists, allied health professionals), health professionals interested in interdisciplinary care models.

### Goal:
The aim of this pre-congress course is to provide a forum for discussion of why interdisciplinary teams are the ideal model of care for people living with Parkinson’s.

### Learning Objectives:
1. Understand why the complexity of PD necessitates an interdisciplinary team approach; 2. Learn about the latest scientific evaluations that underpin the interdisciplinary team approach of PD; 3. Be updated on some very recent developments, including the addition of “new” disciplines to the team, and the active role played by patients in these teams; 4. Experience how an interdisciplinary team operates in real practice.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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</thead>
<tbody>
<tr>
<td>9:00 – 9:20 AM</td>
<td>Welcome and introduction to Why do we want interdisciplinary care?</td>
<td>Michael Okun (USA), Bastiaan Bloem (The Netherlands)</td>
</tr>
<tr>
<td>9:25 – 9:40 AM</td>
<td>The role of the patient within the team: One patient’s vision</td>
<td>Hans Holtslag (The Netherlands)</td>
</tr>
<tr>
<td>9:45 – 11:00 AM</td>
<td>The new kids on the block: Why you need me on your Parkinson’s team!</td>
<td>Sarah Diamond (USA), Suketu M. Khandhar (USA), Dan Gold (USA), Jane Busch (USA)</td>
</tr>
<tr>
<td>11:00 – 11:30 AM</td>
<td>COFFEE BREAK</td>
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<tr>
<td>11:30 AM – 12:00 PM</td>
<td>Music as a therapy</td>
<td>Matthew Ford (USA)</td>
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<tr>
<td>12:00 – 1:00 PM</td>
<td>LUNCH</td>
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<tr>
<td>1:00 – 3:00 PM</td>
<td>Interdisciplinary care in real practice: Case studies on best care delivery for patients</td>
<td>Panelists: Parkinson Nurse Specialist: Lucie Lachance (Canada), Neurologist: Suketu M. Khandhar (USA), Gastroenterologist: Sarah Diamond (USA), Physiotherapist: Sue Lord (UK), Occupational Therapist: Linda Tickle-Degnen (USA), Speech Therapist: Hanneke Kalf (The Netherlands), Psychiatry: Daniel Weintraub (USA), Social Worker: Elaine Book (Canada), Sexologist: Paul Rabsztyn (The Netherlands), Dentist: Jane Busch (USA), Neuro-Ophthalmologist: Dan Gold (USA), Patient: Hans Holtslag (The Netherlands)</td>
</tr>
<tr>
<td>3:00 – 3:25 PM</td>
<td>COFFEE BREAK</td>
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<tr>
<td>3:25 – 4:15 PM</td>
<td>Scientific basis and future perspectives of interdisciplinary care</td>
<td>Speakers: Marjolein van der Marck (The Netherlands), Bastiaan Bloem (The Netherlands)</td>
</tr>
<tr>
<td>4:15 – 5:00 PM</td>
<td>Evidence for mono-disciplinary care: Physical, occupational and speech therapy</td>
<td>Lynn Rochester (UK), Hanneke Kalf (The Netherlands), Linda Tickle-Degnen (USA)</td>
</tr>
<tr>
<td>5:00 – 5:10 PM</td>
<td>Wrap-up</td>
<td>Michael Okun (USA)</td>
</tr>
<tr>
<td>6:30 – 7:30 PM</td>
<td>Opening Ceremony</td>
<td>Location: Exhibit Hall C</td>
</tr>
<tr>
<td>7:30 – 10:00 PM</td>
<td>Welcome Reception</td>
<td>Location: Exhibit Hall A-B</td>
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Supported through an unrestricted grant from St. Jude Medical
**Target Audience:** These will be exciting crosstalk sessions appropriate for a mix of the community, including clinicians, researchers, people with Parkinson’s and others interested in hearing about what’s new in the research and advocacy space.

**Goal:** To expose participants to unique and exciting research outcomes as well as innovative and impactful programs being implemented for community members.

**Learning Objectives:**
1. Gain more elaborate understanding of research being done to advance the understanding of Parkinson’s and find improved treatment options;
2. Learn about ongoing efforts to advance advocacy work in the community and engage community members;
3. Understand future therapies for Parkinson’s.

### Advances in Scientific Research and Treatment

**Location:** Oregon Ballroom 204

#### 8:45 – 9:45 AM

**To scan or not to scan, that is the question**

- **Talk #1:** My doctor told me I had a progressive brain disease by examining me for two minutes and watching me walk down the hall!  
  **Presenter:** Lisa Cox (USA)

- **Talk #2:** To be, or not to be correct when diagnosing Parkinson’s: Can a scan make a doctor more definite about his diagnosis?  
  **Presenter:** Angelo Antonini (Italy)

- **Talk #3:** Measuring PD progression in PPMI  
  **Presenter:** Danna Jennings (USA)

**Learning objectives:**
1. To explain the impact of a Parkinson’s diagnosis on a patient and how a scan may or may not alleviate the stress of the diagnosis;  
2. Outline what a movement disorder specialist needs to know regarding DaTscan interpretation and what questions patients should ask about this scan;  
3. Details emerging data from PPMI on phenoconverters from genetic/prodromal arms and implications for clinical trials.

**Supported through unrestricted educational grant from GE Healthcare**

#### 9:45 – 10:15 AM

**Coffee Break**

#### 10:15 – 11:15 AM

**Dizziness and PD: Walking does not matter, if you cannot stand**

- **Talk #1:** Non-motor autonomic problems of PD: What’s their impact?  
  **Speaker:** K. Ray Chaudhuri (UK)

- **Talk #2:** Dizziness and PD: What it all about and how does my doctor help me address it?  
  **Speaker:** TBD

- **Talk #3:** Strategies for blood pressure control of NOH in Parkinson’s  
  **Speaker:** Horacio Kaufmann (USA)

**Learning objectives:**
1. Explain the impact on daily living that orthostatic hypotension has on people with Parkinson’s;  
2. Describe the symptoms of orthostatic hypotension;  
3. Details non-pharma and pharma treatment options for PwPs experiencing NOH.

**Supported through unrestricted educational grant from Lundbeck LLC**

#### 11:15 AM – 12:30 PM

**Lunch**

#### 12:30 – 1:45 PM

**Dyskinesia – An ever moving story**

- **Talk #1:** The day to day reality of living with dyskinesia  
  **Speaker:** Tom Isaacs (UK)

- **Talk #2:** Clinical forms of dyskinesia  
  **Speaker:** Un Kang (USA)

- **Talk #3:** Dyskinesia: How do we treat this unmet need now and in the future?  
  **Speaker:** Rajesh Pahwa (USA)

**Learning objectives:**
1. Explain what LID is and how it begins;  
2. Describe options for treating dyskinesia and how treatment will impact QoL of PwP;  
3. Detail the challenges, fears, and solutions people with PD have when dealing with dyskinesia.

**Supported through unrestricted educational grant from Adamas Pharmaceuticals**

#### 2:00 – 3:15 PM

**Changing how care is delivered: A success the Parkinson’s community can take pride in**

- **Talk #1:** Nursing Education: Innovations to improve PD care  
  **Speaker:** Gwyn Vernon (USA)

- **Talk #2:** PD Outcomes  
  **Speaker:** Pete Schmidt (USA)

- **Talk #3:** Adopting evidence-based practices in the development of a new care ecosystem  
  **Speaker:** Alex DiRocco (USA)

**Learning objectives:**
1. Detail how academic medical centers can participate in the creation of new evidence-based practices;  
2. Identify three challenges in adoption of new evidence-based clinical practices;  
3. Explain how the patient advocacy community partners with academic medicine to drive adoption of new evidence-based practices.

**Supported by Parkinson’s Foundation**
In this exciting podcast program, delivered in a friendly radio show like atmosphere, Dave Iverson and Jon Palfreman, two highly experienced journalists who also live with Parkinson’s, interview world renowned leaders in the Parkinson’s field to better understand the disease, current research and what advances we can expect in science and treatment options in the future.

Sit back, relax and enjoy this 15-part series at WorldPDCCoalition.org/PortlandCountdown

Listen right on your computer or download the talks to listen on the go.

Supported by the Parkinson’s Resources of Oregon
HOT TOPICS > 8:00 – 9:00 AM

Location: Exhibit Hall C  
**Moderator:** A. Jon Stoessl (Canada)  
**Supported by UCB**

**P04.06**  Influenza vaccine or Oseltamivir (Tamiflu®) can protect against microglial activation and a subsequent increase in oxidative stress susceptibility of dopaminergic neurons in the substantia nigra following infection with the non-neurotropic H1N1 influenza virus  
**Panelist:** Richard Smeyne (USA)

**P27.03**  Neuroinflammation in prediagnostic Parkinson’s disease: A multitracer PET study of idiopathic REM sleep behaviour disorder patients  
**Panelist:** Morten Gersel Stokholm (Denmark)

**P14.14**  Moving through glass: Exploring augmented reality technology for people with Parkinson’s  
**Panelist:** David Leventhal (USA)

**P02.05**  Neuroprotective potential of transcription factors Lmx1a and Lmx1b in mouse models of Parkinson’s disease  
**Panelist:** Hélène Doucet-Beaupré (Canada)

WPC AWARD CEREMONY > 9:00 – 9:15 AM

Location: Exhibit Hall C  
**Host:** Marie-Francoise Chesselet (USA)

**WPC Award for Distinguished Contribution to the Parkinson Community**  
Award given to David Leventhal (USA)

MORNING PLENARY > 9:15 – 11:15 AM

Location: Exhibit Hall C  
**WPL – AN UPDATE OF BRAIN CIRCUITS IN PD AND DBS**

**Co-Chair:** David Standaert (USA)  
**Co-Chair:** Marilyn Veomett (USA)

**Talk #1:**  Targeted modulation of motor and mood circuits using deep brain stimulation: Complementary studies in Parkinson’s disease and major depression  
**Speaker:** Helen Mayberg (USA)

**Talk #2:**  What is new in DBS – A clinical perspective: Notions of decision-making, early vs. late  
**Speaker:** Andres Lozano (Canada)

**Talk #3:**  Outcome: What can you expect in the short term and long term?  
**Speaker:** Michael Okun (USA)

**Talk #4:**  DBS: The lived experience  
**Speaker:** Andy McDowell (New Zealand)

**Learning objectives:** 1. Describe what positive and negative outcomes patients can expect from undergoing DBS; 2. Be able to discuss modern notions of brain circuitry underlying mechanism by which DBS improves Parkinsonian symptoms; 3. Explain how clinical decisions to recommend DBS are made.
# Congress Program

**Wednesday, September 21, 2016**

## Lunch > 11:30 AM – 1:30 PM

<table>
<thead>
<tr>
<th>Book Nook</th>
<th>Clinical Research Village</th>
<th>Care Partners Lounge</th>
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</thead>
</table>
| **Location:** Exhibit Hall A – booth #925  
11:30 AM – 12:15 PM  
Alice Lazzarini, PhD introducing *Both Sides Now*  
12:30 – 1:15 PM  
Jon Stamford, PhD introducing *Heads or Tails* | **12:00 – 1:15 PM**  
Location: Exhibit Hall A  
Meet the Villagers!  
The PD Trial Coordinators, doctors and practitioners who will explain their roles and answer your questions and learn how you can contribute to progress.  
*Supported by the Michael J. Fox Foundation for Parkinson’s Research* | **12:15 – 1:15 PM**  
Location: Wellness Way  
Facilitated Support Group  
Facilitator: Elaine Book (Canada) |

## WPC Theater

| Location: Exhibit Hall A | 11:30 – 11:45 AM  
**Power Through Project Workout** | 12:00 – 1:00 PM  
**Technology Talks** |
|-------------------------|---------------------|---------------------|
| **12:00 – 12:25 PM**  
**Talk:** Treating targets with objective measurements  
**Speaker:** Malcolm Horne (Australia)  
**Supported by Global Kinetics Corporation** | **12:30 – 12:55 PM**  
**Talk:** From subjective to objective – Measuring PD symptoms & progression through wearable devices and big data analytics  
**Speakers:** Josh Lemieux (USA) and Chen Admati (Israel)  
**Supported by Intel** |

## James Parkinson’s Special Lecture

| Location: Exhibit Hall C | 12:00 – 1:15 PM  
**Levodopa Over the Last 50 Years, Where We’ve Come and Where We Are Going** | **Introduction by:** Stanley Fahn (USA)  
**Special lecture by:** John G. Nutt (USA) |
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</table>
**Supported with an unrestricted educational grant from UCB, Inc.**  
**Learning objectives:** 1. Understand the barriers to achieving constant brain levels of levodopa; 2. Recognize the intricacies of converting levodopa into normal movement; 3. Be familiar with different clinical responses to levodopa. | **Supported with an unrestricted educational grant from UCB, Inc.**  
**Learning objectives:** 1. Understand the barriers to achieving constant brain levels of levodopa; 2. Recognize the intricacies of converting levodopa into normal movement; 3. Be familiar with different clinical responses to levodopa. |

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**Session Levels**

- **Crosstalk – Minimal or no scientific background required**
- **Moderate-level scientific sessions**
- **High-level scientific sessions**

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**Session Type**

- **Basic Science**
- **Clinical Science**
- **Comprehensive Care**
**WP1 – Living Well with PD: It Starts at the Diagnosis**

**Location:** Oregon Ballroom 201

**Co-Chair:** Soania Mathur (Canada)  
Co-Chair: Tom Isaacs (UK)

**Overall goal:** To provide guidance and strategies that patients can implement from the time of diagnosis and onwards in order to live well with Parkinson’s disease.

**Lecture #1:** The psychological journey of Parkinson’s – The importance of a positive attitude  
**Speaker:** Bob Kuhn (Canada)

**Lecture #2:** Living well with Parkinson’s – A framework for self-care  
**Speaker:** Jane Busch (USA)

**Lecture #3:** Communication, communication, communication  
**Speaker:** Dilyes Parker (New Zealand)

**Learning objectives:** 1. Understand psychological aspects of Parkinson’s and the ability of the human spirit to live well despite being diagnosed with Parkinson’s; 2. Recognize that ‘positive attitude and disposition’ are an integral part of coping with this illness; 3. Develop a self-care routine that encompasses different strategies to improve the physical and non-physical symptoms of Parkinson’s.

**WP2 – Disease Modification: Update on Trials**

**Location:** Oregon Ballroom 202

**Co-Chair:** Anthony Lang (Canada)  
Co-Chair: Arthur Roach (UK)

**Overall goal:** This session will discuss the development of disease modifying therapies that could slow or stop the progression of Parkinson disease.

**Lecture #1:** Why did previous neuroprotective trials fail and what are we doing to address these issues?  
**Speaker:** Kalpana Merchant (USA)

**Lecture #2:** Alpha synuclein: Vaccines, passive immunization and novel small molecules  
**Speaker:** Eliezer Masliah (USA)

**Lecture #3:** Drug repurposing: Calcium channel blockers and beyond  
**Speaker:** Richard Wyse (UK)

**Learning objectives:** 1. Learn about challenges for neuroprotective trials in PD and how they are being addressed; 2. Learn about the development of vaccines, antibodies, and other agents against alpha-synuclein aggregation; 3. Discuss new uses for approved drugs as potential disease modifying agents, including calcium channel blockers as possible neuroprotective agents.

**WP3 – Pathology and Mechanisms of Cognitive Deficits in PD**

**Location:** B113-114

**Co-Chair:** Jennifer G. Goldman (USA)  
Co-Chair: Rebecca Miller (USA)

**Overall goal:** To learn about the underlying pathology associated with cognitive dysfunction in Parkinson’s disease and emerging mechanisms underlying early cognitive deficits.

**Lecture #1:** Phenotypic spectrum and biomarkers of cognitive deficits in Parkinson’s disease  
**Speaker:** David Burn (UK)

**Lecture #2:** Genetic risk for cognitive impairment in Parkinson’s disease  
**Speaker:** Thomas Montine (USA)

**Lecture #3:** Patients with Parkinson’s disease show impaired use of priors in conditions of sensory uncertainty  
**Speaker:** Michele Basso (USA)

**Learning objectives:** 1. Gain an understanding of the role of protein translation in PD pathogenesis; 2. Explain how LRRK2 and alpha-synuclein interact to cause PD; 3. Describe how LRRK2 regulates synaptic function.

**WP4 – LRRK2 Biology**

**Location:** B110-112

**Co-Chair:** Veerle Baekelandt (Belgium)  
Co-Chair: David Finkelstein (Australia)

**Overall goal:** To provide an update on LRRK2 biology and how mutations in LRRK2 contribute to Parkinson’s disease.

**Lecture #1:** Dysregulation of protein translational by PD associated LRRK2 mutations  
**Speaker:** Ian Martin (USA)

**Lecture #2:** Interplay of LRRK2 and alpha-synuclein in the pathogenesis of PD  
**Speaker:** Andrew West (USA)

**Lecture #3:** LRRK2 regulation of synaptic function  
**Speaker:** Patrik Verstreken (Belgium)

**Learning objectives:** 1. Gain an understanding of the role of protein translation in PD pathogenesis; 2. Explain how LRRK2 and alpha-synuclein interact to cause PD; 3. Describe how LRRK2 regulates synaptic function.
WW1 – Gut Microbiome and Parkinson’s

Location: B115-116

Co-Moderator: Jeffrey Kordower (USA)
Co-Moderator: Michael Schwarzschild (USA)

Overall goal: To understand the current state-of-the-art regarding the possible role of the gut microbiome in Parkinson’s disease in affecting risk for developing the disease.

Talk #1: Gut-microbiome-brain connections
Panelist: Sarkis Mazmanian (USA)

Talk #2: Changes in gut microbiome as a biomarker for Parkinson’s disease
Panelist: Filip Scheperjans (Finland)

Talk #3: Linking changes in gut microbiome to alpha-synuclein misfolding as an early trigger of the disease process in Parkinson’s
Panelist: Kathleen Shannon (USA)

Learning objectives: 1. Explain what is the gut microbiome and how it varies between individuals in as a consequence of lifestyle in health and disease; 2. Describe how perturbations in gut microbiome might be linked to alpha-synuclein aggregation in enteric nerves and increased risk for Parkinson’s disease; 3. Be able to explain whether or not changes in the gut microbiome be used as a biomarker for early (pre-motor) PD or for disease progression.

WW2 – Depression & Anxiety – Update on Assessment and Management of Key Non-Motor Features

Location: Oregon Ballroom 203

Co-Moderator: Angelo Antonini (Italy)
Co-Moderator: Antonio Strafella (Canada)

Overall goal: To better understand the course, assessment and treatment of two key non-motor features in Parkinson’s.

Talk #1: Updates on the course, assessment and biological management of depression
Panelist: Daniel Weintraub (USA)

Talk #2: Assessment and treatment of generalized anxiety, anxiety attacks, agoraphobia and social anxiety
Panelist: Albert Leentjens (The Netherlands)

Talk #3: Non-pharmacological management of depression
Panelist: Roseanne Dobkin (USA)

Learning objectives: 1. Explain difference between depression and anxiety in PD, including overlap between the two; 2. Be able to assess and diagnose clinically significant depression and anxiety; 3. Describe biological (pharmacologic and stimulation therapies) and non-pharmacological management options for depression and anxiety.

WW3 – Strategies to Optimize Daily Living: Physical, Occupational and Speech Therapies

Location: Oregon Ballroom 204

Co-Moderator: Terry Ellis (USA)
Co-Moderator: Alice Templin (Canada)

Overall goal: To discuss the research from physical, occupational and speech language pathology to optimize physical and social function in people with Parkinson disease.

Talk #1: Gait dysfunction in early PD and implications for treatment
Panelist: Sue Lord (UK)

Talk #2: Facial masking: What are the social implications?
Panelist: Linda Tickle-Degnen (USA)

Talk #3: Impact of early training to improve vocalization in PD
Panelist: Cynthia Fox (USA)

Learning objectives: 1. Describe the essential aspects of gait dysfunction in early PD and implications for early treatment; 2. Examine the social implications of facial masking in PD and the impact on stigma, socialization and relationships; 3. Assess the research revealing the effectiveness of early sensorimotor training to improve vocalization in PD.

WORKSHOPS > 1:30 – 3:00 PM

ROUNDTABLES 1:30 – 3:00 PM

WRT1 – Roundtables

Location: A105-106

Roundtable #1: Hallucinations and PD
Host: Joseph Friedman (USA)

Roundtable #2: Cannabis and Parkinson’s: What’s all the fuss?
Host: Benzi Kluger (USA)

Roundtable #3: Living alone with PD
Co-Hosts: Ryan Tripp (Canada) & Elaine Book (Canada)

Roundtable #4: Managing PD motor symptoms
Host: Sotirios Parashos (USA)

Roundtable #5: Sex and PD: How to stay close to your partner
Host: Gila Bronner (Israel)

Roundtable #6: PD for a day: How to help others understand what it’s like to live with PD
Co-Hosts: Peter Schmidt (USA) & Jean Burns (USA)

Roundtable #7: Shame and PD: How to recognize it and help fellow PwPs conquer it
Co-Hosts: Julio Angulo (USA) & Paul Krack (France)

Roundtable #8: Harnessing antibody engineering to counteract effects of excess protein accumulation in PD
Host: Anne Messer (USA)

COFFEE BREAK > 3:00 – 3:30 PM
### WP5 – Novel Immunodulatory Therapeutics for Neurodegenerative Diseases

**Location:** Oregon Ballroom 201  
**Co-Chair:** Marina Romero-Ramos (Denmark)  
**Co-Chair:** Roger Barker (UK)  
**Overall goal:** To become informed of the latest research efforts to develop therapies that harness the power of the immune system (including vaccination strategies) to prevent or treat Parkinson’s disease.  
**Lecture #1:** Immunization against synuclein: Challenges and lessons learned  
**Speaker:** Martin Ingelsson (Sweden)  
**Lecture #2:** Targeting TNF-dependent inflammation and neurotoxicity in neurodegenerative diseases  
**Speaker:** Malu Tansey (USA)  
**Lecture #3:** Engineered multifunctional nanobody fragments as neurodegenerative disease therapeutics  
**Speaker:** Anne Messer (USA)  
**Learning objectives:** 1. Learn what novel immunotherapy approaches are under development in the lab; 2. Learn what immunotherapy entails in human clinical trials; 3. Learn what immunotherapy trials are being conducted at present.

### WP6 – Impulse Control Disorders in PD: The Science and the Clinical Management

**Location:** B113-114  
**Co-Chair:** Jeffrey Kordower (USA)  
**Co-Chair:** Leonidas Stefanis (Greece)  
**Overall goal:** To become informed of the latest research on impulse control disorders and what the data is showing us about treatment options.  
**Lecture #1:** Mechanisms of impulse control disorders in PD  
**Speaker:** Celeste Napier (USA)  
**Lecture #2:** Imaging of impulse control disorders in PD: What have we learned?  
**Speaker:** Antonio Strafella (Canada)  
**Lecture #3:** Clinical management of ICDs in PD  
**Speaker:** Angelo Antonini (Italy)  
**Learning objectives:** 1. Learn about recent scientific studies on mechanisms underlying impulse control disorders in PD; 2. Describe imaging data of impulse control disorders in PD; 3. Get insight of the variety of therapeutic strategies to manage impulse control disorders in PD.

### WP7 – Transcription Factors and Survival of DA Neurons

**Location:** B110-112  
**Co-Chair:** Jeffrey Kordower (USA)  
**Co-Chair:** Leonidas Stefanis (Greece)  
**Overall goal:** To provide an up-to-date overview of research linking gene-regulating transcription factors to pathogenesis and treatment in Parkinson’s disease.  
**Lecture #1:** Role of transcription factors in maintenance and function of midbrain DA neurons  
**Speaker:** Marten Smidt (The Netherlands)  
**Lecture #2:** Engrail and the survival of dopaminergic neurons  
**Speaker:** Patrik Brundin (USA)  
**Lecture #3:** Wnt1-regulated genetic networks in midbrain dopaminergic neuron development  
**Speaker:** Nilima Prakash (Germany)  
**Learning objectives:** 1. Describe how Nurr1 and Lmx1 play a role in the survival of DA neurons in the adult brain; 2. Explain how engrail 1 may impact new therapeutic approaches in Parkinson’s; 3. Describe therapeutic implications of Wnt1-regulated genetic networks.

### WP8 – Non-Motor Symptoms: Addressing Unmet Needs

**Location:** Oregon Ballroom 202  
**Co-Chair:** Peter Fletcher (UK)  
**Co-Chair:** Jon Palfreman (USA)  
**Overall goal:** To provide an overview of assessing non-motor symptoms, highlight some of the unmet needs in this area and what’s in the pipeline to address non-motor challenges.  
**Lecture #1:** How do you assess your own non-motor symptoms? Grading, NM subtypes in non-motor fluctuations  
**Speaker:** K Ray Chaudhuri (UK)  
**Lecture #2:** Focus on non-motor symptoms not often recognized: Fatigue, apathy and daytime somnolence in PD  
**Speaker:** Ron Pfeiffer (USA)  
**Lecture #3:** State-of-the-art latest clinical trials addressing non-motor symptoms of PD  
**Speaker:** Susan Fox (Canada)  
**Learning objectives:** 1. Be able to assess and quantify your own NMS, to learn about validated bedside tools of NMS and recognize non-motor subtypes of PD and non-motor fluctuation a key component of fluctuations in PD; 2. Recognize the signs symptoms and management of apathy, fatigue and daytime sleepiness in PD, often ignored and unrecognized in clinical practice; 3. Know the latest clinical trials addressing non-motor symptoms of PD such as apathy, pain, sleep, constipation, drooling and NMS as a whole.
## Workshops > 3:30 – 5:00 PM

### WW4 – Iron in PD: Therapeutic Implications

**Location:** B115-116  
**Co-Moderator:** Etienne Hirsch (France), Donato Di Monte (Germany)

**Overall goal:** To appreciate the evidence for iron homeostasis abnormalities in PD from experimental system of cells, animal models and findings in postmortem brain as well as the translational studies of in vivo models of ceruloplasmin deficiency and a clinical trial applying the principles for therapy of PD.

**Talk #1:** Regulation of ATP13A2 via PHD2-HIF1alpha signaling is critical for cellular iron homeostasis: Implications for Parkinson’s disease  
**Panelist:** Julie Andersen (USA)

**Talk #2:** Ceruloplasmin dysfunction in PD animal models and PD brain: Therapeutic implications  
**Panelist:** David Finkelstein (Australia)

**Talk #3:** Iron chelation treatment of PD  
**Panelist:** David Devos (France)

**Learning objectives:** 1. Learn the scientific basis of iron homeostasis involvement in PD pathogenesis; 2. Describe the ceruloplasmin deficiency models in mouse and its relevance to PD; 3. Gain knowledge of the clinical trial results with iron chelators.

### WW5 – Freezing of Gait & PD

**Location:** Oregon Ballroom 203

**Co-Moderator:** John G. Nutt (USA), Marjolein van der Marck (The Netherlands)

**Overall goal:** To discuss the neural mechanisms underlying freezing of gait, potential causes and innovative approaches to treatment.

**Talk #1:** Neural mechanisms underlying freezing of gait in PD  
**Panelist:** Simon Lewis (Australia)

**Talk #2:** What goes wrong to explain freezing of gait?  
**Panelist:** Alice Nieuwboer (Belgium)

**Talk #3:** Innovative approaches to improve walking and reduce freezing of gait in PD  
**Panelist:** Fay Horak (USA)

**Learning objectives:** 1. Explain the neural and behavioral mechanisms underlying freezing of gait in Parkinson’s disease; 2. Describe what goes wrong that may explain the episodic nature of freezing of gait; 3. Discuss novel, innovative interventions to reduce freezing during gait in PD.

### WW6 – Nutrition & PD: Does It Really Matter?

**Location:** Oregon Ballroom 204

**Moderator:** Bastiaan Bloem (The Netherlands)

**Overall goal:** To increase awareness and knowledge of both patients and physicians regarding the role nutrition may play in PD.

**Talk #1:** Nutrition and malnutrition in PD: Prevalence, importance & ramifications  
**Panelist:** Matthew Brodsky (USA)

**Talk #2:** Is there a role for nutrition in the management of PD symptoms?  
**Panelist:** Heather Zwickey (USA)

**Talk #3:** Is there a role for nutrition altering progression of PD?  
**Panelist:** John Duda (USA)

**Learning objectives:** 1. Recognize that malnutrition may develop in the setting of PD; 2. Gain an awareness of how nutrition may affect PD symptoms; 3. Illuminate the potential role of nutrition in PD progression.

### Workshops > 3:30 – 5:00 PM

**Small Group Discussion > 3:30 – 5:00 PM**

**Care Partner Lounge**  
**Location:** Wellness Way  
**Intimacy and maintaining a relationship with your partner**  
**Speaker:** Lissa Kapust (USA)

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#WORKSHOPS 3:30 – 5:00 PM

**WRT2 – Roundtables**

**Location:** A105-106

**Roundtable #1:** Tools for living with young-onset PD  
**Co-Hosts:** Jon Stanford (UK), Ruth Hagestuen (USA)

**Roundtable #2:** Patient advocates at work around the world: How to get involved around Europe  
**Co-Hosts:** Tom Isaacs (UK), Fulvio Capitanio (Spain)

**Roundtable #3:** Vision & PD: Challenges & tips  
**Host:** Dan Gold (USA)

**Roundtable #4:** Occupational therapy and PD: How it can improve your daily life  
**Co-Hosts:** Linda Tickle-Degnen (USA), Erin Foster (USA)

**Roundtable #5:** How to face impulse control disorders and get help  
**Co-Hosts:** Daniel Swyn (USA), Daniel Weintraub (USA)

**Roundtable #6:** PD and children: How does PD impact children?  
**Co-Hosts:** Soania Mathur (Canada), Amy Lemen (USA)

**Roundtable #7:** Service dogs and Parkinson’s: Everything you need to know  
**Host:** Renee Le Verrier (USA)

**Roundtable #8:** Continuous dopamine delivery systems  
**Host:** David Standaert (USA)
## Congress Program

### Wednesday, September 21, 2016

#### Day 1

### End-of-Day > 5:15 – 6:45 PM

#### WWU - End-of-Day Wrap-Up
- **Location:** Exhibit Hall C
- **Time:** 5:15 – 6:30 PM
- **Moderator:** Simon Lewis (Australia)
- **Panelists:**
  - Veerle Baekelandt (Belgium)
  - Stanley Fahn (USA)
  - Etienne Hirsch (France)
  - Stuart Jackson (Canada)
  - Alice Nieuwboer (Belgium)

#### Book Nook
- **Location:** Exhibit Hall A
- **Time:** 5:30 – 6:30 PM
- **Moderator:**
  - George Veomett, PhD
  - Jon Palfreman, PhD
- **Panel Discussion:**
  - Nan Little, PhD introducing *Brain Storms*
  - Nan Little, PhD introducing *Kilamanjaro*

#### Poster Tours
- **Location:** Exhibit Hall B
- **Time:** 5:15 – 6:30 PM
- **Sign-up required** (in the poster area)
- **Supported by** Acadia Pharmaceuticals

### WPC Theater
- **Location:** Exhibit Hall A
- **Time:**
  - 3:00 – 3:30 PM: Music Performance
  - 5:30 – 6:30 PM: Book Nook – Meet the Author

### Clinical Research Village
- **Location:** Exhibit Hall A
- **Time:** 5:30 – 6:45 PM
- **Panel Discussion:**
  - Research volunteers hold the key to a cure
- **Supported by** the Michael J. Fox Foundation for Parkinson’s Research

### WPC Passport Raffle > 6:30 PM
- **Location:** WPC Theater

### Special Events > 6:30 – 9:30 PM

#### 6:30 – 8:00 PM
**Health Professionals Networking Sessions**
- **Location:** Oregon Convention Center (ticket required)
- **Supported by** American Parkinson Disease Association (APDA)

#### 7:00 – 9:30 PM
**WPC Film Night**
- **Location:** Double Tree Hotel (ticket required)
- **Room:** Lloyd Center Ballroom
- **Doors open:** 6:45 PM
- **Emcee:** Tim Hague (Canada)

#### 7:00 – 9:00 PM
**ABBVIE Corporate Session**
- **Location:** DoubleTree Hotel
- **Room:** Cascade Ballroom
- **Doors open:** 6:45 PM
- **Target Audience:** US-based patients and care partners

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### Session Levels
- **Crosstalk** – Minimal or no scientific background required
- **Moderate-level** scientific sessions
- **High-level** scientific sessions

### Session Type
- Basic Science
- Clinical Science
- Comprehensive Care
## HOT TOPICS > 8:00 – 9:00 AM

Location: Exhibit Hall C  
**Moderator:** Serge Przedborski (USA)  

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Panelist</th>
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</thead>
<tbody>
<tr>
<td>P26.13</td>
<td>Large-scale exploratory analysis of genetic risk factors for cognitive impairment in Parkinson’s disease</td>
<td>Ignacio Mata (USA)</td>
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<tr>
<td>P30.16</td>
<td>Investigation of exercise vs. repetitive transcranial magnetic stimulation induced dopamine release: [11C]Raclopride PET study</td>
<td>Matthew Sacheli (Canada)</td>
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<tr>
<td>P06.12</td>
<td>Diffuse brain injury in swine causes plasmalemmal disruption and α-synuclein over-expression in the substantia nigra</td>
<td>Carolyn Keating (USA)</td>
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<tr>
<td>P32.06</td>
<td>Can living micro-tissue engineered axonal tracts reconstruct the nigrostriatal pathway in PD?</td>
<td>John Duda (USA)</td>
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Supported by UCB

## WPC AWARD CEREMONY > 9:00 – 9:15 AM

Location: Exhibit Hall C  
Host: A. Jon Stoessl (Canada)  

**WPC Award for Distinguished Contribution to the Parkinson Community**  
Award given to Julie Carter (USA)

## MORNING PLENARY > 9:15 – 11:15 AM

Location: Exhibit Hall C  

**TPL – GENES AND MECHANISMS OF SPORADIC PD**

Co-Chair: Caroline Tanner (USA)  
Co-Chair: David Iverson (USA)  

**Talk #1:** How are genes studied and involved in PD, from causing genes to risk factors  
*Speaker:* Tom Gasser (Germany)  

**Talk #2:** How does environment modify genetic PD risk?  
*Speaker:* Beate Ritz (USA)  

**Talk #3:** What can you do with this information, and what will it do to you?  
*Speaker:* Jason Karlawish (USA)  

**Talk #4:** Genetic testing: Empowerment or risk for people with Parkinson’s?  
*Speaker:* Alice Lazzarini (USA)

**Learning objectives:** 1. Describe how various types of genetic studies inform knowledge of mechanism underlying PD; 2. Explain how genes and environmental factors interact to modify PD risk; 3. To detail how people with PD can use this information to assess and modify risk to their offspring.
## Day 2

**Thursday, September 22, 2016**

### Congress Program

#### Lunch > 11:30 AM – 1:30 PM

<table>
<thead>
<tr>
<th>POSTER PRESENTATIONS</th>
<th>SPECIAL PRESENTATION</th>
<th>BOOK NOOK</th>
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</thead>
<tbody>
<tr>
<td><strong>11:30 AM – 1:30 PM</strong></td>
<td><strong>Location: Exhibit Hall C</strong></td>
<td><strong>Location: Exhibit Hall A – booth #925</strong></td>
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<tr>
<td></td>
<td><strong>12:00 – 1:15 PM</strong></td>
<td><strong>11:30 AM – 12:15 PM</strong></td>
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<tr>
<td></td>
<td><strong>LIVING WELL WITH PARKINSON’S</strong></td>
<td><strong>Israel Robledo introducing</strong></td>
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<td><strong>Moderator: Roger Barker (UK)</strong></td>
<td><strong>Day I Found Out Why</strong></td>
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<td><strong>Panelists: Brian Grant (USA), Tim Hague (Canada), Andy McDowell (New Zealand), Linda Olson (USA)</strong></td>
<td><strong>12:30 – 1:15 PM</strong></td>
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<td></td>
<td><strong>Soania Mathur, MD introducing</strong></td>
<td><strong>Soania Mathur, MD introducing</strong></td>
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<td><strong>Shaky Hands</strong></td>
<td><strong>Shaky Hands</strong></td>
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<tr>
<td><strong>WPC Theater</strong></td>
<td><strong>Location: Exhibit Hall A</strong></td>
<td><strong>Location: Wellness Way</strong></td>
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<tr>
<td><strong>11:30 – 11:45 AM</strong></td>
<td><strong>POWER THROUGH PROJECT WORKOUT</strong></td>
<td><strong>Facilitated support group</strong></td>
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<tr>
<td><strong>12:00 – 1:00 PM</strong></td>
<td><strong>TECHNOLOGY TALKS</strong></td>
<td><strong>Facilitator: Elaine Book (Canada)</strong></td>
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<td><strong>Talk: Improving history taking objective measurements</strong></td>
<td><strong>Supported by the Michael J. Fox Foundation for Parkinson’s Research</strong></td>
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<td><strong>Speaker: Rajesh Pahwa (USA)</strong></td>
<td><strong>Supported by Global Kinetics Corporation</strong></td>
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<td><strong>12:30 – 12:55 PM</strong></td>
<td><strong>12:15 – 1:15 PM</strong></td>
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<td><strong>Talk: Expanding the care continuum with access to full-body MRI with Medtronic DBS therapy</strong></td>
<td><strong>Location: Wellness Way</strong></td>
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<td><strong>Speaker: Yair Safriel (USA)</strong></td>
<td><strong>Facilitated support group</strong></td>
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<tr>
<td></td>
<td><strong>Supported by Medtronic</strong></td>
<td><strong>Facilitator: Elaine Book (Canada)</strong></td>
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<tr>
<td><strong>CLINICAL RESEARCH VILLAGE</strong></td>
<td><strong>Location: Exhibit Hall A</strong></td>
<td><strong>Supported by the Michael J. Fox Foundation for Parkinson’s Research</strong></td>
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<tr>
<td><strong>12:00 – 1:15 PM</strong></td>
<td><strong>Meet the Villagers!</strong></td>
<td><strong>Supported by Global Kinetics Corporation</strong></td>
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<td>The PD Trial Coordinators, doctors and practitioners who will explain their roles and answer your questions and learn how you can contribute to progress.</td>
<td><strong>Supported by Medtronic</strong></td>
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<tr>
<td><strong>CARE PARTNERS LOUNGE</strong></td>
<td><strong>Location: Wellness Way</strong></td>
<td><strong>Supported by Global Kinetics Corporation</strong></td>
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<td><strong>12:15 – 1:15 PM</strong></td>
<td><strong>Facilitated support group</strong></td>
<td><strong>Supported by Medtronic</strong></td>
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<td><strong>Facilitator: Elaine Book (Canada)</strong></td>
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### Session Levels

- **Crosstalk** – Minimal or no scientific background required
- **Moderate-level** scientific sessions
- **High-level** scientific sessions

### Session Type

- **Basic Science**
- **Clinical Science**
- **Comprehensive Care**
PARALLEL SESSIONS > 1:30 – 3:00 PM

TP1 – CELL-TO-CELL TRANSMISSION OF ALPHA-SYNUCLEIN

Location: Oregon
Ballroom 201

Co-Chair:
Eliezer Masliah (USA)
Co-Chair:
Serge Przedborski (USA)

Overall goal: To inform on research concerning the cell to cell spreading of alpha-synuclein pathology in the brain, and potential therapeutic strategies.

Lecture #1: Update on evidence that alpha-synuclein is transmitted between neurons
Speaker: Donato Di Monte (Germany)

Lecture #2: What form(s) of alpha-synuclein is transmitted from cell to cell? Evidence from animal models
Speaker: Veerle Baekelandt (Belgium)

Lecture #3: Mechanisms of transmission of alpha-synuclein and therapeutic development
Speaker: Pamela McLean (USA)

Learning objectives: 1. Be able to explain how alpha-synuclein pathology spreads between cells; 2. Know more about animal models using alpha-synuclein propagation techniques and their scientific importance; 3. Describe developing techniques to measure and treat alpha-synuclein transmission.

TP2 – CHALLENGES OF LIVING WITH PARKINSON’S PART I: VISION, PAIN AND GASTROINTESTINAL

Location: Oregon
Ballroom 202

Co-Chair:
K. Ray Chaudhuri (UK)
Co-Chair:
Linda Olson (USA)

Overall goal: To identify and recognize some of the under-recognized non-motor symptoms for individuals living with PD and how to deal with these symptoms.

Lecture #1: Visual dysfunction
Speaker: Dan Gold (USA)

Lecture #2: Pain and PD: Measuring it and addressing it
Speaker: Santiago Perez Lloret (Argentina)

Lecture #3: Gastrointestinal challenges
Speaker: Ron Pfeiffer (USA)

Learning objectives: 1. Describe specific visual challenges that people with PD may experience and how to treat them in the clinic; 2. Explain the prevalence of pain in PD, how it’s measured, and how imaging is being used to understand it; 3. Detail how GI challenges impact quality of life for PwPs and what can be done in the clinic.

TP3 – SLEEP AND PD

Location: Oregon
Ballroom 203

Co-Chair:
Rajesh Pathwa (USA)
Co-Chair:
Anne Louise LaFontaine (Canada)

Overall goal: Disturbances of sleep are an important type of non-motor symptom in PD. This session will review the clinical features of sleep disorders in PD and discuss approaches to management, discuss abnormalities of sleep which may emerge in the premotor state, and the relationship between sleep and cognitive disabilities in PD.

Lecture #1: Sleep disturbances in PD
Speaker: Amy Amara (USA)

Lecture #2: Sleep in prodromal PD
Speaker: Alex Iranzo (Spain)

Lecture #3: Sleep and cognition in PD
Speaker: Jennifer G. Goldman (USA)

Learning objectives: 1. Understand common sleep disturbances in clinical PD and approaches to management; 2. Discuss the relationship between disorders of sleep and premotor PD; 3. Describe the relationships between disordered sleep and cognitive impairment in PD.

TP4 – INFLAMMATION IN PD

Location: B113-114

Co-Chair:
David Standaert (USA)
Co-Chair:
John Duda (USA)

Overall goal: To review the role of inflammation in Parkinson disease and the potential therapeutic outcomes.

Lecture #1: Basic mechanisms of neuron and immune cell interactions in Parkinson disease
Speaker: Sheela Vyas (France)

Lecture #2: Microglia, a dynamic player in the neurodegenerative process of Parkinson’s disease
Speaker: Marina Romero Ramos (Denmark)

Lecture #3: Neuroinflammation in Parkinson’s disease: A risk factor and a therapeutic opportunity
Speaker: Malu Tansey (USA)

Learning objectives: 1. Review the basic mechanisms of neuroinflammation; 2. Explain the role of neuroinflammation in the pathophysiology of Parkinson disease; 3. Analyze the potential therapeutic interest of manipulating neuroinflammation in Parkinson disease.
## Workshops > 1:30 – 3:00 PM

### TW1 – Autophagy Deficits in PD: Mechanisms and Therapeutic Opportunities

**Location:** B110-112  
**Co-Moderator:**  
Steve Finkbeiner (USA)  
Julie Andersen (USA)

**Overall goal:** The talks in this session will discuss evidence for disruption of autophagy-lysosome pathway in PD and disease modifying therapeutic approaches based on strategies aimed to prevent the accumulation of toxic alpha-synuclein.

**Talk #1: The role of autophagy in PD**  
**Panelist:** Sheng-Han Kuo (USA)

**Talk #2: Glucocerebrosidase and its role in the pathogenesis of PD**  
**Panelist:** Joe Mazzulli (USA)

**Talk #3: Therapeutic prospects of enhancing chaperone-mediated autophagy in synucleinopathies**  
**Panelist:** Leonidas Stefanis (Greece)

**Learning objectives:** 1. Learn the various mechanisms involved in protein clearance in PD; 2. Describe links between genetic mutations linked to PD and deficits in protein clearance; 3. Learn about new treatments developed to improved protein clearance in PD.

### TW2 – Mitochondria in PD: Mitophagy and Mitochondrial Quality Control: Basic Mechanisms

**Location:** B115-116  
**Co-Moderator:**  
Heidi McBride (Canada)  
Dalton James Surmeier (USA)

**Overall goal:** To explore the molecular mechanisms by which these proteins contribute to mitochondrial quality control, and how mutations lead to the development of the disease.

**Talk #1: PINK1/Parkin-mediated mechanisms**  
**Panelist:** Leo Pallanck (USA)

**Talk #2: Parkin/PINK1 interplay and pathologic consequences of their mutations**  
**Panelist:** Miratul Muqit (UK)

**Talk #3: Signaling pathways for mitochondrial quality control: Role and therapeutic implications for PD**  
**Panelist:** Edward Fon (Canada)

**Learning objectives:** 1. Describe the function(s) of PINK1 and Parkin in mitochondrial quality control; 2. Consider the functional consequences upon the cell when these proteins are mutated; 3. Learn how the emerging structural insights are providing new therapeutic strategies in PD.

### TW3 – From Diagnosis to Death: What Palliative Care Can Offer Patients and Care Partners

**Location:** Oregon Ballroom 204  
**Co-Moderator:**  
Julie Carter (USA)  
Julie Andersen (USA)  
Dalton James Surmeier (USA)

**Overall goal:** To provide an introduction to palliative care, review recent developments in this field and discuss why it is relevant to PD and how it helps relieve the suffering of patients and their family members through the management of medical symptoms, psychosocial issues and spiritual wellbeing.

**Talk #1: What is palliative care and why is it relevant to PD?**  
**Panelist:** Benzi Kluger (USA)

**Talk #2: Approaches to providing palliative care to the PD community**  
**Panelist:** Indu Subramanian (USA)

**Talk #3: Palliative care and PD: A patient perspective**  
**Panelist:** Kirk Hall (USA)

**Learning objectives:** 1. Explain what palliative care is in relation to PD; 2. Describe how it can be used from the start of the disease diagnosis; 3. Detail how palliative care can be applied in, and out of, the clinic setting.

## Coffee Break > 3:00 – 3:30 PM

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## Roundtables 1:30 – 3:00 PM

### TRT1 – Roundtables

**Location:** A105-106  
**Supported by Medtronic**

**Roundtable #1:** Advocacy: Patient advocates at work around the world – How to get involved in North America  
**Co-Hosts:** Israel Robledo (USA) & Jillian Carson (Canada)

**Roundtable #2:** Living alone with PD  
**Co-Hosts:** Pat Davies (USA) & David Burn (USA)

**Roundtable #3:** DBS: Advice from one PwP to another  
**Co-Hosts:** Marilyn Veomett (USA) & Allison Smith (USA)

**Roundtable #4:** Dykinesia: Impact, treatment, and the future  
**Host:** Oscar Gershank (Argentina)

**Roundtable #5:** Self-care: How can technology help you take control of your own care?  
**Host:** Sara Riggare (Sweden)

**Roundtable #7:** Nutrition and PD: What’s the big deal?  
**Host:** Laurie Mischley (USA)
### TP5 – Biomarkers: Where Are We?

**Location:** B113-114  
**Co-Chair:** Kalpana Merchant (USA)  
**Co-Chair:** Thomas Montine (USA)  

**Overall goal:** To understand biomarkers of PD, challenges faced in this field of research and what’s on the horizon.

**Lecture #1: Overview**  
Update on latest data repositories, CSF and other biological samples  
*Speaker:* Tanya Simuni (USA)

**Lecture #2: Imaging prodromal PD and the challenge of SWEDD**  
*Speaker:* Danna Jennings (USA)

**Lecture #3: Proteomic biomarkers: Still upstream from clinical use?**  
*Speaker:* Jing Zhang (USA)

**Learning objectives:** 1. Describe the current state of biomarker data bases available for PD; 2. Learn about brain imaging data in early stages of PD prior to motor deficits; 3. Gain insight into new research on proteomic biomarkers for PD.

### TP6 – Challenges of Living with Parkinson’s Part II

**Location:** Oregon Ballroom 202  
**Co-Chair:** Peter Fletcher (UK)  
**Co-Chair:** Alice Lazzarini (USA)  

**Overall goal:** Difficulty of being typecast, struggles of outward challenges like posture, drooling, and misperception of PD by others.

**Lecture #1: (Mis)perception of PD**  
*Speaker:* Joe Friedman (USA)

**Lecture #2: Bent back and dropped head in PD**  
*Speaker:* Ryuji Kaji (Japan)

**Lecture #3: Drooling and sweating**  
*Speaker:* Anne Louise LaFontaine (Canada)

**Learning objectives:** 1. Describe three misperceptions of people with Parkinson’s that persist; 2. Explain how bent back and dropped head impede quality of life for PwPs; 3. Explain what is known, and what is not known, about the causes of drooling and sweating in PD and treatment options for these two symptoms.

### TP7 – Novel Therapeutic Approaches for Dyskinesia

**Location:** Oregon Ballroom 201  
**Co-Chair:** Un Kang (USA)  
**Co-Chair:** Mark Guttman (Canada)  

**Overall goal:** To summarize what’s in the future for dyskinesia, not just the pipeline for dyskinesia treatment, but with emerging attempts to address this problem.

**Lecture #1: Levodopa-induced dyskinesia: Impact on quality of life**  
*Speaker:* Oscar Gershanik (Argentina)

**Lecture #2: Preventing dyskinesia: Novel delivery modes for L-dopa**  
*Speaker:* Peter LeWitt (USA)

**Lecture #3: Novel targets for treatment of dyskinesia: What is in the pipeline?**  
*Speaker:* Erwan Bézard (France)

**Learning objectives:** 1. Gain insight into new concepts on the mechanism of l-dopa induced dyskinesia in PD; 2. Describe the results of recent clinical trials using novel modes of delivery of l-dopa; 3. Learn about new approaches developed in experimental models to minimize or prevent-l-dopa induced dyskinesia.

### TP8 – Imaging in PD: Dopamine and Beyond

**Location:** B115-116  
**Co-Chair:** Matthew Brodsky (USA)  
**Co-Chair:** Stuart Jackson (Canada)  

**Overall goal:** To look at using imaging to study the spectrum of PD from premotor to motor complications, to provide a more complete understanding of the effects of PD and its treatments on brain function.

**Lecture #1: Non-invasive imaging of progression in PD and Parkinsonian disorders**  
*Speaker:* David Vaillancourt (USA)

**Lecture #2: Effects of dopaminergic treatments on brain function in PD**  
*Speaker:* Vesna Sossi (Canada)

**Lecture #3: Novel insights from imaging the cholinergic system in PD**  
*Speaker:* Nicolaas Bohnen (USA)

**Learning objectives:** 1. Understand how network abnormalities related to symptoms in PD; 2. Describe the effects of dopamine treatments on brain networks; 3. Understand the role of imaging in identification of non-dopaminergic deficits in PD.
## TW4 – PROTEIN CLEARANCE DEFICITS IN PD: BEYOND THE LYSOSOME

**Location:** B110-112

**Co-Moderator:** Joe Mazzulli (USA)  
**Co-Moderator:** Andrew West (USA)

**Overall goal:** To provide an overview of protein clearance, trafficking and autophagy in the pathogenesis of PD.

**Talk #1:** Overview of defects in protein clearance in PD  
**Panelist:** Vivek K. Unni (USA)

**Talk #2:** Traffic jams and the molecular basis of Parkinson’s disease  
**Panelist:** Tiago Fleming Outeiro (Germany)

**Talk #3:** Proteasomal dysfunction in PD  
**Panelist:** Pamela MacLean (USA)

**Learning objectives:** 1. Understand the role of defects in protein clearance in PD; 2. Appreciate how protein trafficking defects contribute to PD; 3. Learn about the role of proteasome dysfunction in PD.

## TW5 – PARKINSON’S DISEASE: SPEECH, SWALLOWING AND VOICE

**Location:** Oregon Ballroom 203

**Co-Moderator:** Cynthia Fox (USA)  
**Co-Moderator:** Hanneke Kalf (The Netherlands)

**Overall goal:** To provide a deep dive on speech and swallowing in PD including how speech challenges impact daily living and evidence-based research on what’s working for people with PD.

**Talk #1:** Swallowing & cough  
**Panelist:** Michelle Ciucci (USA)

**Talk #2:** Voice and Parkinson’s  
**Panelist:** Hanneke Kalf (The Netherlands)

**Talk #3:** Speech production - neural mechanisms in normal and Parkinsonian states  
**Panelist:** Kristina Simonyan (USA)

**Learning objectives:** 1. Explain how swallowing challenges impact quality of life and daily living for PwP; 2. Detail how PD impacts voice and what treatment options exist; 3. Describe how PD impacts speech and what options PwP have for improving this symptom.

## TW6 – MILD COGNITIVE IMPAIRMENT & APATHY

**Location:** Oregon Ballroom 204

**Co-Moderator:** Irene Litvan (USA)  
**Co-Moderator:** Hanneke Kalf (The Netherlands)

**Overall goal:** To understand clinical symptoms of apathy and MCI in PD and what’s being done to address these two major challenges for people with PD.

**Talk #1:** Apathy in PD: From diagnosis to management  
**Panelist:** Paul Krack (Switzerland)

**Talk #2:** Clinical features, diagnosis and treatment of MCI  
**Panelist:** Jennifer G. Goldman (USA)

**Talk #3:** Neuroimaging of apathy and MCI  
**Panelist:** Joel Perlmutter (USA)

**Learning objectives:** 1. Explain the critical presentation of apathy in PD, its meaning and management; 2. Learn the clinical features of MCI and its management.

## TRT2 – ROUNDTABLES

**Location:** A105-106  
Supported by Medtronic

**Roundtable #1:** Tools for living with young-onset PD  
**Co-Hosts:** Fulvio Capitanio (Spain) & Jillian Carson (Canada)

**Roundtable #2:** DBS: Lesson learned after DBS  
**Co-Hosts:** Andy McDowell (New Zealand) & Michael Okun (USA)

**Roundtable #3:** Sex and PD: Things you should know but are too afraid to ask  
**Host:** Sheila Silver (USA)

**Roundtable #4:** Dental care and Parkinson’s  
**Host:** Jane Busch (USA)

**Roundtable #5:** Living well with Parkinson’s: It starts at the diagnosis  
**Host:** Tim Hague (Canada)

**Roundtable #6:** PD & children: How does PD impact children?  
**Co-Hosts:** Elaine Book (Canada) & Rebecca Miller (USA)

## SMALL GROUP DISCUSSION

**Location:** Wellness Way

**Cognitive challenges: How to recognize them and get the help you need**  
**Speaker:** Amy Lemen (USA)
CONGRESS PROGRAM
Thursday, September 22, 2016

END-OF-DAY > 5:15 – 6:45 PM

<table>
<thead>
<tr>
<th>TWU – END-OF-DAY WRAP-UP</th>
<th>BOOK NOOK</th>
<th>POSTER TOURS</th>
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<td>5:15 – 6:30 PM</td>
<td>5:30 – 6:30 PM</td>
<td>5:15 – 6:30 PM</td>
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<tr>
<td>Location: Exhibit Hall C</td>
<td>Location: Exhibit Hall A – booth #925</td>
<td>Location: Exhibit Hall B</td>
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<tr>
<td>Moderator: David Iverson (USA)</td>
<td>Moderator: Allison Topepperwein</td>
<td>Sign-up required (in the poster area)</td>
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<tr>
<td>Panelists: Leonidas Stefanis (USA)</td>
<td>Monique Giroux, MD</td>
<td>Supported by Acadia Pharmaceuticals</td>
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<tr>
<td>Tiago Outeiro (Germany)</td>
<td>introducing Optimal Health</td>
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<tr>
<td>Alice Lazzarini (USA)</td>
<td>Lyman Baittie introducing</td>
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<tr>
<td>Malin Parmar (Sweden)</td>
<td>Tremors in the Universe</td>
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<td>Julie Anderson (USA)</td>
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WPC THEATER

| Location: Exhibit Hall A |
| 3:00 – 3:30 PM |
| MUSIC PERFORMANCE |
| 5:30 – 6:30 PM |
| BOOK NOOK – MEET THE AUTHOR |

CLINICAL RESEARCH VILLAGE

| Location: Exhibit Hall A |
| 5:30 – 6:45 PM |
| MUSIC PERFORMANCE |
| Panel Discussion: Tools to empower research volunteers |
| Supported by the Michael J. Fox Foundation for Parkinson’s Research |

WPC PASSPORT RAFFLE > 6:30 PM

| Location: WPC Theater |

SPECIAL EVENTS > 7:00 – 9:30 PM

| MUSIC, MOVEMENT AND PD LOUNGE |
| Location: Eastlund Hotel |
| Ticket required |
| Performances by community members |
| Emcee: David Sangster (UK) and Mike Bell (UK) |
| Doors open: 7:00 PM |
| Supported by UCB |

| CYNAPSUS THERAPEUTICS CORPORATE SESSION |
| Location: DoubleTree Hotel |
| Room: Multnomah Ballroom |
| Doors open: 6:45 PM |
| Note: Non-CME session designed and hosted by Cynapsus Therapeutics. |

| ACORDA THERAPEUTICS CORPORATE SESSION |
| Location: DoubleTree Hotel |
| Room: Pacific Northwest |
| Doors open: 6:45 PM |
| Note: Non-CME session designed and hosted by ACORDA Therapeutics. |

Session Levels

- Crosstalk – Minimal or no scientific background required
- Moderate-level scientific sessions
- High-level scientific sessions

Session Type

- Basic Science
- Clinical Science
- Comprehensive Care
The **WPC Buddies Program** is an initiative to strengthen the global Parkinson’s community by connecting World Parkinson Congress registrants with each other before the Congress even begins!

WPC 2016 Buddies Program Sponsored by the Northwest Parkinson’s Foundation

**WPC 2016 Video Competition!**

BE INSPIRED. WATCH THE VIDEOS FROM THE COMPETITION AT www.youtube.com/worldpdcongress
HOT TOPICS > 8:00 – 9:00 AM

Location: Exhibit Hall C

**Moderator:** Marie-Francoise Chesselet (USA)

**P06.10** Understanding the pathogenesis of Parkinson’s disease through genetic modifiers
*Panelist:* Marie Davis (USA)

**P03.01** Exosome-associated oligomeric alpha-synuclein transmission in vitro
*Panelist:* Marion Delenclos (USA)

**LBP32** Inhibition of glucosylceramide synthase alleviates aberrations in synucleinopathy models: Link to GBA-related Parkinson’s disease
*Panelist:* S. Pablo Sardi (USA)

**P38.04** How are we going to tell the children? An overview and review of the children’s literature about Parkinson’s disease
*Panelist:* Adele Hensley (USA)

WPC AWARD CEREMONY > 9:00 – 9:15 AM

Location: Exhibit Hall C

**Host:** Serge Przedborski (USA)

WPC Award for Distinguished Contribution to the Parkinson Community
Award given to Tom Isaacs (UK)

MORNING PLENARY > 9:15 – 11:15 AM

Location: Exhibit Hall C

**FPL – STEM CELLS AND IPS CELLS: WHERE ARE WE?**

**Co-Chair:** Patrik Brundin (USA)
**Co-Chair:** Jean Burns (USA)

**Talk #1:** Overview: What’s the difference between stem cells and iPs cells?
*Speaker:* Malin Parmar (Sweden)

**Talk #2:** Disease modeling using iPS cells
*Speaker:* Steve Finkbeiner (USA)

**Talk #3:** Transplantation in humans: An update
*Speaker:* Roger Barker (UK)

**Talk #4:** What it means for people with Parkinson’s – The patient perspective
*Speaker:* Tom Isaacs (UK)

**Learning objectives:** 1. Explain current states of clinical trials using cell transplantation in PD; 2. Describe differences between embryonic stem cells and iPs cells; 3. Explain their respective use in research to understand causes and mechanisms of PD.
**CONGRESS PROGRAM**
Friday, September 23, 2016

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### LUNCH > 11:30 AM - 1:30 PM

<table>
<thead>
<tr>
<th>POSTER PRESENTATIONS</th>
<th>BOOK NOOK</th>
<th>CLINICAL RESEARCH VILLAGE</th>
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</table>
| **11:30 AM - 1:30 PM** | **11:30 AM - 12:15 PM** Sierra Farris, PA-C introducing DBS: A Patient Guide to Deep Brain Stimulation  
12:30 - 1:15 PM Renee Le Verrier, RYT introducing Yoga for Movement Disorders: Rebuilding Strength, Flexibility & Balance for Parkinson’s and Dystonia | Location: Exhibit Hall A  
Meet the Villagers! The PD Trial Coordinators, doctors and practitioners who will explain their roles and answer your questions and learn how you can contribute to progress. Supported by the Michael J. Fox Foundation for Parkinson’s Research |

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### WPC THEATER TECH TALK

**11:30 – 11:45 AM** Location: Exhibit Hall A
**POWER THROUGH PROJECT WORKOUT TECHNOLOGY TALKS**

- **12:00 – 12:25 PM**
  - **Talk:** Optimizing Therapy with Boston Scientific Deep Brain Stimulation System
  - **Speaker:** Stephen Carcieri (USA)
  - **Supported by Boston Scientific**

**12:00 – 1:15 PM**

**ALLOCATING SCARCE RESOURCES: CARE VS CURE**

- **Moderator:** Dave Iverson (USA)
- **Panelists:**
  - Peter LeWitt (USA)
  - Sara Rigarde (Sweden)
  - Pam Quinn (USA)
  - Jon Palfreman (USA)
  - Terry Ellis (USA)
  - Albert Agro (Canada)

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### SPECIAL PRESENTATION

**11:30 AM – 12:15 PM** Location: Exhibit Hall C
**Sierra Farris, PA-C** introducing **DBS: A Patient Guide to Deep Brain Stimulation**

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### CARE PARTNERS LOUNGE

**12:15 – 1:15 PM** Location: Wellness Way
**Facilitated Support Group**

- **Facilitator:** Elaine Book (Canada)

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### WPC PASSPORT RAFFLE > 1:20 PM

**Location:** WPC Theater
FP1 – MECHANISMS OF DYSKINESIA: NEW INSIGHTS FROM ANIMAL MODELS

Location: Oregon Ballroom 201

Co-Chair: Celeste Napier (USA)
Co-Chair: Erwan Bézard (France)

Overall goal: To provide clear insights into the synaptic and signaling mechanisms that may underlie LID, and emerging approaches for improving outcomes of L-DOPA therapy by reducing the burden of LID.

Lecture #1: Serotonergic mechanisms of dyskinesia
Speaker: Manolo Carta (Italy)

Lecture #2: Synaptic and signaling dysfunction leading to LID
Speaker: Dalton James Surmeier (USA)

Lecture #3: Glutamatergic pathways as a target for the treatment of dyskinesias in Parkinson’s disease
Speaker: M. Angela Cenci Nilsson (Sweden)

Learning objectives: 1. Understand current state of synaptic changes and signaling mechanisms that underlie development and maintenance of LID; 2. Explain potential drug treatment strategy for LID and its mechanistic basis of action; 3. Describe emerging approaches to reducing burden of LID.

FP2 – PRACTICAL MANAGEMENT OF AUTONOMIC DYSFUNCTION

Location: Oregon Ballroom 202

Co-Chair: Danna Jennings (USA)
Co-Chair: David Devos (France)

Overall goal: To provide better understanding of the range of autonomic dysfunction experienced by many PwPs and how to address these challenges.

Lecture #1: Cardiovascular dysautonomia in PD
Speaker: Horacio Kaufman (USA)

Lecture #2: Gastrointestinal dysfunction
Speaker: Kathleen Shannon (USA)

Lecture #3: Skin-related dysautonomia and bladder dysfunction in PD
Speaker: Hirohisa Watanabe (Japan)

Learning objectives: 1. Be able to explain challenges of cardiovascular dysautonomia in PD; 2. Describe gastrointestinal dysfunction in PD and implications for treatment in clinical setting; 3. Explain what’s known to date about skin-related dysautonomia and how it will impact your treatment decisions with patients.

FP3 – EXERCISE AS TREATMENT

Location: Exhibit Hall C

Co-Chair: Fay Horak (USA)
Co-Chair: Colleen Canning (Australia)

Overall goal: To present the evidence from biological and clinical studies supporting the role of exercise in the treatment of Parkinson disease and to suggest practical means of integrating exercise into daily life.

Lecture #1: Biological effects of exercise in Parkinson’s disease
Speaker: Giselle Petzinger (USA)

Lecture #2: The impact of exercise on physical and cognitive function in PD
Speaker: Lynn Rochester (UK)

Lecture #3: Practical implications: Integration of exercise into everyday life
Speaker: Gammon Earhart (USA)

Learning objectives: 1. Explain the mechanisms underlying the effects of exercise in PD; 2. Summarize the impact of exercise on physical and cognitive function in PD; 3. Discuss practical approaches to facilitate integration of exercise into daily life.

FP4 – SEX & PARKINSON’S: HOW DOCTORS CAN HELP THEIR PATIENTS AND WHAT PATIENTS NEED TO KNOW

Location: Oregon Ballroom 203

Co-Chair: Amy Lemen (USA)
Co-Chair: Allison Smith (USA)

Overall goal: To learn about the impact of PD on sexual health and intimacy.

Lecture #1: How Parkinson’s disease affects sexuality and intimacy
Speaker: Gila Bronner (Israel)

Lecture #2: Sexual medicine therapies and interventions
Speaker: Paul Rabstyn (The Netherlands)

Lecture #3: Creating and keeping intimacy in your relationship
Speaker: Sheila Silver (USA)

Learning objectives: 1. Explain the broad impact of PD on sexual health and implications for clinical care; 2. Become aware of the various sexual medicine and interventions with respect to PD; 3. Learn strategies to improve sexual health and intimacy.
Talk #1: In vivo cell specific striatal manipulations and behavior
Panelist: Alexandra Nelson (USA)

Talk #2: Maladaptive synaptic and cellular plasticity in the subthalamic nucleus in experimental Parkinson’s disease
Panelist: Mark Bevan (USA)

Talk #3: Understanding cell and circuit specific synaptic and cellular adaptations
Panelist: Anatol Kreitzer (USA)

Learning objectives: 1. Understand brain circuit activity changes associated with parkinsonism in animal models; 2. Learn about roles of specific cell types and brain regions in the expression of PD symptoms; 3. Be familiar with contemporary approaches to interrogate the role of specific cell populations in the brain activity and behavioral changes that accompany parkinsonism.

Talk #1: An overview – The nuts and bolts of clinical trials
Panelist: Soania Mathur (Canada)

Talk #2: On the road to better treatments and a cure – Why is it taking so long?
Panelist: Kalpana Merchant (USA)

Talk #3: From lab to pharmacy shelf – How can people get involved?
Panelist: Jon Stamford (UK)

Learning objectives: 1. Learn what clinical trials are, how they work and why they are important; 2. Identify and address the perceived and real barriers to the clinical trial process; 3. Call to action – how to get involved in clinical trials.
FP5 – STRIATAL CHOLINERGIC SIGNALING IN CONTROL OF MOVEMENT AND DYSKINESIA

Location: Oregon Ballroom 201
Co-Chair: Susan Fox (Canada)
Co-Chair: David Standaert (USA)

Overall goal: Dyskinesias remain an important unsolved problem in PD. Recent evidence suggests a critical role of striatal cholinergic interneurons, and points to the cholinergic system as a novel target of therapy for dyskinesia.

Lecture #1: Cholinergic interneurons and the control of movement
Speaker: Antonio Pisani (Italy)

Lecture #2: Regulation of dopamine by cholinergic interneurons: Implication for PD
Speaker: Sarah Threlfell (UK)

Lecture #3: Cholinergic cells in dyskinesia: Experimental evidence and novel treatments
Speaker: Un Kang (USA)

Learning objectives: 1. Learn about the role of cholinergic cells in the regulation of movement; 2. Describe recent evidence linking striatal cholinergic cells to dyskinesias; 3. Discuss how targeting cholinergic cells might be useful in preventing or reversing dyskinesias.

FP6 – FALLS: A NEW LOOK

Location: Oregon Ballroom 202
Co-Chair: Lynn Rochester (UK)
Co-Chair: Sue Lord (UK)

Overall goal: To advance an understanding of falls in PD from prodromal to prevalent falls in advanced stage taking into account evolving risk, approach to measurement and classification, and contemporary evidence for intervention.

Lecture #1: Falls risk: A complex and evolving picture
Speaker: Alfonso Fasano (Canada)

Lecture #2: Measuring and classifying falls: From technology to clinical tools
Speaker: Jeff Hausdorff (Israel)

Lecture #3: Preventing falls: What is the evidence?
Speaker: Colleen Canning (Australia)

Learning objectives: 1. Understand the evolution of falls risk from prodromal through to advanced disease stage; 2. Describe recent advances in falls classification and detection; 3. Identify the best evidence for falls prevention and clinical recommendations.

FP7 – NEW TECHNOLOGIES & PD

Location: Oregon Ballroom 203
Co-Chair: Bastiaan Bloem (The Netherlands)
Co-Chair: Peter Schmidt (USA)

Overall goal: To highlight the current and potential future uses of technology in the management and research of PD for all stakeholders (PwP, clinicians and researchers), including opportunities and remaining challenges.

Lecture #1: Remote assessment: Can it really help?
Speaker: Ray Dorsey (USA)

Lecture #2: Use of technology to support patients with Parkinson’s disease in their self-management
Speaker: Sara Riggare (Sweden)

Lecture #3: Opportunities and challenges of using wearable technology to facilitate clinical trials in the field of PD
Speaker: Alberto Espay (USA)

Learning objectives: 1. Obtain an overview of the use of technology for the management of PwP; 2. Illustrate the opportunities and challenges of using technology to facilitate clinical trials in the field of PD; 3. Enable the participants in the session to identify potential uses of technology in their own situation.

SMALL GROUP DISCUSSION > 3:30 – 5:00 PM

Care Partner Lounge
Location: Wellness Way
Tips for managing your own health
Speaker: Lissa Kapust (USA)
### FW4 – Parkinson’s and Complementary Care: Why Patients Love It and Why Doctors Need to Know More About It

**Location:** Oregon Ballroom 204

**Co-Moderator:**
- Simon Lewis (Australia)
- Albert Leentjens (The Netherlands)

**Overall goal:** To understand what constitutes complementary care and what evidenced-based research exists in these areas.

**Talk #1:** Research on cannabis: Is there any evidence?
- **Panelist:** Benzi Kluger (USA)

**Talk #2:** Yoga as therapy: What is the research telling us?
- **Panelist:** Indu Subraminian (USA)

**Talk #3:** Where does “music therapy” fit in the complementary care world?
- **Panelist:** Matt Ford (USA)

**Talk #4:** Research on glutathione
- **Panelist:** Laurie Mischley (USA)

**Learning objectives:**
1. Explain what Complementary and Alternative Medicine (CAM) is;
2. Recognize the literature on the topic;
3. Understand how to incorporate CAM in their clinical practice.

### FW5 – Emerging Mitochondrial Concepts in PD

**Location:** B113-114

**Co-Moderator:**
- Edward Fon (Canada)
- Leo Pallanck (USA)

**Overall goal:** This session will focus on emerging roles of mitochondrial pathways to the etiology of PD, including a vesicular transport pathway, roles in inflammation, and biogenesis pathways.

**Talk #1:** Mitochondria in axon terminals and PD pathology
- **Panelist:** Thomas Schwarz (USA)

**Talk #2:** Mitochondrial antigen presentation in PD
- **Panelist:** Heidi McBride (Canada)

**Talk #3:** Targeting mitochondrial electron transport chain dysfunction in Parkinson’s
- **Panelist:** Paul Verstreken (Belgium)

**Learning objectives:**
1. Explore additional contributions of mitochondrial dysfunction and regeneration to PD;
2. Outline links between mitochondrial dysfunction and the immune response;
3. Consider the unique features of the dopaminergic neuron that may render it more susceptible to mitochondrial dysfunction.

### FW6 – Impulse Control Disorder: A Team Strategy with the Patient, Family and Doctor

**Location:** B115-116

**Co-Moderator:**
- Dan Weintraub (USA)
- Irene Litvan (USA)

**Overall goal:** Better understand ICDs, the ins and outs of ICDs and most important to emphasizing the lack of patient control in the behavior and the ability to treat the symptoms. Important to emphasize that ICDs are challenges that need a team to tackle, it’s not just a PwP issue, but a family issue and the doctor needs to be a part of this process from education to treatment.

**Talk #1:** What are impulse control disorders (ICD), why do they occur and what are the common presentations?
- **Panelist:** Mark Stacy (USA)

**Talk #2:** When do these become a problem or “disorder” and how to overcome shame or embarrassment to let your partner and doctor know
- **Panelist:** Daniel Suwyn (USA)

**Talk #3:** Treatment strategies
- **Panelist:** Mayela Rodriguez-Violante (Mexico)

**Learning objectives:**
1. Explain what ICDs are and at what point they become a problem;
2. Be able to apply ideas to clinical practice when helping patients overcome the shame of having ICD challenges;
3. Describe optimal treatment strategies when patient has identified ICDs.

### ROUNDTABLES

**FW6 – Impulse Control Disorder: A Team Strategy with the Patient, Family and Doctor**

**Location:** A105-106

**Roundtable #1:**
- **Exercise & PD: What’s really on the horizon?**
  - **Host:** Giselle Petzinger (USA)

**Roundtable #2:**
- **Swallowing, coughing and PD**
  - **Host:** Michelle Ciucci (USA)

**Roundtable #3:**
- **Sex and PD: Things you should know but are too afraid to ask**
  - **Host:** Paul Rabsztyn (The Netherlands)

**Roundtable #4:**
- **Genetics & environment: Where are we headed?**
  - **Host:** Beate Ritz (USA)

**Roundtable #5:**
- **Fatigue, sleep & PD**
  - **Host:** Amy Amara (USA)

**Roundtable #6:**
- **Chemical exposure and neurodegenerative disease**
  - **Host:** Caroline Tanner (USA)

**Roundtable #7:**
- **Emerging targets in Parkinson’s disease**
  - **Host:** Erwan Bézard (France)
FWU – END-OF-DAY WRAP-UP > 5:15 – 6:15 PM

Location: Exhibit Hall C  
Moderator: Jon Palfreman (USA)  
Panelists:  
  - Terry Ellis (USA)  
  - Edward Fon (Canada)  
  - Patrik Brundin (USA)  
  - Alexandra Nelson (USA)  
  - M. Angela Cenci Nilsson (Sweden)

CLOSING REMARKS, SNACKS & REFRESHMENTS, RAFFLE > 6:15 – 7:00 PM

Be sure to visit the WPC Book Nook in the Exhibit Hall. This new space will give delegates a chance to learn about, connect with, and be inspired by authors and new publications.
Basic Science: Etiology, genetics, epidemiology and toxicants

P01.01 Diabetes mellitus type two and decreased relative risk for Parkinson's Disease: a community based cross-sectional study
Fawzi Abukhalil, Rafif Djenderedjian, Bijal Mehta, Erin K Saito, Natalie Diaz, Julia Chung, Aaron M McMurtry

P01.02 First report of LRRK2-G2019S mutation in Parkinson's disease patients from Ecuador
Brennie Andree Munoz, Jorge Chang Castello, Ramiro Burgos, Hector Zambrano, Cyrus Zabetian, Ignacio Mata

P01.03 Air pollution and Parkinson's disease: mechanisms of diesel exhaust neuronal toxicity
Lisa Barnhill, Aaron Lulla, Sataree Khansuwan, Jesus Araujo, Jeff Bronstein

P01.04 Prevalence of Parkinson's disease in North America: a nationwide epidemiological study sharing available databases
James Beck, Roy Alcalay, James Bower, Hongle Chen, Connie Marras, Brad Racette, Beate Ritz, G. Webster Ross, Rodolfo Savica, Michael Schwarzschild, Caroline Tanner, Stephen Van Den Eeden, Allison Willis, Bill Wilson

P01.05 Movement disorders after stroke in third level hospital Marrakech, Morocco
Abderrahmane Chahidi, Mohamed Chraa, Najib Kissani

P01.06 Hallervorden-Spatz disease with psychotic symptoms
Eu Jene Choi, Dong Goo Lee

P01.07 GBA mutations and the E326K polymorphism are associated with faster rate of motor and cognitive progression in Parkinson's Disease
Marie Davis

P01.08 Polychlorinated biphenyls (PCBs) are associated with Parkinson's disease risk in two populations
Samuel Goldman, Freya Kamel, Cheryl Meng, Monica Korell, Kathleen Comyns, David umbach, Jane Hoppin, Connie Marras, Anabel Muñoz, Meike Kasten, Dale Sandler, Aaron Blair, G. Webster Ross, Caroline Tanner

P01.09 Cigarettes, lithium and Parkinson's disease
Thomas Guttuso, Edward Russak, Miriam Tamano De Blanco, Murali Ramanathan

P01.11 Clinical profile and outcome of acute Parkinsonism in a tertiary care south Indian hospital
Venkatraman Karthikeayan, Chandramouleswaran Venkatraman, Gobinathan Shankar

P01.12 Variable frequency of LRRK2 mutations in Latin America, a case of ancestry
Ignacio Mata, Mario Cornejo-Olivas, Luis Torres, Mario Vell-Salazar, Miguel Inca-Martinez, Pilar Mazzetti, Carlos Cosentino, Federico Michell, Claudia Perandones, Elena Dieguez, Victor Ragglo, Vitor Tumas, Vanderici Borges, Carlos Rieder, Artur Shumacher-Schuh, Carlos Velez-Pardo, Marlene Jimenez-Del-Rio, Francisco Lopera, Jorge Chang Castello, Brenni Andreé Muñoz, Sarah Waldherr, Dora Yearout, Cyrus Zabetian

P01.13 The roles of diet, exercise, & supplements in Parkinson's disease progression
Laurie Mischley, Richard Lau

P01.14 NFE2L2, PPARC1, and oxidative stress in Parkinson's Disease susceptibility and progression
Kimberly Paul, Janet Sinsheser, Myles Cockburn, Jeff Bronstein, Yvette Bordelon, Beate Ritz, Cynthia Kusters

P01.15 Association of brain organochlorines with Lewy pathology
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**Clinical Science: Sleep disorders/ Fatigue**

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P32.12 Meta-analysis comparing subthalamic and pallidal deep brain stimulation for patients with Parkinson’s disease
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P32.15 The effect of deep brain stimulation on gait and freezing of gait in Parkinson’s disease - a systematic review and meta-analysis
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P32.16 Combining biological therapy with deep brain stimulation for the treatment of Parkinson’s disease
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P32.17 Rechargeable deep brain stimulator (DBS) batteries: exploring possible predictors of patient satisfaction and experience
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P38.02 444 Parkinson’s Traveler: example impact of a personal Parkinson’s awareness campaign
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P38.04 How are we going to tell the children? An overview and review of the children’s literature about Parkinson’s disease.
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P38.05 The Parkinson’s Disease Wellbeing Program: Translating information into action
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P38.11  Community-based Alexander Technique programming designed and delivered by Parkinson’s patient
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P38.12  What neurologists wish patients with Parkinson’s disease knew
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P38.13  ParkinsonWISE: Bridging the gap between medical care and community exercise programs for people with Parkinson’s disease
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P38.14  This is Parkinson’s disease: an awareness campaign promoting the diversity of the diagnosed
Alicia Wrobel, Jean Blake

P38.15  Communication and swallow
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P38.16  The Parkinson’s Disease Wellbeing Program: Putting balance back into the lives of people with Parkinson’s disease
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P42.01  A service evaluation by Parkinson’s disease nurse specialists, of Parkinson’s Kinetigraph (PKG) movement recording system use in routine clinical care of patients with Parkinson’s disease
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P42.03  An interdisciplinary Parkinson’s disease case study event for dietetics, education, exercise science, health care administration, nursing and social work students: enhancing effective communication between disciplines
Jennifer DeJong

P42.04  Group meetings for newly diagnosed Parkinson’s disease patients and their spouses: a preliminary experience
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Mariella Graziano, Diana Jones, Bhanu Ramaswamy, Fiona Lindop

P42.07  A picture is worth a thousand words
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P42.08  The effects of dysphagia course for speech & language pathologist in Israel on clinical-related knowledge and confidence
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P42.09  Impact of allied team training for Parkinson’s on enhancing services for patients and families in southeastern Washington
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P42.10  Risk of Parkinson’s disease in the users of non-steroidal anti inflammatory drugs - a meta analysis of observational studies
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P42.11 Caregivers of PDP patients have an increased risk of developing emotional and social distress that is decreased when PDP is treated with pimavanserin
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P42.12 Multidisciplinary group program integrating voice and dance movement therapy for Parkinson’s disease patients: a preliminary experience
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P42.13 Top 10 priority areas for improving everyday life with Parkinson’s
Stacey Storey

P42.14 Treatment patterns of Parkinson’s disease in the USA: a retrospective claims database analysis
Francis Vekeman, Alexander Niyazov, Amy Guo, Eric Wu, Susan Criswell

Late-breaking

LBP1 Olfactory Dysfunction in Parkinson’s and Other Neurological Diseases: Identification of a Common Pathological Substrate
Richard Doty

LBP2 Association between tobacco smoking and serum haptoglobin concentration in Parkinson disease cases and controls: effect modification by haptoglobin phenotype
Paola Costa-Mallen, Cyrus Parse Zabetian, Shu-Ching Hu, Pinky Agarwal, Dora Yearout, Harvey Checkoway

LBP3 Melanoma-linked MC1R supports dopaminergic neuron survival

LBP4 Structural Heterogeneity and Metal Binding of α-Synuclein Amyloid Fibrils
Altaira D. Dearborn, Joseph S. Wall, Brian A. Huang, Alasdair C. Steven

LBP5 Fibrillar but not monomeric alpha-synuclein induces pro-inflammatory phenotypes but both conformers increase phagocytosis via the TREM2 receptor in microglial cells
Jonathan Wilson, Balagopalakrishna Chavall, Hong Wang Teri, Belecky-Adams, Kalpana Merchant

LBP6 Design and synthesis of a mitochondrially-targeted glutathione derivative: a potential therapy for Parkinson’s Disease
Pamela Beilby, Nicholas Thomas, Lillian Padgitt-Cobb, Samuel Bradford, Tory Hagen, Joseph Beckman

LBP11 Mindfulness Based Stress Reduction in People with Parkinson’s: A Pilot Study with Focus Group Analysis and Quality of Life Measures
Barbara Pickut, Susan Hoppough, Susan Woolner, Genevieve Barrett, Lynn Cherney, Kasey McCollum

LBP12 Brain, Breath and Emotion: The Resurrection of the Voice
Ruthanna Metzgar

LBP18 Detection of Prodromal Parkinson’s Disease for Primary Care Providers
Melody Rasmor, Nikkile LeFebre, Elizabeth Teeling

LBP20 Breaking the News: An Ethical Approach to Telling Family, Friends, and Co-workers About Your PD Diagnosis
Lisa Garvey

LBP21 Defining ‘Advanced’ Parkinson’s Disease in Clinical Practice: Results from the OBSERVE-PD Study, a Cross-sectional Observational Study of 2615 Patients
Alfonso Fasano, Leonardo Lopiano, Bulent Elibol, Irina Smolentseva, Klaus Seppi, Annamária Takáts, Koray Onuk, Juan Carlos Parra, Lars Bergmann, Ashley Yegin, Zvezdan Pirtosek

LBP22 Tremor: Is it Parkinson’s or something else?
Patricia Cox, Melody Rasmor

LBP23 Gender difference in age- and disease progression- associated changes in blood iron parameters in Parkinson disease
Paola Costa-Mallen, Cyrus Parse, Zabetian, Shu-Ching Hu, Pinky Agarwal, Dora Yearout, Kris Ronnie, Masa Sasagawa, Harvey Checkoway

LBP24 Effect of transdermal nicotine on motor symptoms in advanced Parkinson’s disease: results of the Nicopark2 Study
Gabriel Villafane, Claire Thiriez, Michel Audureau, Florence Cormier, Axel Van der Gucht, Céline Straczeck, Philippe Kerschen, Jean-Marc Gurruchaga, Morgane Quéré-Carne, Eva Evangelista, Pierre Cesaro, Gilles Defer, Philippe Damier, Philippe Remy, Emmanuel Itti, Gilles Fénélón
LBP25  Effects of age and disease duration on quality of life outcomes in advanced Parkinson’s disease patients treated with levodopa-carbidopa intestinal gel infusions: a post-hoc analysis from the GLORIA registry
Angelo Antonini, Weining Robieson, Lars Bergmann, Ashley Yegin, Werner Poewe

LBP26  Long-term outcome of subthalamic deep brain stimulation for Parkinson’s disease between general and local anesthesia
ShengTzung Tsai, Shin-Yuan Chen

LBP27  Factors influencing on motor improvement in the off-medication condition after GPI DBS in patients with Parkinson’s disease
Eun Jung Lee, Sang Ryong Jeon

LBP33  The auditory cortex changes across learning choreography with Parkinson’s Disease: fMRI changes across 8 months and a documentary – SYNAPSE DANCE
Vanessa Harrar, Joe DeSouza, Rachel Bar

POSTERS – Session 2
Friday, September 23, 2016

Basic Science: Animal & cellular models of Parkinson’s disease & Parkinsonisms

P06.01  Intranasal stem cells treatment for Parkinson’s disease model in mice
Ahmed Abdalla, Mahmoud Imam, Mahmoud Sobh, Dina Sabry

P06.02  Characterization of dopaminergic neurodegeneration following very low doses of MPTP
Gelareh Alam, Jason R. Richardson, Muhammad Hossain

P06.03  Whole transcriptome analysis in the striatum and substantia nigra in mice with MPTP-induced earliest stages of the pathogenesis of Parkinson’s disease
Anelya Alieva, Anna Kolacheva, Elena Filatova, Margarita Rudenok, Petr Srominsky, Michael Ugrumov, Maria Shadrina

P06.04  Low-dose sub-anesthetic ketamine infusions reduce the development of L-DOPA-induced dyskinesias in a preclinical model
Mitchell Bartlett, Mitchell Zehri, Andrew Flores, Scott Sherman, Torsten Falk

P06.05  Assessment of olfactory dysfunction in an inducible mouse model of α-synucleinopathy via multi-modality imaging
Elodie Brison, Simone P. Zehntner, Alex P. Zijdenbos, Kelvin Luk, Barry J. Bedell

P06.06  A novel VPS35 knock-in mouse model of Parkinson’s disease: investigating pathophysiology for an improved understanding of prodromal PD
Stefano Cataldi, Igor Tatarnikov, Chelsie Kadglen, Jaskaran Khinda, Jesse Fox, Austen Milnerwood, Matthew Farrer

P06.07  The overexpression of LRRK2 fragments containing the kinase domain increases the neurotoxicity of mutant A53T α-synuclein
Noemie Cresto, Marie-Claude Gaillard, Charliène Josephine, Lilliane Kangue, Gwennaelle Aurégan, Martine Guillermier, Suéva Bernier, Caroline J., Fanny Petit, Pauline Gipchtelain, Alain Joliot, Philippe Hantraye, Nicole Déglon, Karine Cambon, Alexis Bemelms, Emmanuel Brouillet

P06.08  F1 crossbreeds of C57BL/6 and CD-1 mice demonstrate resistance to 1-Methyl-4-Phenyl-1,2,3,6-Tetrahydropyridine (MPTP) induced nigral neurodegeneration
Vidyadhara D.J., Yarreiphang H., Raju T. R., Phalgungi Anand Alladi

P06.09  Anti-Parkinsonian effects of Fluvoxamine maleate in maternally separated rats
Ernest Dalle, William Daniels, Mabandla Musa

P06.10  Understanding the pathogenesis of Parkinson’s Disease through genetic modifiers
Marie Davis

P06.11  KH176 as a novel disease-modifying therapeutic for Parkinson’s disease
Ria de Haas, Julien Beyrath, Frans Russel, Bas Bloem, Jan Smeitink

P06.12  Diffuse brain injury in swine causes plasmalemmal dysruption and α-Synuclein over-expression in the substantia nigra
John E. Duda, Carolyn Keating, Marissa Kamarc, James P. Harris, Kevin D. Browne, John A. Wolf, D. Kacy Cullen

P06.13  Generation of human iPSC-derived midbrain organoids as a novel model to dissect pathological features of familial Parkinson’s Disease
Emanuele Frattini, Giacomo Monzio Compagnoni, Sabrina Salani, Paola Rinchetto, Dario Ronchi, Massimo Aurell, Monica Nizzardo, Marco Baccarin, Nereo Bresolin, Giacomo Pietro Comi, Stefania Corti, Alessio Di Fonso
P06.14 Targeting soluble TNF with XPro1595 to ameliorate motor and non-motor symptoms in a progressive non-human primate model of Parkinson’s disease
Valerie Joers, Gunasingh Jeyaraj, Alison Weiss, Jocelyne Bachevalier, Ronald Voll, Mark Goodman, Leonard Howell, Yolanda Smith, Malú Tansey

P06.15 The role of myeloid MHC-II in α-synuclein-induced degeneration and risk for PD
Elizabeth Kline, George Kannarkat, Jianjun Chang, Jeremy Boss, Malú Tansey

P06.16 Functional interaction of the Parkinson’s disease risk factor RIT2 with alpha-synuclein
Julia Obergeasteger, Corrado Corti, Alexandros Lavdas, Cristian Ascione, Christa Uberbacher, Peter Pramstaller, Andrew Hicks, Mattia Volta

P06.17 Development of a qualitative systems pharmacology model to support hypothesis generation and testing for Parkinson’s disease
Michael Reed

P06.18 Longitudinal live imaging of retinal α-synuclein:GFP deposits in a transgenic mouse model of Parkinson’s disease/dementia with Lewy bodies
Edward Rockenstein, Diana Price, Michael Mante, Brian Spencer, Karen Doung-Polk, Douglas Bonhaus, James Lindsey, Eliezer Masliah

P06.19 Lipid accumulation in Gaucher disease promotes α-synuclein pathology in Parkinson’s disease
Yumiko Taguchi, Jun Liu, Pramod Mistry, Sreeganga Chandra

P06.20 Reverse genetics screening reveals LRRK2 phosphorylation regulators
Jean-Marc Taymans, Tina De Wit, Evy Lobbestael, Marc Bölliger, Matthieu Drouyer, Marie-Christine Chartier-Harlin, Veerle Baekelandt, Jeremy Nichols

P06.21 PD-like pathology triggered by α-synuclein overexpression in the dorsal motor nucleus of the vagus nerve
Ayse Ulusoy, Michael Helwig, Raffaella Rusconi, Michael Klinkenberg, Ruth E. Musgrove, Donato A. Di Monte

P06.22 Increased power of sleep spindle oscillations in the LRRK2 mouse model of Parkinson’s disease
Jean-Paul Wiegand, Kathleen Gies, Mitchell Bartlett, Torsten Falk, Stephen Cowen

Basic Science: Brain physiology and circuitry

P07.01 Role of direct pathway Gq- and Gs-signaling activation in L-DOPA-induced dyskinesia
Cristina Alcacer, Laura Andreoli, Irene Sebastianutto, Tim Fieblinger, Johan Jakobsson, M. Angela Cenci Nilsson

P07.02 Cortical disinhibition is neuroprotective in a progressive mouse model of Parkinson’s disease
Rebecca Hood, Cynthia Moore, Patrick Fuller, Charles Meshul

P07.03 Striatal cholinergic interneurons expressing calretinin are numerically increased in Parkinsonian monkeys
Sarah Petryszyn, Thérèse Di Paolo, André Parent, Martin Parent

Basic Science: Dopamine, receptors and other neurotransmitters

P08.01 Role of β- arrestin 2/Akt/GSK 3β survival pathway in cadmium induced dopamine D2 receptor mediated function: protective efficacy of quercetin
Richa Gupta, Rajendra Shukla, Rajaev Gupta, Aditya B Pant, Vinay K Khanna

P08.02 Gene therapy blockade of dorsal striatal p11 improves motor function and dyskinesia in Parkinsonian mice
Roberta Marongiu, Margarita Arango-Lievano, Veronica Francardo, Peter Morgenstern, Xiaoxun Zhang, M. Angela Cenci Nilsson, Per Svenningsson, Paul Greengard, Michael Kaplitt

P08.03 Striatal NMDA receptor signaling is related to abnormal SNR responses to dopamine in Parkinsonian monkeys
Arun Singh, Stella Papa

Basic Science: Neuropharmacology

P09.01 Ameliorative effects of linagliptin in 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine induced mouse model of Parkinson’s disease
Jayasankar Kosaraju, Kin Yip Tam

P09.02 Exploring neuroprotective efficacy of ginsenoside Rg3, the putative peroxisome proliferation receptor complex: PPARgamma agonist, in 1-methyl-4-phenylpyridinium (MPTP) model of Parkinson’s disease
Hana Rahaeb, Simon Chiu, Zack Cemovsky Cemovsky, Yves Bureau, Jurui Hou, Kristen Terpstra, Autumn Carrie, Mujeeb Shad, Michel Woodbury-Farina
P09.03  Multi-modal recruitment strategies lead to expeditious enrollment in STEADY-PD III  
Tanya Sumini

P09.04  Atypical antipsychotic therapy in Parkinson’s disease psychosis: a retrospective study  
Mei Yuan, Laura Sperry, Norika Malhado-Chang, Alexandra Duffy, Vicki Wheelock, Sarah Farias, Kevin O’Connor, John Olichney, Kiarash Shahlaie, Lin Zhang

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P10.01  The change of activation pattern in different stages of PD – importance of proximal muscle exercise  
Chang-Hwan Kim, Bee-Oh Lim, Mi-Young Kim, Jeheon Moon, Jihyeon Kim, Wooyoung Yang

P10.02  Stimulation dependent, widespread cortical effects of galvanic vestibular stimulation in Parkinson’s disease  
Soojin Lee, Diana J. Kim, Jiayue Cai, Z. Jane Wang, Martin J. McKeown

P10.03  A novel somatostatinergic - cholinergic interneuronal circuit in the dorsal striatum  
Alexandria Melendez-Zaidi, Austin Lim, Dalton James Surmeier

P10.04  The relationship among clinical features, DAT scintigraphy, and MIBG cardiac scintigraphy in patients with Parkinson’s disease  
Satoshi Orimo, Junya Ebina, Takehumi Sato, Teruhiko Sekiguchi, Makoto Takahashi, Akira Inaba

P10.05  Maladaptive neuroplasticity in Parkinson’s Disease?  
Caroline Paquette, Jennifer Beer, Alexander Thiel

P10.06  Optogenetic activation of striatal cholinergic interneurons or D1 medium spiny neurons regulates L-dopa-induced dyskinesias  
Maryka Quik, Xiomara Perez, Danhui Zhang, Tanuja Bordia

P10.07  Regulation of abnormal striatal oscillatory activity by glutamate receptor blockade in Parkinsonian monkeys  
Arun Singh, Stella Papa

P10.08  Kinematic versus neural triggered adaptive DBS in a tremor dominant Parkinson’s disease patient  
Anca Velsar, Judy Syrkin - Nikolau, Talora Martin, Megan Trager, Blumenfeld, Helen Bronte-Stewart

P10.09  Gamma-band oscillatory activity in the motor cortex is progressively enhanced following repeated ketamine administration in 6-OHDA-lesioned rats  
Tony Ye, Mitchell Bartlett, Matthew Schmit, Scott Sherman, Torsten Falk, Stephen Cowen

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P11.01  Transcranial magnetic stimulation over motor cortex in Parkinson’s disease patients – which motor symptoms does it help?  
Shashank Agarwal, Milton Biagioni, Miroslaw Brys, Michael D. Fox, Andre Son, Geraldine DaCappano, Pawan Kumar, Elizabeth Pirraglia, Robert Chua, Allan Wu, Hubert Fernandez, Aparna Wagle Shukla, Jau-Shin Lou, David K Simon, Alessandro Di Rocco, Alvaro Pascual-Leone

P11.02  Neuroprotective effect of a new withanolide analogue of withaferin-A in mouse models of Parkinson’s disease  
Guillaume Brisson, Catherine Gilbert, Marcos Schan Profes, Jean-Pierre Julien, Martin Lévesque

P11.03  Improving Parkinson’s Disease outcomes with mobile software and wearables therapy  
Jeff Broderick, Shelley Batts, Jeff Law, Ken Kubota, Eric Nelson

P11.04  Investigating the potential neurorestorative effects of a clinical Sigma-1 receptor agonist in a mouse model of Parkinson’s disease  
Veronica Francardo, Francesco Bez, Jeffrey Sprouse, Christopher Missling, M. Angela Cenci Nilsson

P11.06  Laughter benefits – what would Robin Williams say?  
Dwight Roth

Basic Science: Mitochondria, oxidative stress, inflammation, pathogen

P04.09  Identification of novel biologically active DJ-1 small molecule modulators with activity in cellular and in vivo models of oxidative stress relevant to Parkinson’s disease  
Gergely Toth, Thomas Neumann, Carlos Velez-Pardo, Marlene Jimenez-Del-Rio, Miguel Mendivil-Perez, Manuela Kárpáti, Balázs Herberth, Vartika Mishra, Jagadish Hindupur, Max Zhu, András Czajlik, Anasztázia Hetényi, Róbert Kiss, Balázs Fórizs, Lilla Tóth, Tamás Martinek, Jean-Christophe Rochet
Comprehensive Care: Creativity & alternative or complementary therapies

P14.14 Moving through glass: exploring augmented reality technology for people with Parkinson's
David Leventhal, Craig von Wiederhold

Comprehensive Care: Lay/professional health literacy & public thought

P15.01 Enhancing care for the hospitalized patient with Parkinson's disease: development of a formal educational program for nursing staff
Mary DiBartolo

P15.02 Health literacy in Parkinson's disease caregivers
Jori Fleisher, Steven Bondi, Jamika Singleton-Garvin, CCRP, Marissa Lanoff, Sharon Xie, Judy Shea, Joshua Chodosh, Nabila Dahodwala

P15.03 Conversation mapping as a technique to train student nurses in the care of Parkinson's disease patients and family members
Marjorie Getz

P15.04 Parkinson's Inpatient Quality Initiative (PIQI): a retrospective review
Deepak Gupta, Junaid Siddiqui, Curtis Tatsuoka, Benjamin Walter

P15.05 The impact Parkinson's New Zealand's Parkinsonian magazine has on individual health literacy in our community
Deirdre O'Sullivan, Natasha McDougall

P15.06 Meet Val and Holly: An experiential tour through the lives of a PD family
Laura Kelly, Cheryl Leiningen

Comprehensive Care: Disability and quality of life outcome measures

P16.01 Association between QOL and the sense of coherence in patients with Parkinson's disease
Yukako Ando, Akemi Abe, Yoshino Ueki, Takemori Yamawaki, Itsuko Ozaki, Akira Inukai, Ikuko Alba, Yufuko Saito, Noriyuki Matsukawa, Toshio Kobayashi

P16.02 Conflicting and non-conflicting visual cues lead to error in gait initiation and gait inhibition in individuals with freezing of gait
Zacharie Beaulne-Seguin, Julie Nantel

P16.03 Knowledge of Parkinson's Disease among Parkinson's Patients
Seti Belay

P16.04 Characteristics associated with voice handicap in Parkinson's disease
Carrie Crino, Andrew D Palmer, Linda A Bryans, Donna J Graville

P16.05 Improvements in activities of daily living and quality of life measures in Hoehn & Yahr subgroups of advanced Parkinson's disease patients following treatment with IPX066, extended-release carbidopa-levodopa
Rohit Dhall, Ramon Gil, Elizabeth Lindemulder, Robert Rubens, Suneel Gupta

P16.06 Depression and its related factors in patients with Parkinson's disease
Toshio Kobayashi, Akemi Abe, Yoshino Ueki, Takemori Yamawaki, Itsuko Ozaki, Akira Inukai, Ikuko Alba, Yufuko Saito, Noriyuki Matsukawa, Yukako Ando

P16.07 Motor complications and health related quality of life in Parkinson's disease: a literature review
Connie Marras, Alexander Niyazov, Amy Guo, Harald Murck

Comprehensive Care: Shared decision-making: PwP – caregiver – doctor

P17.01 To DBS or not to DBS: sources of influence in the decision making process
Carol Clupny

P17.02 Neurologists' perspectives on improving care for Parkinson’s disease patients: current challenges and innovative care strategies
Rachel Schwartz, Meghan C. Halley
P17.03 Parkinson’s Inside Out: a think tank of healthcare professionals and neuroscientists with Parkinson’s
Jon Stamford, Dieter Scheller, Peter Jenner, Georg Stenberg, Cathy Oas, Stephen Shea, Sheila Roy, Jill Carson, Soania Mathur, Michele Bell, Stefan Strahle

P17.04 The patient’s perspective: the effect of dopamine on Parkinson symptoms
Heidemarie Zach, Michiel Dirks, Jaco Pasman, Bastiaan Bloem, Rick Helmich

Comprehensive Care: Palliative care/ End of life care/ Long-term care

P18.01 Using the RACE nursing toolkit in avoiding failure-to-rescue in Parkinson’s care
Heintje Calara

P18.02 Feasibility and preliminary outcomes of an interdisciplinary home visit program for patients with advanced Parkinson’s disease
Jori Fleisher, Meghan Sweeney, Sarah Oyler, Amy Lemen, Arash Fazl, Geraldine Dacpano, Rebecca Gilbert, Joshua Chodosh, Alessandro Di Rocco

Comprehensive Care: Health accessibility/ Underserved populations

P19.01 Pay it forward: creating a donation-based funding model where no patient is denied therapy services based on insurance or financial limitations
Samantha Elandar

P19.02 Description of a novel early access clinic for Parkinson’s disease patients: the navigator model
Priti Gros, Lucie Lachance, Jennifer Doran, Doulia Hamad, Marie Corbell, Anne-Louise Lafontaine

P19.04 Multidisciplinary capacity building module for rehabilitation and care of Parkinson’s in India
Navaz Irani, Maria Barretto, Nishaat Mukadam, Jagnutli Wandekekar, Nicole Dsouza, Anjali Sivaramakrishnan

P19.05 Preliminary results of a multi-center case series of virtual visits for Parkinson’s disease

P19.06 A state-wide multi-disciplinary telemedicine care network for Parkinson’s disease: PDCNY
Jill Lowell, Steven Goldenthal, Michael Bull, E. Ray Dorsey, Kevin Biglan

P19.07 Art as a vehicle to represent the Spanish-speaking Parkinson’s community in the Americas
Claudia Martinez, Gregory Pearce, Julio Angulo

P19.08 A Promotores model for Parkinson disease (PD) outreach and education in the Hispanic community in Phoenix, Arizona
Claudia Martinez, Darolyn O’Donnell

P19.09 The role of the advanced practice nurse in the management of Parkinson’s disease
Kathleen McCoy

P19.10 Wellness Boot Camp: adapted for Korean American Parkinson support network
Claire McLean

P19.11 Nurse-managed telehealth clinic for Parkinson’s disease: a case series
Ingrid Pretzer-Aboff, William Zhu, Tanya Heggans, Jenny Hughes, Carolyn Haines, Susan Cross-Skinner, Jill Lowell, Ray Dorsey

P19.12 Telemedicine clinic improves access to mental health care for people with Parkinson’s disease
Ingrid Pretzer-Aboff, Tanya Heggans, Roseanne Dobkin

P19.13 The PDF Women and PD Initiative: identifying and addressing unmet needs
Veronica Todaro, Lori Katz, Susan Foster, Robin Morgan, Karen Smith, Megan Feehey

P19.14 Struthers Parkinson’s Center Network (SPCN): improving PD care through growth and development of sustainable partnerships
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Comprehensive Care: Daily life activities including working & driving

P20.01 Parkinson’s disease affects mechanics and motivation for tooth brushing behaviour
Elani Bykowski, Jon Doan

Clinical Science: Self-management, empowerment, coping strategies

P21.01 Hispanics living with PD: perceptions on self-management
Julio Angulo, Claudia Martinez

P21.02 Parkinson’s Disease: support groups use of PhotoVoice to share experiences
Joyce Bredesen

P21.03 Gait, balance and mobility in Parkinson’s disease: Improvements after use of a DVD providing training in Alexander Technique
Bill Connington

P21.04 Long-term effects of self-efficacy enhancing program for newly-diagnosed persons with Parkinson’s disease
Diane Cook, Cynthia McRae, Rajeev Kumar

P21.06 Nursing advocacy in assessment of the Parkinson’s patient in acute and outpatient urgent care: impact on health and quality of life
Mary Lou De Natale, Jolene Warford

P21.07 Does gender influence the types of questions asked by people living with Parkinson’s?
Christiana Evers, Linda Pituch, Jill McClure, Jeanne Kirby, Casey Gallagher, Nancy Ralph

P21.08 Alexander technique for Parkinson’s: an initiative of the Poise Project
Monika Gross, Candace Cox

P21.09 Balancing medication with self analysis
Jari Hämäläinen

P21.11 Inside Scoop™ - sharing collective wisdom: use of an online searchable database of tips that maximize self-efficacy and reduce isolation for people with PD and care partners.
Sarah Jones, Judy Talley

P21.12 Reversing symptoms of Parkinson’s disease by Parkinson’s patient, Cape Town, South Africa
John Pepper

P21.14 Baseline characteristics of a longitudinal study of the social self-management of Parkinson’s disease (SocM-PD)
Linda Tickle-Degnen, Michael T. Stevenson, Marie Saint-Hilaire, Barbara Habermann, Linda S. Sprague Martinez, Cathi A. Thomas, Elena N. Naumova

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P33.01 Post-traumatic Parkinsonism in diffuse axonal injury: a case report
Poonam Bajaj, Aashish Contractor, Ankita Pramanick

P33.02 The effects of progressive aerobics and functional, amplitude-focused whole body training (PWR!Moves) in an individual with advanced PD through an integrated physical therapy and PD-specific community exercise program - a case study
Jennifer Bazan-Wigle, Kevin Moynahan, Emily Borchers, Becky Farley

P33.03 Perceptual deficits of gait asymmetry during split-belt walking in patients with Parkinson’s disease with and without freezing of gait
Esther Bekkers, Wouter Hoogkamer, Aniek Bengevoord, Elke Heremans, Sabine Verschuere, Alice Nieuwboer

P33.04 Short-term benefits of a progressive aerobic exercise and skill acquisition program for people with mild to moderate Parkinson’s disease in a community group setting
Emily Borchers, Erin Borchers, Kaitlin Krauss, Becky Farley, Jennifer Bazan-Wigle
P33.05 The impact of Lee Silverman Voice Treatment (LSVT) on functional communication and voice handicap: findings from a prospective study
Linda Bryans, Andrew Palmer, Shannon Anderson, Joshua Schindler, Donna Graville

P33.06 Characteristics of falls in individuals with Parkinson’s disease
Monthaporn Bryant

P33.07 Multidirectional treadmill training in de novo patients with Parkinson’s disease: gait, balance and kinematics changes
Monthaporn Bryant, Craig Workman, Hao Meng, Beom-Chan Lee, Fariha Jamal, George Jackson, Michele York

P33.08 Speech-related sensory impairment in Parkinson’s disease
Yu-Wen Chen, Peter Watson

P33.09 Deep brain stimulation in Parkinson’s: common speech characteristics & strategies for intervention
Jennifer Cody

P33.10 Group speech therapy programs for people with Parkinson’s
Jennifer Cody

P33.11 Perceptions related to participation in a community-based exercise program in people with Parkinson’s disease: a case series
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P33.12 Building collaborative, community-based partnerships between physical therapists and community-based fitness trainers
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Edileia Monteiro de Oliveira, Dayse Danielle de Oliveira Silva

P33.13 Eliminating handicaps: a binocular view of therapy
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P33.14 Repeating postural perturbations in Parkinson’s disease: effects on postural instability
Bauke Dijkstra

P33.15 The applicability of a multitask boxing program using the BoxMaster® for individuals Parkinson’s disease
Josefa Domingos

P33.16 A study of the effect of a one year community-based group exercise program for people with Parkinson’s disease in Mumbai, India: A quasi-experimental design
Nicole Dsouza, Anjali S, Komal Parikh Sanghavi, Maria Barretto

P33.17 Effect of a group based short intense iyengar yoga program on gait characteristics in people with Parkinson’s disease - a pilot study
Nicole Dsouza, Rajvi Mehta, Maria Barretto

P33.18 Characterizing maximum step length test performance in people with Parkinson’s disease
Ryan Duncan, Marie McNeely, Gammon Earhart

P33.19 Whole body vibration therapy with exercise enhances motor function and improves quality of life in Parkinson’s disease
Drucilla Edmonston, Olivia Gruder

P33.20 Regain and maintain speaking abilities with a two-part therapy approach
Samantha Elandary

P33.21 Proprioception and motor performance can be enhanced in early Parkinson’s disease by visuomotor training
Naveen Elangovan, Paul Tuite, Juergen Konczak

P33.22 A model community neurofitness and wellness center for people with Parkinson disease: 1-year group pilot data
Becky Farley, Alexi Okurily, Jennifer Bazan-Wigle, Kevin Moynahan, Emily Borchers

P33.23 Dual-task interference on postural sway, postural transitions and gait in people with Parkinson’s disease and freezing of gait
Ana Claudia Fortaleza, Fay Horak, Martina Mancini, Patty Carlson-Kuhta, John Nutt, Laurie King, Ismael Freitas Junior

P33.24 Increased access to training in a Parkinson-specific rehabilitation approach through online learning
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P33.27  Functional movement disorders and the role of physical therapy
Joellyn Fox, Heather Cianci

P33.28  Yearly periods of challenging balance training to prevent decline in gait and balance
Erika Franzén, Martin Benka Wallén, David Conradsson, Maria Hagströmmer

P33.29  A combined cognitive- and balance-based training intervention for people with Parkinson’s disease: COBALT
Jeffrey Haddad, Sandy Snyder, Meghan McDonough, Shirley Riedtyk, Kara Simon, Peter Altenburger, Hoda Salsabill, Sarah Zauber, Jessica Huber

P33.30  Parkinson patient reported outcomes of voice and communication pre, post and 6 months following LSVT LOUD® and LSVT ARTIC
Angela Halpern, Lorraine Ramig, Katherine Freeman, Jennifer Spielman

P33.31  Singing as a cue to improve gait in Parkinson’s disease: a feasibility study
Elinor Harrison, Marie McNeely, Gammon Earhart

P33.32  PERFORM: rationale and design for a controlled study in fluctuating PD patients examining the effects of motor state on the outcomes from a structured physical therapy (PT) program
Jean Hubble, Beth Fisher, Kelly Lyons, Claire McLean, Giselle Petzinger, Rajesh Pahwa

P33.33  Use of the SpeechVive device improves communication in people with Parkinson’s disease
Jessica Huber, Sandy Snyder, Carrier Rountrey, Christy Ludlow

P33.34  The efficacy of continuous dopaminergic stimulation in patients with movement disorders in their activities of daily living
Jelka Janša, Nina Zupancic Krmzar, Milica Kramberger Gregoric, Rok Koritnik, Robert Rajnar, Sabina Posar Budimlic, Lidija Kambic, Klara Trpkov, Zvezdan Pintosek, Lidija Ocepek, Ales Praznikar, Maja Trošt

P33.35  Perceived walking difficulties in relation to motor aspects in Parkinson’s disease
Manzur Kader, Susanne Iwarsson, Per Odin, Maria H Nilsson

P33.36  The LSVT BIG intervention in clients with Parkinson’s disease: a systematic review
Dennis Klima, Mary DiBartolo, Michael Rabel

P33.37  ‘Pushing the limits’ – rethinking motor and cognitive resources after a highly challenging balance training program for Parkinson’s disease
Breiffni Leavy, Kirsti Skavberg Roaldsen, Kamilla Nylund, Maria Hagströmmer, Erika Franzén

P33.38  The influence of cerebellar transcranial direct current stimulation on skill acquisition in Parkinson’s disease
Lidio Lima de Albuquerque, Merrill Landers, Katherine Fischer, Sharan Jalene, Brach Poston

P33.39  Provision of a posture drop-in clinic to improve posture in people with Parkinson’s
Fiona Lindop

P33.40  Assessment of function and cognition in patients with mild to moderate stage Parkinson’s disease participating in a high intensity training program
Dawn Lucier, David Lowell, Linda Melillo, Heather Merrill, Dorian Robinson

P33.41  Effects of a home-based brisk walking program in improving activity volume and walking capacity in people with Parkinson’s disease
Margaret Mak, Wingso Chan, Mandy Auyeung, Anne Chan, Nelson Cheung, Vincent Mok

P33.42  Changes in voice onset time and consonant spirantization following the Lee Silverman Voice Treatment in dysarthric speakers with Parkinson’s disease
Vincent Martel-Sauvageau, Cléo Guillemette

P33.43  The effect of assistive devices on gait patterns in Parkinson’s disease: a pilot study
Inês Martins, Josefa Domingos, Joaquim J. Ferreira, Catarina Godinho

P33.44  Application of the dual task taxonomy: Parkinson’s disease and freezing of gait - a case study
Tara McIsaac, Lisa Muratori

P33.45  Quantity and intensity of physical activity in people with Parkinson’s disease during exercise interventions
Marie E. McNeely, Ryan P. Duncan, Gammon M. Earhart
P33.46  Housing accessibility problems in people with Parkinson’s disease  
Maria H. Nilsson, Susanne Iwarsson, Jorge Alegre Ayala, Björn Slaug

P33.47  Three-dimensional evaluation of postural stability in Parkinson’s disease with mobile technology  
Sarah Ozinga, Mandy Koop, Susan Linder, Tanujit Dey, Jay Alberts

P33.48  Prosodic improvement in persons with Parkinson’s disease undergoing “SPEAK-OUT!” voice therapy  
Eunsun Park, Christina Santos, Justin Dvorak, Frank Boutsen

P33.49  Alterations in upper and lower extremity kinematics in Parkinson’s disease during dual-task conditions  
Amanda Penko, Anson Rosenfeldt, Tanujit Dey, Andrew Bazyk, Matthew Streicher, Jay Alberts

P33.50  Anticipatory postural adjustments to internal and external perturbations in people who do and do not experience freezing of gait  
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P33.51  Action observation therapy in Parkinson’s disease patients: review and suggestions for application protocol in physiotherapy  
Mai Pham, Sylvie Nadeau

P33.52  Enhancing adherence to a community-based movement disorders exercise program through follow-up phone conversations  
Robert Phillips, Abbey Schory, Hillary Markel, Natalie Swartz, Jeremy Klasemer, Jennifer Reneker

P33.53  World Health Organization’s International Classification of Functioning, Disability, and Health (ICF) as model to guide the interprofessional care for Parkinson’s Disease  
Maria Elisa Pimentel Piemonte, Michelle Tosin, Giovana Diaferia, Katia O. Pinto, Letícia Mansur, Maria H Morgani, Erika Okamoto, Erica Guelfi, Taminé Capato, Carlos Rieder

P33.54  The effects of Nintendo Wii balance board training on walking, quality of life and depression in Parkinson’s disease patients – pilot study  
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P33.55  A comparison of the effect of multi-modal sensorimotor agility training on functional outcomes measures in individuals with atypical Parkinsonism versus idiopathic Parkinson’s disease: A retrospective observational case-control study  
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P33.56  Evaluating dexterity in people with Parkinson’s disease: construct validity of the Nine Hole Peg Test and Purdue Pegboard Test  
Elizabeth Proud, Belinda Bilney, Kimberly Miller, Meg Morris, Jennifer McGinley

P33.57  Allied health utilization variability and outcomes for people with Parkinson’s disease: National Parkinson Foundation Quality Improvement Initiative (NPF-QII) data  
Miriam Rafferty, Angela Roberts, Peter Schmidt, Sheng Luo, Kan Li

P33.58  Global implementation of efficacious voice treatment for Parkinson’s disease: LSVT LOUD: Germany*  
Lorraine Ramig, Thomas Brauer, Heike Penner, Petra Benecke, Cynthia Fox

P33.59  The therapeutic effects of singing for individuals with Parkinson’s disease  
Kelly Richardson, Lisa Sommers

P33.60  Dynamic cycling improves motor symptoms and mobility in individuals with PD  
Angela Ridge, Dana Ault

P33.61  The profile of individuals with Parkinson’s disease referred for allied health services: National Parkinson Foundation (NPF) QII Study  
Angela Roberts, Samuel Wu, Miriam Rafferty, Peter Schmidt, Kristin Larsen, Tanya Simuni

P33.62  Biomechanical gait analysis of the Two Minute Walk Test during single and dual task conditions in individuals with Parkinson’s disease  
Anson Rosenfeldt, Amanda Penko, Tanujit Dey, Andrew Bazyk, Matthew Streicher, Jay Alberts

P33.63  A pilot, randomized, double-blind, sham-controlled trial of transcranial direct current stimulation to enhance dual-task gait training in people with Parkinson’s disease  
Slobhan Schabrun, Robyn Lamont, Sandra Brauer
P33.66  Effects of a physical rehabilitation program with cognitive challenge for freezing of gait – a pilot study  
Katrijn Smulders, Martina Mancini, Natassja Pal, Graham Harker, Brett W. Fling, Patricia Carlson-Kuhta, Fay B. Horak, Laurie King

P33.67  Repetitive TMS for Parkinson’s disease Rehabilitation: differential clinical outcomes from a randomized trial  
Katherine Sticklor, Milton Biagioni, Shashank Agarwal, Jamika Singleton-Garvin, Franziska Battenberg, Pawan Kumat, Andre Y Son, Geraldine Dacpano, Rebecca Gilbert, Alessandro DiRocco

P33.68  Visuo-cognition in gait in Parkinson’s disease: response to visual cues  
Sam Stuart, Brook Gaina, Sue Lord, Lynn Rochester

P33.69  Perceptual problems in PD affect measurement of vocal QOL: recall of feedback from others is a more effective measure than self-perception of voice/speech improvement in people with PD.  
Merrill Tanner

P33.70  Medication management in women and men with Parkinson’s disease: challenges and strategies  
Linda Tickle-Degnen, Haley Bliss, Marie Saint-Hilaire, Cathi Thomas

P33.71  Effects of vibrotactile feedback on vocal intensity in individuals with Parkinson’s disease- a pilot study  
Ramya Konnai, Lonni Schultz, Alice Silbergleit, Edward Peterson

Clinical Science: Complications of therapies

P34.01  Prevalence of vitamin B12 deficiency, hyperhomocystenemia and its association with peripheral neuropathy in Indian patients with idiopathic Parkinson’s disease  
Rukmini Mridula Kandadai, Neeruika M, Shaik Afshan Jabeen, Meena A Kannan, Rupam Borgohain

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Cynthia Kusters, Kimberly Paul, Yvette Bordelon, Jeff Bronstein, Janet Sinshheimer, Matt Farrer, Beate Ritz

P34.04  Levodopa induced dyskinesia in Parkinson’s disease  
Kelly Lyons, Peter Schmidt, Rajesh Pahwa

P34.05  Impact of levodopa induced dyskinesia on quality of life and caregiver burden  
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P34.06  Risk of movement disorders with antipsychotic drugs in patients with schizophrenia or depressive disorders  
Maria Veronica Rey, Luis Molina, Byrion Recinos, Bezner Paz, Mauricio Rovelo, Arturo Rodriguez Elias, Jose Calderon, Arturo Arellano, Santiago Pomata, Santiago Perez-Lloret

P34.07  Higher mortality with antipsychotic medication use in individuals with Parkinson’s disease  
Peter Schmidt, Tanya Simuni

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P35.01  PDTrialTracker: analyzing the Parkinson’s disease clinical trial pipeline to facilitate patient collaboration in research  
Susan Buff

P35.02  Stable levodopa plasma levels with ND0612 (levodopa/carbidopa for subcutaneous infusion) in Parkinson’s disease (PD) patients with motor fluctuations  
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P35.03  Rationale and design of the RESTORE study to assess the long-term safety and efficacy of droxidopa for treatment of symptomatic neurogenic orthostatic hypotension  

P35.04  Effect of honda stride management assist device (SMAD) on gait in patients with Parkinson’s disease  
P35.05  AFF008A: successful boosting of an existing PD01A-induced immune response. safety & immunological analysis of an AFFITOPE®-based vaccine approach (PD01A) for the treatment of patients with early stage Parkinson’s disease
Alexandra Kutzelnigg, Dieter Volc, Caroline Thun-Hohenstein, Jana Zimmermann, Vera Buerger, Dorian Wlnter, Sabine Schmidhuber, Gergana Galabova, Achim Schneeberger

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P35.06  A phase II, pragmatic, randomized clinical trial on a high-intensity exercise and fall prevention boot camp for Parkinson’s disease: feasibility and safety
Merrill Landers, James Navalta

P35.07  A phase II, pragmatic, randomized clinical trial on a high-intensity exercise and fall prevention boot camp for Parkinson’s disease: signal of efficacy
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P35.08  Highly challenging gait and balance training can improve cognitive processing during dual-task conditions in elderly with Parkinson’s disease
Niklas Lofgren, David Conradsson, Linda Rennie, Rolf Moe-Nilssen, Erika Franzén

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Janis Miyasaki, Laura Palmer, Maya Katz, Nicholas Galifianakis, Jean Kutner, Benzi Kluger

P35.10  The safety profile of pimavanserin (NUPLAZID™): focus on motor symptoms and extrapyramidal-related adverse events in patients with Parkinson’s disease psychosis (PDP)
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P35.11  Potential treatments for Lewy Body dementia being investigated in three randomized, double-blind, placebo-controlled phase 2 studies of intepirdine and nelotanserin
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P35.12  A randomized controlled clinical study to evaluate the efficacy and safety of subcutaneous levodopa/carbidopa (ND0612H) in patients with advanced Parkinson’s disease
Sheila Oren, Karl Kieburz, C. Warren Olano, Yael Cohen

P35.13  Pharmacokinetic profile of ND0612L (levodopa/carbidopa for subcutaneous infusion) in patients with moderate to severe Parkinson’s disease
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P35.15  ADS-5102 (amantadine HCl) extended-release capsules improves activities of daily living (ADLs) in Parkinson’s disease (PD) patients by reducing levodopa-induced dyskinesia (LID): a post-hoc analysis from the phase 3 EASE LID study
Rajesh Pahwa, Mary Jean Steimpfen, Caroline Tanner, Robert Hauser, Rob Howard, Reed Johnson

P35.16  Feasibility of galvanic vestibular stimulation for Parkinsonian gait
Bubblepreet Randhaw, Claire Hinnell, David Rydz, Marilyn Arajbo, Lisa Wechzelberger, Carlo Menon

P35.17  Human factors testing of the levodopa-carbidopa intestinal gel delivery system in advanced Parkinson’s disease patients and healthcare providers
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P35.18  Transforming drug development for Parkinson’s disease: Critical Path for Parkinson’s (CPP) Consortium Modeling & Simulation Approach
Klaus Romero, Volker Kern, Kuenhi Tsai, Timothy Nicholas, Diane Stephenson, Daniela Conrado

P35.19  A 3-month pilot trial of the ketogenic diet for people with Parkinson’s disease: program design, implementation, and maintenance
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Results of a phase 3 efficacy and safety study of ADS-5102 (amantadine HCl) extended-release capsules in Parkinson’s disease patients with levodopa-induced dyskinesia (EASE LID 3)
Mary Jean Stempien, Rajesh Pahwa, Caroline Tanner, Robert Hauser, Wolfgang Oertel, Claudia Trenkwalder, Reinhard Ehret, Jean Paul Azulay, Stuart Isaacs, Larissa Felt, April Ruby, Natalie McClure

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Michele Tagliati, Elliot Hogg, Echo Tan, Konrad Talbot

Driving patient engagement in Parkinson’s clinical research: lessons learned in developing successful partnerships with study sponsors
Veronica Todaro, Karlin Schroeder

Parkinson’s Advocates in Research: a Parkinson’s Disease Foundation cutting edge program in patient engagement in research
Veronica Todaro, Karlin Schroeder, Linda Morgan, Cliff Ishmael

Multi-system balance training programme enhances comprehensive balance and functional performance in Parkinsonian non-fallers: a randomized controlled trial with one-year follow-up
Irene S. Wong-Yu, Margaret K. Mak

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A Patient-Centered Rating Scale for Parkinsonism
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Objective characterisation of Parkinson’s disease motor fluctuations with the Parkinson KinetiGraph - three years experience at a movement disorder clinic
Filip Bergquist, Thordis Gudmundsdottir

Beta testing with Parkinson’s patients for a mobile research study
Margaret Daeschler, Dana Drutman, Lydia Herron, Michal Aiek, Eli Cohen, Lauren Bataille, Catherine Kopil

Building Parkinson’s communities of support in virtual worlds
Donna Davis, Tom Boellstorff

Technology utilization and preferences among people with Parkinson’s
John Dean

Designing technologies alongside the Parkinson’s community using principles of user-centered design
John Dean

Measurement of dyskinesia during a golf activity using a novel putter and the BioMech Swing Analysis System (SAS)
Frank Fornari, Gwen Bauer, Vijay Peddintl, John Douglas, Bridget Bell, Chris Campanella, Rita Fornari

The applicability of a portable electronic falls diary to assess fall frequency in Parkinson’s disease
Catarina Godinho, Josefa Domingos, John Dean, Miguel Coelho, Leonor Correia Guedes, Anabela Pinto, Bastiaan Bloem, Joaquim J. Ferreira

A randomized controlled trial of telemedicine for Parkinson’s disease (Connect.Parkinson) in the USA
Steven Goldenthal, Connect.Parkinson Investigational team

Innovative use of mobile health technology in physical therapy for people with Parkinson’s disease
Kathryn Hendron, Jim Cavanaugh, Tamara DeAngelis, Nicole Sullivan, Lorri Goehring, Cathi Thomas, Marie Saint-Hilare, Nancy K Latham, Terry Ellis

Perceptions and preferences concerning the use of wearable sensors in Parkinson’s disease and epilepsy: a focus group study
Dongni Johansson, Anneli Ozanne, Margit Alt Murphy, Kristina Malmgren, Filip Bergquist

Alleviating freezing of gait in Parkinson’s disease: open-loop external cues versus closed-loop biofeedback
Martina Mancini, Graham Harker, Katrijn Smulders, Fay Horak, John Nutt

Quantification of Parkinson’s disease motor functions using wearable sensors
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P37.15 Developing technology-based speech interventions for patients with Parkinson’s disease
Juliane Muehlhaus, Hendrike Frieg, Kerstin Bilda, Ute Ritterfeld

P37.16 Using a smartphone based self-management platform to support medication adherence and clinical consultation in Parkinson’s disease: results from the SMART-PD randomised controlled trial
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P37.17 An online audit tool for people living with Parkinson’s: results of a pilot study
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P37.19 Sensor technology for real-time management of Parkinson’s patients’ treatment regimen
Yosef Tirat-Gefen

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P37.21 Development and evaluation of a social robot to assist in a medication management task
Jason Wilson, Linda Tickle-Degnen, Matthias Scheutz

P37.22 Tablet-based application (iMotor) for objective measurement of motor fluctuations in Parkinson’s disease
Benjamin Wissel, Georgia Mitsi, Alok Dwivedi, Spyridon Papapetropoulos, Sydney Larkin, Ricardo Lopez Castellanos, Andrew Duker, Ioannis Tsoulos, Athanassios Stavrakoudis, Alberto Espay

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P39.02 Advocacy is education – developing support for a provincial Parkinson’s disease strategy in British Columbia
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P39.03 Delivering ‘Lee Silverman Voice Treatment’ (LSVT) to people with Parkinson’s in West Hertfordshire
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P40.02 Getting on with your life after being diagnosed with Parkinson’s disease or having a loved one diagnosed: getting off your emotional roller coaster, getting over it and stop telling you sob story
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P40.05 The PD Buddy Outreach Program – the patient perspective
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P40.07 Hourly journaling of events related to diet, medications, exercise and stress and the use of complex event processing to improve ‘on’ time in a Parkinson’s disease patient
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P40.11 PWPs supporting other PWPs in their quest for knowledge
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P40.12 Tips and tools for maintaining improvements in communication, mobility, and activities of daily living following LSVT LOUD® and LSVT BIG®
Laura Guse, Cynthia Fox, Lorraine Ramig, Angela Halpern

P40.13 Building your best program: making a BIG impact with a SMALL budget
Michelle Haub

P40.14 Partners in Parkinson’s: discover the benefits of team
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P40.15 Positive attitude and the PwP patient
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David Kolb

P40.17 Service dogs for Parkinson’s
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P40.18 From local partnership to national network: the growth of a medically connected, community based Parkinson’s wellness program model
Amy Lemen, Peter Schmidt, Ruth Hagestuen, Vaughn Edelson, Meghan Sweeney, Alessandro Di Rocco

P40.19 Forming community partnerships to create a wellness program for people with Parkinson’s disease
David LeVan, Lynne Gotham

P40.20 Long-term effectiveness of Alexander technique lessons for managing symptoms of Parkinson’s disease: case studies
Robbin L Marcus, Gabrielle Czaja, Rajal G Cohen, Candace Cox, Monika Gross, Morgan Rysdon

P40.21 A study on dysphagia, nursing meals, and meal delivery services for patients with Parkinson’s disease
Aiko Matsushima, Akihisa Matsumoto, Fumio Moriwaka, Sanae Homma, Kazunori Ito, Keiko Yamada, Shun Shimohama, Junichi Matsushima, Hirofumi Ohnishi, Mitsuru Mori

P40.22 “While I dance, I don’t have Parkinson’s.” The perceived impact of arts-based programming for people with Parkinson’s
Nancy Mazonson

P40.23 Living large with Parkinson’s: hiking the Pacific Crest Trail
Bill Meyer

P40.24 Creating a grassroots non-profit to provide programs and services to improve the quality of life for people living with PD
Mary Neilans
P40.25 The lived experience of Parkinson’s disease: insights from people living with the condition and those who support them (STEP™ research) Jared Niedenthal, Lizzie Graham, Courtney Lawrence, Elisabeth Dohin, Patrick Graham, Dolors Terricabras

P40.26 Living well by doing [*]; keeping it interesting Daniel Novak

P40.27 Pedaling, living well, seizing the day Elizabeth Ogren

P40.28 Our stories: living well with Parkinson’s in the early stages of diagnosis Pamela Paisley

P40.29 Overcoming the freezing of gait: a development experience in walking aids (Concepción, CHILE) Miguel Pino

P40.30 Coping strategies: direct insight from people living with Parkinson’s disease Allen Rabinowitz, Allison Little, Joe D’Souza, Jesse Fishman, Gregory Cohen, Imane Wild

P40.31 From patient to athlete: the development of a novel goal based, interdisciplinary group exercise model for Parkinson’s disease Deanna Rayment, Amy Lemen, Meghan Sweeney, Lonnie Nemiroff, Jody Jacob-McVey

P40.32 Living, learning and laughing with Parkinson’s disease Beverly Ribaudo

P40.33 Establishment of InMotion, an independent, fee-free community center for persons with movement disorders David Riley, Karen Jaffe, Judy Peters

P40.34 Music matters choral initiative: a research and action project involving PD choirs in Philadelphia and Baltimore Marjorie Samoff

P40.35 Spreading smiles and healing through art to those with Parkinson’s disease Saba Shahid

P40.36 Hospitalized patients with Parkinson’s disease: using the electronic medical record to reduce medication errors and reinforce staff education at St. Joseph’s Hospital and Medical Center and Barrow Neurological Institute Edie Simpson, Matt Baugh, Darolyn O’Donnell, Julie Ward, Terry Bachman

P40.37 The benefits of therapeutic group singing for PWP in six “Tremble Clefs” chapters in southwestern USA Karen Skipper, James Wong

P40.38 Meaningful work, a quality of life issue Gwendoline Spurll

P40.39 Get Out™ – intentional regular socialization improves mood, relationships and reduces isolation in people with PD Judy Talley, Sarah Jones

P40.40 Parkinson’s first hero: King David – the original message of hope for Parkinson’s patients Carl Voyles, King David Of Goliath Fame

P40.41 The benefits of physiotherapy: the experience of the Sibu Parkinson Society, Malaysia Meng Chuo Wong, Hua Hung Song

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P41.01 Understanding central mechanisms in overactive bladder in patients with Parkinson’s disease using BOLD fMRI contrast maps. Pinky Agarwal, Daniel Burdick, Arina Madan, Alida Griffith

P41.02 The Parkinson’s UK Research Support Network (RSN) – collaborating for a cure Claire Stephenson, Richard Windle, John Telford, Richard Hill, Anna Smith
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P41.03  A new volunteer-led method for looking at drug repurposing
John Telford, Richard Hill, Laura Smith, Peter Sidell, Anna Smith, Richard Windle

P41.04  Following a step-by-step process for the creation of a PACT (Partnering Advocates for Clinical Trials) between sponsors and trial participants
Peggy Willocks

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LBP7  The role of adenosine deficiency in Parkinson’s disease
Adriana Rocha, Letisha Wyatt, Eleonora Aronica, Detlev Boison, Hai-Yang Shen

LBP8  Synaptic alterations in cortico-striatal cocultures from LRRK2 G2019S transgenic mice
Naila Kuhlmann, Austen Milnerwood, Matthew Farrer

LBP9  LRRK2 G2019S Knock In Mice: A tool for studying Pre-Synaptic Dopamine Dysfunction In Parkinsonism
Mei Yue, Peter Bauer, Ayman Faroqi, Heather Melrose

LBP10  M4 muscarinic receptor activity opposes D1 dopamine receptor-evoked GABA release and motor activity in the SNr: Implications for M4 antagonists as a treatment for movement disorders
Mark Moehle, Tristano Pancani, Nellee Byun, Zixiu Xiang, Jurgen Wess, Jerri Rook, Craig Lindsley, Colleen Niswender, Carrie Jones, Jeffrey Conn

LBP13  Navigating Multidimensional Difficulties of Young-Onset PD – A Five-Year Longitudinal Case Study
Elizabeth Teeling, Nikkiel LeFebre, Melody Rasmor

LBP14  What motivates People with Parkinson (PwP) for exercise and self-management strategies?
Audun Myskja

LBP15  Evaluation of a 5 year relaxation exercise program for people with Parkinson (PwP)
Audun Myskja

LBP29  Community boxing for adults with Parkinson’s Disease – a feasibility study
Linda Denney, Cynthia C. Ivy, Kristen Bennett, Megan Jerome, Patricia S. Pohl

LBP32  Inhibition of glucosylceramide synthase alleviates aberrations in synucleinopathy models: Link to GBA-related Parkinson’s disease
S. Pablo Sardi, Catherine Viel, Jennifer Clarke, Hyejung Park, James Dodge, John Marshall, Bing Wang, Seng Cheng, Lamya Shihabuddin

LBP34  In Case of Adverse Events: Just Compensation for US Human Volunteers Injured in Clinical Trials
Jean Burns

LBP35  Encouragement Angel
Isabell Senft-Daniel

LBP36  Imagine yourself then, imagine yourself now with Parkinson’s disease
Frank Church

LBP37  Parkinsonline – PON, the friendly Parkinson’s support group
Gerald Ganglbauer

LBP38  Promoting awareness of Parkinson’s disease (PD) and helping people with Parkinson’s(PWP) in Ipoh, Perak, Malaysia
Lam Swee Yeoh

LBP39  Quality of Life Group: Maintaining our mental, physical, emotional and spiritual wellbeing
Alison Williams, William Wright

LBP40  Education/Outreach Program: Get Excited and Move (GEM) Savannah
Michael Cohen, Sarah Bernzott

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Julia Wood
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P35.07 A phase II, pragmatic, randomized clinical trial on a high-intensity exercise and fall prevention boot camp for Parkinson’s disease: signal of efficacy
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Exhibition Schedule

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7:45 – 10:00 PM

**Wednesday, Sept. 21**
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**Thursday, Sept. 22**
11:00 AM – 6:45 PM

**Friday, Sept. 23**
11:00 AM – 2:30 PM
### Exhibitors

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### Partners Tables

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ABBVIE

1 N. Waukegan Road D-051D ABV 1
North Chicago, IL
60064
USA
www.abbvie.com

AbbVie, a global, researched-based biopharmaceutical company, is committed to educating patients and caregivers about Parkinson’s disease to raise awareness about the condition, and further research to improve the lives of those living with and impacted by this disease.

ACADIA PHARMACEUTICALS INC.

3611 Valley Centre Drive, Suite 300
San Diego, CA
92130
USA
Tel: +1 858-558-2871
info@acadia-pharm.com
www.acadia-pharm.com

ACADIA Pharmaceuticals Inc. is a biopharmaceutical company focused on the development and Commercialization of innovative medicines to address unmet medical needs in neurological and related central nervous system disorders.

ACORDA THERAPEUTICS, INC.

420 Saw Mill River Road
Ardsley, NY
1032
USA
Tel: +1 914-347-4300
www.acorda.com

Acorda Therapeutics develops therapies that restore function and improve the lives of people with neurological disorders. Acorda markets three FDA-approved therapies, including AMPYRA® (dalfampridine) Extended Release Tablets, 10 mg. The Company has a pipeline of novel therapies that addresses a range of disorders, including Parkinson’s disease, post-stroke walking difficulties, migraine, and multiple sclerosis.
Lundbeck, a global pharmaceutical company based in Copenhagen, Denmark, was founded in 1915. As one of the world’s leading companies specializing in brain disorders, Lundbeck’s key focus is to address disorders such as depression, anxiety, schizophrenia, epilepsy, and Huntington’s, Alzheimer’s and Parkinson’s diseases.

Cynapsus is a specialty central nervous system (CNS) pharmaceutical company developing and preparing to commercialize a fast-acting, easy-to-use, sublingual thin film for the on-demand management of debilitating OFF episodes associated with Parkinson’s disease (PD).
ADAMAS PHARMACEUTICALS, INC.
1900 Powell Street, Suite 750
Emeryville, CA
94608
USA
Tel: +1 510-450-3500
ir@adamaspharma.com
www.adamaspharma.com

Adamas Pharmaceuticals, Inc. is driven to improve the lives of those affected by chronic disorders of the central nervous system. The company plans to submit a New Drug Application for ADS-5102, an investigational product candidate for the treatment of levodopa-induced dyskinesia associated with Parkinson’s disease, in 2016.

PARKINSON’S FOUNDATION
1359 Broadway, Suite 1509
New York, NY
10018
USA
Tel: +1 212-923-4700
cervers@pdf.org
www.pdf.org

The Parkinson’s Foundation is working toward a world without Parkinson’s disease (PD). Formed by the merger of the National Parkinson Foundation (NPF) and the Parkinson’s Disease Foundation (PDF), the mission is to invest in promising scientific research that will end PD and improve the lives of people with PD through improved treatments, support and the best care.

ST. JUDE MEDICAL
One St. Jude Medical Dr.
St. Paul, MN
55117
USA
Tel: +1 651-756-2000
www.sjm.com

St. Jude Medical is a leading global medical device manufacturer and is dedicated to transforming the treatment of some of the world’s most expensive epidemic diseases. The company has five major areas of focus that include heart failure, atrial fibrillation, neuromodulation, traditional cardiac rhythm management, and cardiovascular diseases.

UCB, INC.
1950 Lake Park Drive
Smyrna, GA
30080
USA
Tel: +1 770-970-7500
www.ucb-usa.com

UCB, Brussels, Belgium (www.ucb-usa.com) is a global biopharmaceutical company focused on the discovery and development of innovative medicines and solutions to transform the lives of people living with severe diseases in immunology and neurology. With more than 7,500 people in approximately 40 countries, the company generated revenue of 3.9 billion euros in 2015. UCB is listed on Euronext Brussels (symbol: UCB).
American Parkinson Disease Association (APDA)

135 Parkinson Ave
Staten Island, NY
10305
USA
Tel: +1 800-223-2732
apda@apdaparkinson.org
www.apdaparkinson.org

The American Parkinson Disease Association is the largest grassroots network dedicated to fighting Parkinson’s and supporting every person and every family impacted by Parkinson’s across the country. We offer services, provide education, and fund the promising research that brings us closer to discovering the cause and finding the cure.

Boston Scientific

25155 Rye Canyon Loop
Valencia, CA
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Tel: +1 661-949-4000
lisa.murphy@bsci.com
www.bostonscientific.com

Boston Scientific is a worldwide developer, manufacturer and marketer of medical devices whose products are used in a broad range of interventional medical specialties. As an innovation leader in Neuromodulation and implantable Deep Brain Stimulation Technology, Boston Scientific is committed to transforming lives through innovative medical solutions that improve the health of patients.

Edmond J. Safra Foundation

Geneva
Switzerland
www.edmondjsafra.org

The Edmond J. Safra Foundation supports projects related to science and medicine, education, religion, culture, and humanitarian relief worldwide. The Foundation has provided significant funding for Parkinson’s disease research and patient care at dozens of hospitals and institutes, and for professional education in partnership with a variety of patient organizations.

GE Healthcare, Life Sciences

100 Results Way
Malborough, MA
01752
USA
Tel: +1 508-683-2335
diane.benson@ge.com
www.gehealthcare.com

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.
GLOBAL KINETICS CORPORATION

5600 Rowland Rd., Suite 260
Minnetonka, MN
55343
USA
Tel: +1 962 698-5683
phil.roeser@globalkineticscorp.com
www.globalkineticscorp.com

Global Kinetics Corporation is committed to improving the lives of people with Parkinson’s with its lead product, the Personal KinetiGraph™ (PKG™).

Developed by neurologists at the world-renowned Florey Institute of Neuroscience, Australia, the PKG™ enables the precise monitoring, quantification and reporting of movement patterns consistent with bradykinesia, dyskinesia and immobility.

MEDTRONIC

710 Medtronic Parkway, LS290
Minneapolis, MN
55432
USA
Tel: +1 763-514-4000
Fax: +1 763-514-4879
www.medtronic.com

At Medtronic, we’re changing what it means to live with chronic disease. We’re creating innovative therapies that help patients get back to enjoying some of the things in life they thought they had lost forever. Seeing our work improve lives is a powerful motivator. The more we do, the more we’re driven to push the boundaries of medical technology.

INTERNATIONAL PARKINSON AND MOVEMENT DISORDER SOCIETY

555 East Wells Street, Suite 1100
Milwaukee, WI
53202
USA
Tel: +1 414-276-2145
Fax: +1 414-276-3349
info@movementdisorders.org
www.movementdisorders.org

The International Parkinson and Movement Disorder Society (MDS) is a professional society of clinicians, scientists, and other healthcare professionals who are interested in Parkinson’s disease, related neurodegenerative and neurodevelopmental disorders, hyperkinetic movement disorders, and abnormalities in muscle tone and motor control.

NATIONAL INSTITUTES OF HEALTH

NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE
NATIONAL INSTITUTE ON DEAFNESS AND OTHER COMMUNICATION DISORDERS

9000 Rockville Pike
Bethesda, MD
20892
USA
NIHinfo@od.nih.gov
www.nih.gov

The National Institutes of Health (NIH) is the medical research agency of the United States government. The NIH is part of the National Institutes of Health (NIH) and the National Science Foundation (NSF). The NIH is the world's largest source of funding for basic and clinical research in the biomedical sciences. The NIH is responsible for conducting and supporting research on human health and disease.
THE MICHAEL J. FOX FOUNDATION FOR PARKINSON’S RESEARCH

Grand Central Station P.O. Box 4777
New York, NY
10163-4777
USA
Tel: +1 800-708-7644
info@michaeljfox.org
www.michaeljfox.org

The Michael J. Fox Foundation is dedicated to finding a cure for Parkinson’s disease through an aggressively funded research agenda and to ensuring the development of improved therapies for those living with Parkinson’s today.

PARKINSON’S RESOURCES OF OREGON

3975 Mercantile Drive, Suite 154
Lake Oswego
97035
USA
Tel: +1 800 426-6806
Fax: +1 503-594-0547
info@parkinsonsresources.org
www.parkinsonsresources.org

Parkinson’s Resources of Oregon (PRO) bridges the gap between medical care and wellness by balancing hope for the future with education and services available to patients, families, and healthcare professionals. PRO is a nationally recognized nonprofit with the singular focus of improving the quality of life for those living with Parkinson’s through information, education, personal support, and advocacy for a cure.

TRAVEL PORTLAND

701 SW 6th Ave.
Portland, OR
97204
USA
Tel: +1 877-678-5263
www.travelportland.com

Welcome to Portland In Portland, getting around is a breeze. You’re always just a short walk or ride from limitless recreation, fabulous dining and flourishing culture. And, oh yes — the nation’s largest variety of local microbrews. See for yourself, and come early or stay late to enjoy all that Portland has to offer.

US WORLDMEDS

4441 Springdale Road
Louisville, KY
40241
USA
www.apokyn.com

At US WorldMeds, we hold a fundamental belief that our science has the potential to improve the lives of Parkinson’s patients. Our pipeline of development projects, along with our currently available PD treatment, reflects our resolve to bring innovative solutions to Parkinson’s patients. Stop by our booth to learn more.
ABBVIE
Booth #1000

1 N. Waukegan Road D-051D ABV 1
North Chicago, IL  60064
USA
www.abbvie.com

AbbVie, a global, research-based biopharmaceutical company, is committed to educating patients and caregivers about Parkinson’s disease to raise awareness about the condition, and further research to improve the lives of those living with and impacted by this disease. AbbVie is a proud sponsor of the World Parkinson Congress.

ABBVIE PARKINSON’S DISEASE ADVOCATE PROGRAM
Booth #707

16809 Bellflower Blvd #454
Bellflower, CA  90706
USA
Tel: +1 949-212-1537
www.PDAAdvocates.com

AbbVie is a global, research-based biopharmaceutical company. Our mission is to use our expertise, dedicated people and unique approach to innovation to develop and market advanced therapies that address some of the world’s most complex and serious diseases. AbbVie employs more than 28,000 people worldwide and markets medicines in more than 170 countries.

ACORDA THERAPEUTICS INC.
Booth #800

420 Saw Mill River Road
Ardsley, NY  1032
USA
Tel: +1 914-347-4300
www.acorda.com

Acorda Therapeutics develops therapies that restore function and improve the lives of people with neurological disorders. Acorda markets three FDA-approved therapies, including AMPYRA® (dalfampridine) Extended Release Tablets, 10 mg. The Company has a pipeline of novel therapies that addresses a range of disorders, including Parkinson’s disease, post-stroke walking difficulties, migraine, and multiple sclerosis.

ACADIA PHARMACEUTICALS INC.
Booths #612, 700

3611 Valley Centre Drive, Suite 300
San Diego, CA  92130
USA
Tel: +1 858-558-2871
info@acadia-pharm.com
www.acadia-pharm.com

ACADIA Pharmaceuticals Inc. is a biopharmaceutical company focused on the development and Commercialization of innovative medicines to address unmet medical needs in neurological and related central nervous system disorders.

ALEXANDER TECHNIQUE FOR PARKINSON’S
Booth #807

117 Furman Avenue
Asheville, NC  28801
USA
Tel: +1 828-254-3102  |  Fax: +1 828-254-3102
info@thepoiseproject.org
www.thepoiseproject.com

Alexander technique empowers People Living with Parkinson’s (PLWP) to manage their physical symptoms, increase their independence and support their cognitive health. Adaptive Alexander-based programs show PLWP how to actively choose and use functional patterns that promote optimal postural tone. The Poise Project is a nonprofit organization. We design and deliver Active Learning programs that give PLWP greater confidence and movement control 24/7.

AMERICAN PARKINSON DISEASE ASSOCIATION (APDA)
Booth #506

135 Parkinson Ave
Staten Island, NY  10305
USA
Tel: +1 800-223-2732
apda@apdaparkinson.org
www.apdaparkinson.org

The American Parkinson Disease Association is the largest grassroots network dedicated to fighting Parkinson’s and supporting every person and every family impacted by Parkinson’s across the country. We offer services, provide education, and fund the promising research that brings us closer to discovering the cause and finding the cure.
APDM INC.  
2828 SW Corbett Ave, Suite 135  
Portland, OR  97201  
USA  
Tel: +1 503-445-7757  
info@apdm.com  
www.apdm.com

APDM produces wearable technology for real-time and continuous movement analysis. Mobility Lab, gait and balance analysis system, is portable, reliable, and provides instant results of objective measures comparing to norms and patient trends. APDM products are used by over 500 clinicians and researchers worldwide including many Parkinson specialists.

BOSTON SCIENTIFIC  
25155 Rye Canyon Loop  
Valencia, CA  91355  
USA  
Tel: +1 661-949-4000  
lisa.murphy@bsci.com  
www.bostonscientific.com

Boston Scientific is a worldwide developer, manufacturer and marketer of medical devices whose products are used in a broad range of interventional medical specialties. As an innovation leader in Neuromodulation and Implantable Deep Brain Stimulation Technology, Boston Scientific is committed to transforming lives through innovative medical solutions that improve the health of patients.

CLINICRCROWD  
#6 Habaron Hirsh St.  
Tel Aviv  
Israel  
Tel: +1 972545662888  
michal@crowdcares.me

CrowdCares is a social-impact company that developed a new breed of registry platforms for safe substances and conduct what we call ClinCrowd registries - By the Crowd and For the Crowd. We built a global platform that conducts; large-scale, honest, transparent, crowd-sourced scientific clinically-oriented registries. All ingredients are safe for humans (approved as GRAS). Our pilot is a natural substance for PD.

COMFORT LINEN  
632 Robson Drive  
Kamloops, BC  V2E 2B7  
Canada  
Tel: +1 778-471-6691  
info@comfortlinen.com  
www.comfortlinen.com

Comfort Linen is a two-piece system designated for people with mobility issues, or for anyone simply looking for a more comfortable sleep. The system uses a unique combination of fabrics and grain alignment to minimize binding contact between the sleep garment and fitted sheet, resulting in easier movement in bed.

BRIAN GRANT FOUNDATION  
650 NE Holladay Street Suite 1600  
Portland, OR  97232  
USA  
Tel: +1 503-274-9382  
info@briangrant.org  
www.briangrant.org

The mission of the Brian Grant Foundation is to empower those impacted by Parkinson’s to live active and fulfilling lives. BGF was established in 2010, following Brian’s diagnosis of Parkinson’s in 2008. BGF’s programs focus on exercise, nutrition, and community building to encourage healthy behaviors.

DAVIS PHINNEY FOUNDATION  
4730 Table Mesa Drive, Suite J200  
Boulder, CO  80305  
USA  
Tel: +1 303-733-3340  |  Fax: +1 303-733-3350  
hcaldwell@davisphinneyfoundation.org  
www.davisphinneyfoundation.org

The Davis Phinney Foundation is a nonprofit organization whose mission is to help people living with Parkinson’s to live well today. Our work focuses on providing best-in-class information, inspiration and tools that motivate people to take action to improve their quality of life right now.
EXHIBITORS

GE HEALTHCARE, LIFE SCIENCES
Booth #814

100 Results Way
Malborough, MA 01752
USA
Tel: +1 508-683-2335
diane.benson@ge.com
www.gehealthcare.com

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

GLOBAL KINETICS CORPORATION
Booth #712

5600 Rowland Rd., Suite 260
Minnetonka, MN 55343
USA
Tel: +1 952-698-5683
phil.roeser@globalkineticscorp.com
www.globalkineticscorp.com

Global Kinetics Corporation is committed to improving the lives of people with Parkinson’s with its lead product, the Personal KinetiGraph™ (PKG®). Developed by neurologists at the world-renowned Florey Institute of Neuroscience, Australia, the PKG® enables the precise monitoring, quantification and reporting of movement patterns consistent with bradykinesia, dyskinesia and immobility.

GZ SOBOL PARKINSON’S NETWORK
Booth #617

1675 Linden Ave
Boulder, CO 80304
USA
Tel: +1 303-378-4732
info@parkinsonsnetwork.org
www.parkinsonsnetwork.org

GZSPN® offers the Parkinson’s Disease community an opportunity to participate in an exercise class that was designed by a person with Parkinson’s Disease for people with Parkinson’s Disease. Everyone is welcome in our classes including those with walkers and in wheelchairs.

HOME INSTEAD SENIOR CARE
Booth #908

13323 California Street
Omaha, NE 68154
USA
Tel: +1 402-498-4466
www.HomeInstead.com

Home Instead Senior Care is the world’s largest provider of in-home care for aging adults. From basic home care needs, Activities of Daily Living and managing chronic conditions or Alzheimer’s care, our network of over 1,000 offices are ready to serve. Home Instead now offers solutions to Medication Management through Simple Meds by Home Instead, a full service pharmacy. Home Instead services paired with Simple Meds helps seniors “age in place” with independence and security.

IMPAX SPECIALTY PHARMA
Booth #306

31047 Genstar Road
Hayward, CA 94544
USA
Tel: +1 510-240-6000
info@impaxlabs.com
www.impaxpharma.com

Impax Specialty Pharma is a branded division of Impax Laboratories, Inc. Impax Specialty Pharma is focused on targeting unmet needs, with a primary focus on developing treatments for neurological disorders.
The International Parkinson and Movement Disorder Society (MDS) is a professional society of clinicians, scientists, and other health-care professionals who are interested in Parkinson’s disease, related neurodegenerative and neurodevelopmental disorders, hyperkinetic movement disorders, and abnormalities in muscle tone and motor control.

With US headquarters in Bedminster, NJ, Kyowa Kirin is a growing specialty pharmaceutical company focused on developing and commercializing prescription medicines that help improve the health and well-being of people through innovative drug developments and state-of-the-art technologies in oncology, nephrology, and immunology.

The LifeWalker Upright is a new medical walker designed to enable users to stand upright and walk safer than with currently available walkers. Patients walk within the walker’s footprint for added stability. Adjustable to fit patients of different heights, the LifeWalker Upright includes supportive armrests, caliper brakes and shock absorbers.

Liftware is an electronic auto-stabilizing utensil designed for individuals with hand tremor caused by Parkinson’s Disease or Essential Tremor. Using an array of high-tech sensors, Liftware is able to detect tremor motion and respond in real-time. Seeing the experiences of our friends and family motivated us to create Liftware and focus on improving overall quality of life and independence for those with tremors.
**Lundbeck**

Booths #400, 600

Six Parkway North
Deerfield, Illinois 60015
USA
Tel: +1 847-282-1000 | Fax: +1 847-282-1001
www.lundbeckus.com

Lundbeck, a global pharmaceutical company based in Copenhagen, Denmark, was founded in 1915. As one of the world’s leading companies specializing in brain disorders, Lundbeck’s key focus is to address disorders such as depression, anxiety, schizophrenia, epilepsy, and Huntington’s, Alzheimer’s and Parkinson’s diseases.

**Medtronic Corporation**

Booth #201

710 Medtronic Parkway, LS290
Minneapolis, MN 55432
USA
Tel: +1 763-514-4000 | Fax: +1 763-514-4879
www.medtronic.com

At Medtronic, we’re changing what it means to live with chronic disease. We’re creating innovative therapies that help patients get back to enjoying some of the things in life they thought they had lost forever. Seeing our work improve lives is a powerful motivator. The more we do, the more we’re driven to push the boundaries of medical technology.

**NeuroScience Associates, Inc.**

Booth #825

10915 Lake Ridge Drive
Knoxville, TN 37934
USA
Tel: +1 865-675-2245 | Fax: +1 865-675-2787
info@nsalabs.com
www.nsalabs.com

NeuroScience Associates provides exceptional quality neurohistology outsourcing services in a rapid, cost-effective manner using proprietary MultiBrain® Technology. Up to 40 neuronal tissues are processed in each MultiBrain® block achieving uniform processing. We specialize in all types of staining including traditional methods, Immunohistochemistry and specialty stains for degenerative diseases.

**Neurology Reviews**

Booth #822

7 Century Drive, Suite 302
Parsippany, NJ 07054
USA
Tel: +1 973-206-2349 | Fax: +1 973-206-9378
ekatz@frontlinemedcom.com
www.neurologyreviews.com

NEUROLOGY REVIEWS is a clinical news publication with articles and timely department features that keep neurologists, primary care physicians, and other healthcare professionals informed of the latest news affecting their practice. NEUROLOGY REVIEWS covers major medical conferences and monitors the peer review literature to report the latest research findings.

**NeuroDerm Ltd**

Booth #823

3 Pekris Street
Rehovot, Rehovot 7670212
Israel
Tel: +1 972 89462729 | Fax: +1 972 89461729
michal@neuroderm.com
www.neuroderm.com

NeuroDerm is the first to develop liquid levodopa, the gold standard treatment for Parkinson’s disease, thus enabling for the first time continuous sub-cutaneous administration of this drug. By overcoming its biggest deficiency – short half life – NeuroDerm’s products should transform patients’ lives, offering them clinical benefits that can only be obtained today by undergoing highly invasive surgery. NeuroDerm’s products are currently in advanced clinical trials.

**LSVT Global Inc.**

Booth #613

3323 N. Campbell Avenue, Suite 5
Tucson, AZ 85719
USA
Tel: +1 3520-867-8838 | Fax: +1 3520-867-8839
info@lsvtglobal.com
www.lsvtglobal.com

LSVT Global trains speech, physical and occupational therapists in the evidence-based treatments, LSVT LOUD and LSVT BIG to restore communication and movement in people with Parkinson disease. LSVT Global has trained over 20,000 clinicians from 69 countries and offers free webinars, symposiums and exercise support tools to patients globally.
**NW PERMANENTE, P.C. PHYSICIANS AND SURGEONS**

Booth #918

500 NE Mulnomah St., Suite 100
Portland, OR 97232
USA
Tel: +1 503-813-3826 | Fax: +1 503-813-3555
shelonda.l.simpson@kp.org
http://nwp.kpphysiciancareers.com

Northwest Permanente PC is a self-governed (physician led), multi-specialty group of over 1500 physicians, surgeons, clinicians, and administrative staff that care for over 540,000 patients in SW Washington and Oregon. Kaiser Permanente is one of the nation’s pre-eminent health care systems, a benchmark for comprehensive, integrated and high quality care.

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**OREGON HEALTH & SCIENCE UNIVERSITY**

Booth #615

3181 SW Sam Jackson Park Rd
Portland, OR 97239
USA
Tel: +1 503-494-7230 | Fax: +1 503 346-6945
pco@ohsu.edu
www.ohsubrains.com/pco

OHSU’s Parkinson Center and Movement Disorders Program is nationally recognized as a Center of Excellence for groundbreaking patient care, research and education. Asleep deep brain stimulation pioneer, Dr. Kim Burchiel, leads our DBS program, which offers unparalleled expertise and excellent outcomes for patients with Parkinson’s. Learn more at www.ohsubrain.com/dbs

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**PARKINSON'S FOUNDATION**

Booth #406

1359 Broadway, Suite 1509
New York, NY 10018
USA
Tel: +1 212-923-4700
covers@pdf.org
www.pdf.org

The Parkinson’s Foundation is working toward a world without Parkinson’s disease (PD). Formed by the merger of the National Parkinson Foundation (NPF) and the Parkinson’s Disease Foundation (PDF), the mission is to invest in promising scientific research that will end PD and improve the lives of people with PD through improved treatments, support and the best care.

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**PARKINSON CANADA**

Booth #508

4211 Yonge Street, Suite 316
Toronto, ON M2P 2A9
Canada
Tel: +1 800-565-3000 | Fax: +1 416-227-9600
info@parkinson.ca
www.parkinson.ca

Parkinson Canada provides education, advocacy and support services in communities coast to coast to individuals and the health care professionals that treat them, since 1965. We fund innovative research for better treatments and a cure. Parkinson Canada is an Imagine Canada accredited organization. Contact 1(800) 565-3000 www.parkinson.ca

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**PARKINSON’S RESOURCES OF OREGON**

Booth #714

3975 Mercantile Drive, Suite 154
Lake Oswego 97035
USA
Tel: +1 800 426-6806 | Fax: +1 503-594-0547
info@parkinsonresources.org
www.parkinsonresources.org

Parkinson’s Resources of Oregon (PRO) bridges the gap between medical care and wellness by balancing hope for the future with education and services available to patients, families, and healthcare professionals. PRO is a nationally recognized nonprofit with the singular focus of improving the quality of life for those living with Parkinson’s through information, education, personal support, and advocacy for a cure.
EXHIBITORS

PEACEHEALTH  
Booth #507  
1115 SE 164th Avenue, Suite 358  
Vancouver, WA  98683  
USA  
Tel: +1 360-729-1000  |  Fax: +1 360-501-7531  
amoss@peacehealth.org  
www.peacehealth.org

PeaceHealth Medical Group has 850 practitioners providing care in communities across Alaska, Oregon and Washington. It is our commitment to carry on our Spirit of Healing mission, promoting personal and community health and providing every patient with exceptional, compassionate, evidence-based care, every time, every touch.

POWER THROUGH PROJECT  
Booth #719  
650 NE Holladay Street, Suite 1600  
Portland, OR  97232  
USA  
Tel: +1 503-274-9382  
info@powerthroughproject.org  
www.powerthroughproject.org

The Power Through Project inspires the international Parkinson’s community to get moving and gain the benefits of exercise. A partnership between the World Parkinson Coalition and the Brian Grant Foundation, Power Through Project is an online community teaming up to track exercise miles on a journey to the 2016 World Parkinson Congress and beyond.

PROVIDENCE BRAIN AND SPINE INSTITUTE  
Booth #509  
9135 SW Barnes Road, Suite 363  
Portland, OR  97225  
USA  
Tel: +1 503-216-1055  |  Fax: +1 503-216-1021  
frank.krause@providence.org  
http://oregon.providence.org/our-services/p/providence

Providence Brain and Spine Institute is a comprehensive clinical and research program that treats all conditions of the brain, spine and nervous system. Our recognized specialists work together as a team to provide patients with advanced medical expertise and compassionate care.

PWR! GYM – PARKINSON WELLNESS RECOVERY  
Booth #808  
140 W Fort Lowell Road  
Tucson  AZ  85705  
USA  
Tel: +1 520-591-5346  
becky@pwr4life.org  
www.pwr4life.org

Parkinson Wellness Recovery | PWR! Certifies therapists and fitness professionals to implement cutting edge Parkinson disease-specific personalized exercise and wellness programming that holds promise to slow disease progression. Our PWR!Gym model community neurofitness center and annual PWR!Retreats empower individuals with PD to exploit exercise as a physiological tool to get better and stay better.

PROVIDENCE BRAIN AND SPINE INSTITUTE  
Booth #509  
9135 SW Barnes Road, Suite 363  
Portland, OR  97225  
USA  
Tel: +1 503-216-1055  |  Fax: +1 503-216-1021  
frank.krause@providence.org  
http://oregon.providence.org/our-services/p/providence

Providence Brain and Spine Institute is a comprehensive clinical and research program that treats all conditions of the brain, spine and nervous system. Our recognized specialists work together as a team to provide patients with advanced medical expertise and compassionate care.

PWR! GYM – PARKINSON WELLNESS RECOVERY  
Booth #808  
140 W Fort Lowell Road  
Tucson  AZ  85705  
USA  
Tel: +1 520-591-5346  
becky@pwr4life.org  
www.pwr4life.org

Parkinson Wellness Recovery | PWR! Certifies therapists and fitness professionals to implement cutting edge Parkinson disease-specific personalized exercise and wellness programming that holds promise to slow disease progression. Our PWR!Gym model community neurofitness center and annual PWR!Retreats empower individuals with PD to exploit exercise as a physiological tool to get better and stay better.

RADIO PARKIES  
Booth #820  
Strombeek-Beverselaan 102  
Meise, VL Brabant  1860  
Belgium  
Tel: +1 32 2 270 3761  
parkies@live.be  
www.radioparkies.com

RADIO PARKIES: We are a Belgian non profit internet radio station run entirely but people with Parkinsons disease. On air 24/7. The Dj’s are broadcasting from there own home computer, using software that we provide and install, all have access to an almost unlimited amount of music. Our goal is combine information, interviews, awareness and entertainment. We became international with Dj’s from Belgium, UK, USA, Australia, France and Romenia. Interested? Find us at www.radioparkies.com. You will be amazed what we can do!
**RARE PATIENT VOICE, LLC**  
Booth #924
711 Hampton Ln.  
Towson, MD 21286  
USA  
Tel: +1 410-218-0527 | Fax: +1 410-401-0365  
wes.michael@rarepatientvoice.com  
[www.rarepatientvoice.com](http://www.rarepatientvoice.com)

Rare Patient Voice is a market research company that helps patients with rare diseases voice their opinions through confidential surveys to improve medical products and services. Patients and caregivers receive cash rewards for participating. Those who join at the event will receive a $10 gift card of their choice.

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**ROCK STEADY BOXING INC.**  
Booth #212
6847 Hillsdale Court  
Indianapolis, IN 46250  
USA  
Tel: +1 317-205-9198 | Fax: +1 317-228-7035  
jjohnson@rocksteadyboxing.org  
[www.rocksteadyboxing.org](http://www.rocksteadyboxing.org)

Rock Steady Boxing’s mission is to empower people with Parkinson’s to “fight back.” This boxing-inspired fitness program has been proven to reduce, reverse and delay the progression of symptoms, giving hope to people throughout the world. Stop by our booth and learn how you can bring Rock Steady Boxing to your community.

---

**SANOFI GENZYME**  
Booth #103
500 Kendall Street  
Cambridge, MA 02142  
USA  
Tel: +1 617-252-7500 | Fax: +1 617-252-7600  
[www.sanofigenzyme.com](http://www.sanofigenzyme.com)

Sanofi Genzyme focuses on developing specialty treatments for debilitating diseases that are often difficult to diagnose and treat, providing hope to patients and their families.

---

**SENIOR HELPERS**  
Booth #200
1966 Greenspring Drive, Suite 507  
Timonium, MD 21093  
USA  
Tel: +1 800-760-6389  
[www.seniorhelpers.com](http://www.seniorhelpers.com)

Senior Helpers is one of the nation’s premier in-home senior care providers in the US with over 270 offices operating across the country. We offer wide range of personal care and companion services. Senior Helpers has launched its Parkinson’s Care Program developed together with specialists from the National Parkinson Foundation’s Center of Excellence, to provide caregivers the specialized training needed to create individualized plans of care for people with Parkinson’s disease. Additional tools and resources such a DVD were created for care partners to help navigate some of the challenges caring for a person with Parkinson’s.

---

**SMART PATIENTS**  
Booth #517
144 S. Whisman Road, Suite G  
Mountain View, CA 94041  
USA  
info@smartpatients.com  
[www.smartpatients.com](http://www.smartpatients.com)

Smart Patients is an online community where patients and caregivers affected by complex illnesses like Parkinson’s Disease learn from each other about treatments, challenges, and how it all fits into the context of their experience.

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**SPEECHVIVE**  
Booth #716
603 Wexford Drive  
Lafayette, IN 47905  
USA  
Tel: +1 612-723-7200  
smogensen@speechvive.com  
[www.speechvive.com](http://www.speechvive.com)

Speech Vive is a behind the ear smart device which helps people with Parkinson’s disease speak more loudly and communicate more effectively. Clinical data over the last 4 years demonstrates Speech Vive to be effective in over 90% of people using the device.
**Deep brain stimulation (DBS) is an innovative surgical treatment that has proven very effective in helping Parkinson’s patients gain control of their symptoms. At Swedish Medical Center in Seattle, WA, patients who undergo DBS are under the expert care of a highly skilled team of medical specialists that have all been specially trained in DBS and the care of movement disorder patients.**

**The BioCollective, LLC is a direct-to-consumer bioscience company that provides high quality human biospecimens to advance microbiome research. The human microbiome is the microbial life of the body and its disruption is linked to chronic disease. The BioCollective microbiome marketplace accelerates research by providing access to high quality human biospecimens.**

**As a leading global healthcare company, we are deeply engaged with the issues relevant to our stakeholders and our business, such as accessibility and affordability of medicines; patient safety and patient support services; strengthening healthcare systems and acting ethically and responsibly.**

**Join Parkinson’s Movement in association with The Cure Parkinson’s Trust on Booth 721 to share and film your everyday ‘Tips and Tricks’ on living with Parkinson’s. This could be an exercise routine, a strategy to help sleep problems or techniques you’ve used to help with balance or gait.**
THE MICHAEL J. FOX FOUNDATION FOR PARKINSON’S RESEARCH

Booth #407

Grand Central Station P.O. Box 4777
New York, NY 10163-4777
USA
Tel: +1 800-708-7644
info@michaeljfox.org
www.michaeljfox.org

The Michael J. Fox Foundation is dedicated to finding a cure for Parkinson’s disease through an aggressively funded research agenda and to ensuring the development of improved therapies for those living with Parkinson’s today.*

UCB, INC.

Booths #107, 706

1950 Lake Park Drive
Smyrna, GA 30080
USA
Tel: +1 770-970-7500
www.ucb-usa.com

UCB, Brussels, Belgium (www.ucb-usa.com) is a global biopharmaceutical company focused on the discovery and development of innovative medicines and solutions to transform the lives of people living with severe diseases in immunology and neurology. With more than 7,500 people in approximately 40 countries, the company generated revenue of 3.9 billion euros in 2015. UCB is listed on Euronext Brussels (symbol: UCB).

US WORLDMEDS

Booth #500

4441 Springdale Road
Louisville, KY 40241
USA
www.apokyn.com

At US WorldMeds, we hold a fundamental belief that our science has the potential to improve the lives of Parkinson’s patients. Our pipeline of development projects, along with our currently available PD treatment, reflects our resolve to bring innovative solutions to Parkinson’s patients. Stop by our booth to learn more.

WORLD PARKINSON COALITION

Booth #517

1359 Broadway, Suite 1509
New York, NY 10018
USA
Tel: +1 212-923-4700
www.worldpdcoalition.org

The World Parkinson Coalition® works with nearly 200 organizations globally to connect and inspire members of the Parkinson’s community. It’s main focus is organizing and hosting the triennial World Parkinson Congress where it brings together some of the world’s most respected movement disorder specialists, neuroscientists, nurses, rehab specialists people with Parkinson’s and care partners to learn about the latest scientific discoveries, medical practices, and care initiatives for PD.
<table>
<thead>
<tr>
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<th>Table #1</th>
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<tbody>
<tr>
<td><strong>LEGACY HEALTH</strong></td>
<td><strong>NORTHWEST PARKINSON’S FOUNDATION</strong></td>
</tr>
<tr>
<td>1919 NW Lovejoy St.</td>
<td>7525 SE 24 Street, Suite 300</td>
</tr>
<tr>
<td>Portland, OR 97232</td>
<td>Mercer Island, WA 98040</td>
</tr>
<tr>
<td>USA</td>
<td>USA</td>
</tr>
<tr>
<td>Tel: +1 206-713-4330</td>
<td>Tel: +1 206-713-4330</td>
</tr>
<tr>
<td><a href="mailto:steve@nwpf.org">steve@nwpf.org</a></td>
<td><a href="mailto:steve@nwpf.org">steve@nwpf.org</a></td>
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<tr>
<td><strong>NATIONAL VA PARKINSON’S DISEASE CONSORTIUM</strong></td>
<td><strong>NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS &amp; STROKE</strong></td>
</tr>
<tr>
<td>3900 Woodland Ave #127P</td>
<td>31 Center Drive, Bldg 31, Room 8A07</td>
</tr>
<tr>
<td>Philadelphia, PA 19104</td>
<td>Bethesda, MD 20892</td>
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<tr>
<td>USA</td>
<td>USA</td>
</tr>
<tr>
<td>Tel: +1 215-823-5934</td>
<td>Tel: +1 301-496-5751</td>
</tr>
<tr>
<td>Fax: +1 215-823-4603</td>
<td>Fax: +1 301-402-2186</td>
</tr>
<tr>
<td><a href="mailto:kristina.watts@dignityhealth.org">kristina.watts@dignityhealth.org</a></td>
<td><a href="mailto:braininfo@ninds.nih.gov">braininfo@ninds.nih.gov</a></td>
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<tr>
<td><strong>DANCE FOR PD®/MARK MORRIS DANCE GROUP</strong></td>
<td><strong>AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION</strong></td>
</tr>
<tr>
<td>3 Lafayette Ave.</td>
<td>2200 Research Blvd.</td>
</tr>
<tr>
<td>Brooklyn, NY 11217</td>
<td>Rockville, MD 208750</td>
</tr>
<tr>
<td>USA</td>
<td>USA</td>
</tr>
<tr>
<td>Tel: +1 718-624-8400</td>
<td>Tel: +1 301-296-5679</td>
</tr>
<tr>
<td>Fax: +1 718-624-8900</td>
<td><a href="mailto:healthservices@asha.org">healthservices@asha.org</a></td>
</tr>
<tr>
<td><a href="mailto:admin@danceforpd.org">admin@danceforpd.org</a></td>
<td><a href="http://www.danceforpd.org">www.danceforpd.org</a></td>
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<tr>
<td><strong>MOVING DAY</strong></td>
<td><strong>AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION</strong></td>
</tr>
<tr>
<td>200 SE 1st Street, Suite 800</td>
<td>2200 Research Blvd.</td>
</tr>
<tr>
<td>Miami, FL 33131</td>
<td>Rockville, MD 208750</td>
</tr>
<tr>
<td>USA</td>
<td>USA</td>
</tr>
<tr>
<td>Tel: +1 800-473-4636</td>
<td>Tel: +1 301-296-5679</td>
</tr>
<tr>
<td><a href="mailto:khenkel@parkinson.org">khenkel@parkinson.org</a></td>
<td><a href="mailto:healthservices@asha.org">healthservices@asha.org</a></td>
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<tr>
<td><a href="http://www.parkinson.org">www.parkinson.org</a></td>
<td><a href="http://www.asha.org">www.asha.org</a></td>
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<tr>
<td><strong>BRAIN SUPPORT NETWORK</strong></td>
<td><strong>NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS &amp; STROKE</strong></td>
</tr>
<tr>
<td>P.O. Box 7264</td>
<td>31 Center Drive, Bldg 31, Room 8A07</td>
</tr>
<tr>
<td>Menlo Park, CA 94026</td>
<td>Bethesda, MD 20892</td>
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<tr>
<td>USA</td>
<td>USA</td>
</tr>
<tr>
<td>Tel: +1 650-814-0848</td>
<td>Tel: +1 301-496-5751</td>
</tr>
<tr>
<td><a href="mailto:phil.miers@brainsupportnetwork.org">phil.miers@brainsupportnetwork.org</a></td>
<td>Fax: +1 301-402-2186</td>
</tr>
<tr>
<td><a href="http://www.brainsupportnetwork.org">www.brainsupportnetwork.org</a></td>
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Acetylcholine: One of the chemical neurotransmitters in the brain and other areas of the central and peripheral nervous system. It is highly concentrated in the basal ganglia, where it influences movement. It is located in other regions of the brain as well, and plays a role in memory. Drugs that block acetylcholine receptors (so-called anticholinergics) are utilized in the treatment of PD.

Agonists: A chemical or drug that can activate a neurotransmitter receptor. Dopamine agonists, such as pramipexole, ropinirole, bromocriptine and apomorphine, are used in the treatment of PD.

Akinesia: Literally, means loss of movement also described as lack (or marked slowness) of voluntary movements. It is usually interchangeably with bradykinesia (see above).

Alpha-synuclein: A protein present in nerve terminals. The accumulation of this protein is a pathologic finding in PD. The gene (SNCA) was the first genetic mutation found in PD, and was called PARK1. Alpha-synuclein also accumulates in multiple system atrophy (MSA) and in Lewy Body Disease. Alpha-synuclein appears to play a key role in the pathogenesis of PD.

Alexander Technique: This technique is a form of complementary therapy, founded at the turn of the century by FM Alexander. The principal aim is to help improve health by teaching people to stand and move more efficiently.

Amantadine: A medication used to treat Parkinson’s disease as a single therapy or with L-DOPA and other medications. It has both an anti-Parkinson’s effect and an anti-dyskinesia effect.

Amygdala: An almond-shaped nucleus located deep in the brain’s medial temporal lobe in animals. It is involved in fear and anxiety responses, in particular in the formation of memories involving emotion.

Anticholinergics: A type of medication that interferes with the action of acetylcholine (see above) in order to try and restore the balance between dopamine and acetylcholine. They are not recommended for use in the elderly because they cause confusion. Examples include:
- benztropine mesylate
- biperiden hydrochloride
- orphenadrine citrate
- procyclidine hydrochloride
- trihexyphenidyl hydrochloride

Antagonists: Has the opposite effect from an agonist (see above). Antagonists block neurotransmitter receptors. Dopamine antagonists can worsen Parkinson’s symptoms and can cause drug-induced Parkinsonism. Virtually all antipsychotic drugs have dopamine antagonist action.

Ataxia: Inability to coordinate voluntary muscle movements; unsteady movements and staggering gait.

ATP13A2 (PARK 9): A gene that codes for a form of the ATPase enzyme. When mutated, this gene may cause a form of early onset Parkinson’s.

Autonomic Nervous System (ANS): Part of the peripheral nervous system, consisting of sympathetic and parasympathetic nerves that control involuntary actions, in particular the heart, smooth muscle (such as bladder and blood vessels) and glands.

Autophagy: the segregation and disposal of damaged organelles within a cell.

Autosomal: Refers to all the chromosomes excluding the sex-related X and Y chromosomes.

Autosomal recessive: A mode of inheritance of genetic traits located on the autosomes that only becomes manifest when two copies of a mutated gene (two alleles) are present. In order for a particular trait to be expressed, both parents must have the particular mutated allele or gene, and both must pass it to the offspring who then manifests the genetic disease. Some genetic forms of PD are autosomal recessive, such as from the genes known as parkin, PINK1 and DJ1. In some cases, the gene of interest is missing. In others, there are abnormalities and if 2 different abnormalities of the same are inherited, that can result in recessive inheritance.

Axon: A nerve fiber that carries electrical impulses from the nerve cell body to other neurons. Thick axons tend to be through the brain and spinal cord; they are surrounded by a protective fatty sheath called myelin (in multiple sclerosis the myelin is damaged). Thin axons tend to be unmyelinated. In PD, alpha-synuclein (see above) is deposited in long, thin axons, and these are called Lewy neurites.

Basal ganglia: Clusters of neurons that include the caudate nucleus, putamen, globus pallidus and substantia nigra which are located deep in the brain and play an important role in movement. Cell death in the substantia nigra contributes to Parkinsonian signs.

Big data: a term for data sets that are so large or complex that traditional data processing applications are inadequate.

Biomarker: An early indicator that a person may have a disease, such as Parkinson’s. A biomarker, if present, could indicate that the person has a disease before symptoms of that disease appear. There is a search for biomarkers for PD. Biomarkers could be a chemical, clinical, physiologic or imaging finding.
**Blood brain barrier:** The separating membrane between the blood and the brain; a tight physical barrier that normally keeps immune cells, chemicals and drugs out of the brain.

**Bradykinesia:** Literally, means slowness of movement. It is commonly used synonymously with akinnesia and hypokinesia. Bradykinesia is a clinical hallmark of Parkinsonism.

**Brain stem:** The part of the brain between the cerebral hemispheres and the spinal cord. The three parts of the brain stem are the medulla oblongata, pons, and midbrain. The brain stem is a vital structure that is a passageway between the brain and spinal cord, and it contains neurons involved in sleep and wakefulness. The substantia nigra, which is damaged in Parkinson’s, is located in the midbrain of the brain stem.

**Calcium:** An essential mineral. Calcium is important for neurological “signaling” and is involved in many chemical reactions within neurons and in mitochondria function. Calcium overload in substantia nigra has been postulated as one mechanism that could contribute to death of these neurons.

**Carbidopa:** A drug given with levodopa. Carbidopa blocks the enzyme dopa decarboxylase, thereby preventing levodopa from being metabolized to dopamine. Because carbidopa does not penetrate the blood brain barrier (see above), it only blocks levodopa metabolism in the peripheral tissues and not in the brain, thereby reducing side effects but increasing the effectiveness of levodopa.

**Caudate nucleus:** A nucleus located in the basal ganglia important in learning and memory. It is one component of the basal ganglia called the striatum. The other component is the putamen.

**Cerebellum:** Part of the hind brain; controls smooth movements. When damaged, it results in ataxia (see above).

**Cerebrospinal fluid (CSF):** A watery fluid generated within the brain’s ventricles and circulates to bathe the brain and spinal cord to cushion these from physical impact.

**Chronic:** (opposite: acute) Chronic diseases are of long duration. Chronic diseases are typically of subtle onset and slow worsening over time. The term does not imply anything about the severity of a disease.

**CNS:** abbreviation of Central Nervous System, which consists of the brain, brain stem and spinal cord.

**Cognition:** Mental processes including attention, remembering, producing and understanding language, solving problems and making decisions.

**Cognitive:** Relating to mental activity such as thinking, reasoning, making judgments and remembering.

**Complementary Therapies:** These are non-medical treatments, which many people use in addition to conventional medical treatments, such as Alexander Technique (see above), aromatherapy, music and art therapies, reflexology, osteopathy.

**Computed tomography (CT):** A medical imaging method employing computer processing to produce images seen as slices through the tissue. This presentation of images is known as tomography.

**COMT (catechol-O-methyltransferase):** One of the enzymes that break down dopamine, adrenaline (also called epinephrine) and noradrenaline (also called norepinephrine).

**Continuous Dopaminergic Stimulation (CDS):** A therapeutic concept for the management of Parkinson’s disease that proposes that continuous (as opposed to discontinuous or pulsatile) stimulation of striatal dopamine receptors will delay or prevent the onset of levodopa-related motor complications.

**Controlled Release Drugs:** These are special preparations of drugs that release the drug into the body slowly and steadily rather than all at once. They keep the amount of the drug in the blood stream at a steadier level than the ‘ordinary’ version of the same drug.

**Cytokines:** A number of small proteins that are secreted by specific cells of the immune system and carry signals locally between cells, and thus have an effect on other cells. Higher levels of pro-inflammatory cytokines are found in Parkinson’s brains. Unlike growth factors, they have no specific role in cell proliferation and are primarily linked to blood and immune cells. Cytokines have also been known to be involved in causing cell death.

**Deep Brain Stimulation (DBS):** A surgical treatment that involves the implantation of a medical device (electrical stimulator) that acts as a brain pacemaker sending electrical impulses to the specific area in which the electrode was inserted. In Parkinson’s patients the device is typically inserted in either the subthalamic nucleus or the globus pallidus, less often in the thalamus or pedunculopontine nucleus, depending upon the specific problem.
Dementia: A decline in cognitive function due to damage or disease in the brain beyond what might be expected from normal aging. Areas particularly affected include memory, attention, judgment, language, planning and problem solving.

- Alzheimer’s disease dementia: The most common form of dementia, typically presents with difficulty in remembering names and events. May also initially include apathy and depression, and later impaired judgment, disorientation, confusion, behavior changes and difficulty speaking, swallowing and walking. Associated with abnormal deposits of the protein fragment beta-amyloid (plaques) and twisted strands of the protein tau (tangles) as well as brain nerve cell damage and death.
- Dementia with Lewy bodies (DLB): Similar, but not identical, symptoms as in Alzheimer’s dementia. DLB commonly has a greater occurrence of sleep disturbances, well-formed visual hallucinations, and muscle rigidity. Associated with aggregation of alpha-synuclein in the cerebral cortex. Lewy bodies are also a pathologic hallmark in Parkinson’s disease. The relationship of DLB and PD remains to be resolved.
- Parkinson’s dementia: Presents similarly to Alzheimer’s dementia or dementia with Lewy bodies, but is typically preceded by clinical Parkinson’s disease. Associated with alpha-synuclein aggregates that are more likely begin in the brain stem, including the substantia nigra.

Dendrites: (from Greek meaning, ‘tree’) Nerve fibers that project from the nerve cell body. Branches of dendrites are the receiving fibers of signals coming to the neuron from other neurons and convert these chemical signals into electrical ones to the nerve cell body.

Depression: A state of low mood. Some consider it a dysfunction, while others see it as an adaptive defense mechanism.

DJ-1: Mutations in this gene cause an autosomal recessive form of Parkinson’s disease. The function of the protein created by DJ-1 appears to reduce oxidative stress.

Dopa decarboxylase inhibitors: Drugs (such as carbidopa) that inhibit the metabolism of levodopa to form dopamine. By inhibiting dopa decarboxylase only in the peripheral organs (not CNS), levodopa concentration is increased and more can enter the brain. These drugs are particularly useful in Parkinson’s when used with levodopa.

Dopamine: A small chemical molecule that is one of the brain’s neurotransmitters. It is found particularly in cells within the substantia nigra. These cells project to the striatum in the basal ganglia. Deficiency of dopamine causes symptoms of Parkinsonism.

Dopamine agonist: A compound that activates dopamine receptors, other than dopamine. Examples include, bromocriptine mesylate (Parlodel), pergolide (Permax), pramipexole (Mirapex), ropinirole hydrochloride (Requip), piribedil, cabergoline, apomorphine (Apokyn), rotigotine (Neupro patch) and lisuride. These act like dopamine, but are not actually dopamine. They can be used in both the early and late stages of Parkison’s disease. They are the second most powerful type of anti-Parkinson medication after levodopa. They can cause side effects such as sleepiness, sleep attacks, ankle swelling, hallucinations and impulse control problems, more commonly than levodopa does.

Dopaminergic pathways: Neural pathways in the brain which utilize dopamine as their neurotransmitter. There are four major groups: the nigrostriatal, mesocortical, mesolimbic and tuberoinfundibular pathways.

- Nigrostriatal: Connects the substantia nigra to the striatum. Involved heavily in Parkinson’s.
- Mesocortical: Connects the ventral tegmental area (adjacent to the substantia nigra) to the cerebral cortex. Closely associated with the mesolimbic pathway.
- Mesolimbic: Connects ventral tegmental area to nucleus accumbens, amygdala & hippocampus and prefrontal cortex. Along with the mesocortical pathway, is involved in memory, motivation, emotional response, reward and addiction. Can cause hallucinations and schizophrenia if not functioning properly.
- Tuberoinfundibular: from hypothalamus to pituitary gland involved in hormonal regulation, maternal behavior (nurturing), pregnancy and sensory processes.

Disease modification: as treatments or interventions that affect the underlying pathophysiology of Parkinson’s.

Drug repurposing: is the application of known drugs and compounds to treat new diseases.

Dysarthria: Impaired speech function.

Dyskinesia: Abnormal involuntary movements; hyperkinesia.

Dysphagia: Difficulty in swallowing.

Embryonic stem (ES) cells: see stem cells

Entacapone: A Parkinson’s drug that is used alongside levodopa and carbidopa. It inhibits the enzyme COMT, decreasing the breakdown of levodopa.

Exosomes: small ball-like structures produced by the cells and which can be found in all sorts of body fluids such as blood, urine, and CSF and cultured medium of cell cultures. They are formed inside the cell and during this process they engulf bits of the cellular fluid and contents.
**Festination**: An involuntary quickening of the gait; the acceleration of gait noted in Parkinsonism and similar disorders, literally means “chasing the center of gravity”.

**Functional magnetic resonance imaging (fMRI)**: An imaging technique designed specifically for the brain. It measures the rate at which oxygen is removed from the blood to the cells, therefore suggesting the activity of a particular area of the brain.

**GABA (gamma amino butyric acid)**: The principal inhibitory neurotransmitter in human brain. GABA neurons are rich in the striatum, globus pallidus, substantia nigra and cerebellum.

**GDNF**: see growth factors

**Gene therapy**: The insertion of genes into an individual’s cells and tissues to treat hereditary diseases where deleterious mutant alleles can be replaced with functional ones. The genes are usually placed within a non-pathogenic virus, which serves as the vector to penetrate the cells. Gene therapy can also be used to correct non-genetic deficiencies such as the loss of dopamine in Parkinson’s, to modify the function of a group of cells (e.g. convert an excitatory structure to one that is inhibitory) or to provide a source of growth factors.

**Genotype**: The collection of genetic material in an organism that gives rise to its characteristics.

**Geriatrician**: A doctor who specializes in the care and treatment of elderly people.

**Glia (Glia cells)**: Non-neural cells, commonly called neuroglia or simply glia (Greek for “glue”), that maintain homeostasis, form myelin, and provide support and protection for the brain’s neurons.

**Globus pallidus**: A major part of the basal ganglia involved in movement control. Split into two main parts: the internal globus pallidus (GPI), and the external globus pallidus (GPe). Deep brain stimulation of the GPI is shown to have an increase in motor function in Parkinson’s patients and to reduce dyskinesia.

**Glutamate**: An amino acid and the main excitatory neurotransmitter in the human brain. The major input to the striatum is from the cerebral cortex. These corticostriatial neurons use glutamate as their neurotransmitter.

**Gut microbiome**: The complex community of microorganisms that live in the digestive tracts of humans and other animals.

**Growth factors**: Naturally occurring substances (usually proteins) that help maintain the health of neurons and encourage cell growth, proliferation and differentiation. Some growth factors are being looked at to try to promote the survival of the neural cells that are degenerating in Parkinson’s.

- Glial cell line derived nerve growth factor (GDNF): Thought to promote the health of dopamine neurons.
- Brain-derived nerve growth factor (BDNF): Also supports dopamine neurons.
- Fibroblast growth factor (FGF): Studies have found a possible genetic link to Parkinson’s disease on the FGF20 gene.
- Vascular endothelial growth factor-B (VEGF-B): May have neuroprotective affects in Parkinson’s disease.

**Heterogeneity**: Lacking uniformity in composition or character. (As opposed to homogeneity, which is uniformity in composition or character.)

**Hippocampus**: A complex neural structure (shaped like a sea horse) located in the temporal lobes of the brain; involved in memory storage and in motivation and emotion as part of the limbic system.

**Hoehn and Yahr scale**: A commonly used system for describing how the symptoms of Parkinson’s disease progress. The higher the stage, the more advanced the disease.

- **Stage 0**: No signs of disease.
- **Stage 1**: Unilateral symptoms only.
- **Stage 1.5**: Unilateral and axial (midline) involvement.
- **Stage 2**: Bilateral symptoms. No impairment of balance.
- **Stage 2.5**: Mild bilateral disease with recovery on pull test.
- **Stage 3**: Balance impairment. Mild to moderate disease. Physically Independent.
- **Stage 4**: Severe disability, but still able to walk or stand unassisted.
- **Stage 5**: Needing a wheelchair or bedridden unless assisted.

**Hyperkinesia**: An abnormal increase in movement and/or muscle activity; synonymous with dyskinesia.

**Hypokinesia**: Literally means reduced amplitude of movement. It is commonly used synonymously with akinesia and bradykinesia.

**Hypothalamic pituitary adrenal axis (HPA)**: The three primary components of the endocrine system. Made up of the hypothalamus, pituitary gland and the adrenal cortex, the HPA has a wide range of functions from stimulating the stress response to control of digestion, the immune system, mood, sexuality and energy storage and consumption.

**Hypothalamus**: A portion at the bottom of the middle of the brain that links the limbic system to the pituitary gland and is a master area for the autonomic nervous system.

**Idiopathic**: Arising from an unknown cause.
PARKINSON’S DISEASE GLOSSARY

Idiopathic Parkinson’s disease: This term is used to describe the common type of Parkinson’s disease to distinguish it from other forms of Parkinsonism.

Impulse control disorder (ICD): A set of psychiatric disorders characterized by an inability to control one’s actions, in particular those that might bring harm to oneself or others. Common ICDs in patients receiving dopamine agonists are pathologic gambling, compulsive eating, compulsive shopping and hypersexuality.

Interdisciplinary care: Multiple healthcare professionals collaborating to provide care with a common perspective, often involving joint consultations.

Learned voluntary movements: Movements that we learn to do, like walking and talking.

Leucine rich repeat kinase 2 (LRRK2): A protein created by the LRRK2 gene which when mutated can lead to Parkinson’s. Several different disease causing LRRK2 gene variants have been found in Parkinson’s patients, but there may also be variants within the general population that do not necessarily cause disease.

Levodopa (L-DOPA): A chemical that is the precursor to dopamine. It can pass through the blood-brain barrier (whereas dopamine cannot). Once it has entered the central nervous system, L-dopa is converted into dopamine by aromatic L-amino acid decarboxylase (DOPA decarboxylase/DDC). L-DOPA is also converted into dopamine within the peripheral nervous system, but this is usually blocked by employing peripherally-active dopa decarboxylase inhibitors.

Lewy bodies: A pathologic hallmark of Parkinson’s disease and dementia with Lewy bodies. First described by Frederic Lewy, Lewy bodies are seen microscopically as inclusions in neurons in several brain regions, including the substantia nigra and locus ceruleus. One protein seen is alpha-synuclein in an aggregated form. Aggregates of this protein in axons are called Lewy neurites.

Magnetic resonance imaging (MRI): A noninvasive medical imaging technique to visualize detailed internal structure and limited function of the body. MRI provides much greater contrast between the different soft tissues of the body than computed tomography (CT), making it especially useful in neurological (brain), musculoskeletal, cardiovascular and oncological (cancer-related) imaging.

MAO (monoamine oxidase): A family of enzymes with two subtypes: MAO-A and MAO-B. These catalyze the oxidation of amine molecules (replacing the amine group with an oxygen molecule.)

• MAO A inhibitors: Drugs that inhibit the MAO-A enzyme, which is responsible for the metabolism of dietary tyramine. MAO-A inhibitors can cause tyramine-induced hypertension, the so-called ‘cheese effect’ because tyramine can be found in high concentrations in some soft cultured cheeses.
• MAO B inhibitors: These drugs (e.g. selegiline, rasagiline) inhibit the breakdown of dopamine via MAO-B enzyme and do not cause the ‘cheese effect’ of hypertension.

N-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP): A neurotoxin precursor of MPP+ that is taken up in dopamine nerve terminals. MPP+ damages the dopamine cells. MPTP is catalyzed to MPP+ by MAO-B. MPTP has been widely used to create an animal model of Parkinsonism by depleting substantia nigra dopamine neurons.

Microglia: A type of glial cell; it provides the first immune defense mechanism in the brain and central nervous system.

Mitochondria: a spherical or elongated organelle in the cytoplasm of nearly all eukaryotic cells, containing genetic material and many enzymes important for cell metabolism, including those responsible for the conversion of food to usable energy. It consists of two membranes: an outer smooth membrane and an inner membrane arranged to form cristae.

Mitophagy: is the selective degradation of mitochondria by autophagy.

Motor skills: The degree of control or coordination provided by brain control of the skeletal muscles.

Motor symptoms: Symptoms that involve movement, coordination, physical tasks or mobility. These include, among others: resting tremor, bradykinesia, rigidity, postural instability, freezing, micrographia, mask-like expression, unwanted accelerations, stooped posture, dystonia, impaired motor dexterity and coordination, speech problems, difficulty swallowing, muscle cramping, and drooling of saliva. (Also see: non-motor symptoms).

Multidisciplinary care: care given by multiple healthcare professionals each approaching the patient from their professional perspective, often involves separate, individual consultations.

Multiple System Atrophy (MSA): A less common degenerative neurological disorder that causes symptoms similar to Parkinson’s disease but with more widespread damage to the central nervous system. Other systems involved besides the basal ganglia include the cerebellum and autonomic systems.

Neuromelanin: The dark pigment made from oxidized metabolites of monoamine neurotransmitters including dopamine and norepinephrine, found in neurons enriched with...
these amines, namely the substantia nigra and locus ceruleus, respectively. Neurmelonin gives the substantia nigra (Latin for “black substance”) its black appearance.

**Neuromodulator:** A chemical substance other than a neurotransmitter, released by a neuron at a synapse and either enhances or dampens their activities.

**Neurological conditions:** disorders caused by damage or malfunctioning of the brain or nervous system.

**Neurologist:** A doctor who specializes in the diagnosis, care and treatment of disorders of the brain or nervous system.

**Neuroprotection:** Mechanisms within the nervous system that would protect neurons from dying due to a degenerative disease or from other types of injury.

**Neuroprotective:** serving to protect neurons from injury or degeneration, could possibly have an effect that may result in salvage, recovery or regeneration of the nervous system, its cells, structure and function.

**Neurotransmitter:** A chemical messenger in the nervous system that permits communication between two neuronal cells, normally across a synapse. The neurotransmitter is released from the nerve terminals on the axons. Examples of neurotransmitters include dopamine, acetylcholine, adrenaline, noradrenaline, serotonin, glutamate, and GABA.

**Nicotine:** A stimulant that acts as an agonist at nicotinic receptors in the brain. Smoking, which contains nicotine, has been associated with a decreased chance of developing Parkinson’s disease.

**Non-motor symptoms:** Symptoms that do not involve movement, coordination, physical tasks or mobility, including loss of sense of smell, constipation, sleep disorders or disturbances, mood disorders, orthostatic hypotension, bladder problems, sexual problems, excessive saliva, weight loss or gain, vision and dental problems, fatigue, depression, fear and anxiety, skin problems, and cognitive issues. (See motor symptoms)

**Objective measurements:** is the repetition of a unit amount that maintains its size, within an allowable range of error, no matter which instrument, intended to measure the variable of interest, is used and no matter who or what relevant person or thing is measured.

**Occupational Therapist:** Occupational therapists are concerned with assessing a person’s home or work situation and them devising ways to make them more manageable and less hazardous. They can also advise on aids and equipment and leisure activities.

**On and Off:** The clinical states of PD while being treated with levodopa, which commonly causes clinical fluctuations after a few years of treatment. The “on” state is when the PD symptoms and signs are reduced by levodopa. The “off” state is when the benefit has been reduced or lost. The most common type of “off” is wearing-off, due to the levodopa’s benefit not lasting more than 4 hours after a dose. Sudden and unpredictable “off” states can also occur, but are less common. “Off” states usually will respond to another dose of levodopa. Clinical fluctuations are considered a complication of levodopa therapy.

**Orthostatic hypotension:** A drop in blood pressure when a person is standing. It can be a complication of medications, but can sometimes be due to Parkinsonism itself.

**Paradoxical kinesia:** The ability to move as a response to an unexpected stimulus, occurring in a person who previously could not move so easily. Paradoxical kinesia can occur in Parkinson’s disease.

**Parkin:** A protein that is generated by the Parkin gene. With homozygous (both alleles affected) Parkin mutations (PARK2 gene), Parkinson’s disease develops. It is the most common cause of juvenile onset PD.

**Parkinson-plus syndromes:** A group of neurodegenerative diseases featuring the classical features of Parkinsonism (rigidity, akinesia/bradykinesia, postural instability and less commonly tremor) with additional features that distinguish them from typical Parkinson’s disease. Parkinson-plus syndromes include multiple system atrophy (MSA), progressive supranuclear palsy (PSP), and corticobasal degeneration (CBD).

**Parkinsonism:** A group of neurological diseases whose features include slowness and paucity of spontaneous movement (bradykinesia), rest tremors, rigidity of the muscles, loss of postural reflexes, flexed posture and freezing of gait.

**Parkinsonian gait:** With bradykinesia, gait is slow, short paced and with a tendency to shuffle, associated with decreased arm swing. Freezing of gait can also occur in Parkinsonism.

**Pathogenesis:** The underlying biologic mechanism responsible for a disease.

**PINK-1:** An abbreviation for the name of a gene that encodes serine/threonine kinase, an enzyme found in mitochondria that stops stress related cell destruction. With homozygous (both alleles affected) PINK-1 mutations, juvenile or early onset Parkinson’s disease can develop. Lack of PINK-1 causes an overload of calcium in mitochondria and indirectly cell death. The substantia nigra is shown to be particularly sensitive to PINK-1 mutations.
Physiotherapist: Physiotherapists use physical means such as exercise and manipulation to help prevent or reduce stiffness in joints and restore muscle strength. They can also advise on aids and equipment to help with movement problems.

Placebo: A simulated or inert form of treatment without known proven benefit on a symptom or a disease. A pill serving as a placebo is colloquially called a “sugar pill.” When placebos provide benefit, it is called a placebo effect. Placebos are employed in controlled clinical trials along with the active drug being tested. The difference in responses between the two drugs is considered the true effect of the active drug. Surgical trials can also utilize a placebo arm in which sham or simulated surgery is performed in the control group. The mechanism of how placebos provide benefit may be associated with release of dopamine in the brain.

Positron emission tomography (PET): A medical imaging technique in which radioactive isotopes that emit gamma rays are used. The radioactive substance is incorporated into a chemically active compound (a radiotracer, which could be a substrate for an enzyme or a ligand that binds to neurotransmitter receptors) utilized by an organ in the body. The emitted gamma rays are detected by a special camera/scanner. These radioactive strikes on the camera are analyzed by a computer to produce an image to localize where that ligand is located in the organ being studied. Fluorodeoxyglucose (FDG) measures regional metabolism of glucose (sugar); fluorodopa (F-DOPA) is taken up in dopamine nerve terminals. The amount of uptake serves as a measure of the integrity of these nerve terminals. Other radiotracers may bind to neurotransmitter receptors (including those for dopamine) or to inflammatory cells etc.

PPMI – Parkinson’s Progression Markers Initiative: A study launched in 2010 by Michael J Fox Foundation to find biomarkers for PD; a landmark observational clinical study to comprehensively evaluate people with Parkinson’s disease and those at greater risk of developing the disease, as well as healthy controls.

Prion: An infectious agent composed entirely of protein material that can fold in multiple, structurally distinct ways, at least one of which is transmissible to other prion proteins, leading to that is similar to a viral infection.

Prodromal: the period between the appearance of initial symptoms and the full development symptoms.

Progressive Supranuclear Palsy (PSP): A rare degenerative brain disorder that causes serious and progressive problems with control of gait and balance, along with complex eye movement and thinking problems. A classic manifestation of the disease is the inability to move the eyes properly. PSP is one of the Parkinson-plus syndromes.

Protein: A class of food necessary for the growth and repair of the body tissues—examples include fish, meat, eggs and milk.

PwP: Person with Parkinson’s.

Reactive oxygen species (ROS): Chemically-reactive molecules containing oxygen that may trigger cell death. These are also called oxyradicals. These molecules are a cause of oxidative stress that may play a role in the pathogenesis of cell death of dopamine neurons. Oxyradicals are formed during regular cellular and mitochondrial metabolism. Defense mechanisms include naturally occurring reducing agents to neutralize the oxyradicals.

Receptor: A protein structure typically embedded in the cell membrane with which neurotransmitters and drugs interact.

REM (rapid eye movement) sleep behavior disorder (RBD): A sleep disorder that involves movement and abnormal behavior during the sleep phase with rapid eye movements - the stage of sleep in which dreaming occurs. In normal sleep, muscles are paralyzed during dreaming, except for the eye movements. In RBD, muscles are not paralyzed so that the dreamer acts out his or her dreams. RBD is common in people with Parkinson’s disease or MSA.

Restless leg syndrome (RLS): A neurological disorder characterized by unpleasant sensations in the legs, like the feeling of ants crawling underneath the skin. These sensations usually occur in the late evening and during sleep. Walking around relieves the sensation, hence the term “restless legs.” RLS interferes with sleep and is common in people with PD. Medications, such as dopamine agonists, levodopa and opioids, can be effective treatments.

Rigidity: A special type of muscle stiffness, which is one of the main symptoms of Parkinson’s disease. The muscles tend to pull against each other instead of working smoothly together.

Schwab and England Activities of Daily Living (ADL) Scale: An estimation of the abilities of a person’s degree of independence. The person (or a family member) can self-assess this as:

• 100% - Completely independent. Able to do all chores without slowness, difficulty or impairment.
• 90% - Completely independent. Able to do all chores with some slowness, difficulty or impairment. May take twice as long to complete.
• 80% - Independent in most chores. Takes twice as long. Conscious of difficulty and slowing.
• 70% - Not completely independent. More difficulty with chores. 3 to 4 times longer to complete chores for some. May take large part of day for chores.
PARKINSON’S DISEASE GLOSSARY

• 60% • Some dependency. Can do most chores, but very slowly and with much effort. Errors, some impossible.
• 50% • More dependent. Help with 1/2 of chores. Difficulty with everything.
• 40% • Very dependent. Can assist with all chores but few alone.
• 30% • With effort, now and then does a few chores alone or begins alone. Much help needed.
• 20% • Nothing alone. Can do some slight help with some chores. Severely invalid state
• 10% • Totally dependent, helpless.
• 0% • Vegetative functions such as swallowing, bladder/bowel function are not functioning. Bedridden.

Serotonin: A neurotransmitter that regulates mood, appetite, and sleep. It also has some cognitive functions, including memory and learning. The serotonin-containing neurons are in the brain stem. Serotonin is reduced in PD.

Shuffling gait: Refers to short, slow steps, with feet close to the ground or dragging along the ground. This gait is often seen in people with advanced Parkinson’s disease.

Side effects: A reaction to drugs, which is additional to the intended therapeutic actions. These unwanted extra effects are called side effects. Side effects vary in their severity from person to person, and often disappear when the body become used to a particular drug.

Single photon emission computed tomography (SPECT): A nuclear medicine tomographic imaging technique using gamma rays and able to provide 3D information, for instance on brain chemistry.

Sleep apnea: A sleep disorder characterized by abnormal pauses in breathing or instances of abnormally low breathing during sleep.

Sodium channel: Voltage gated channels in nerve cell membranes that allow the generation of action potentials. Sodium ions are important in generating the electrical impulses that travel down the dendrites and axons. After sodium enters the cell during this process, it needs to be pumped back out, via the so-called sodium-pump, a process that requires the utilization of cellular energy. Sodium channels may be a target for new drugs in Parkinson’s.

Speech and language therapist: Speech and language therapists treat problems associated with speech and swallowing. They can also advise on communication aids, which may sometimes be helpful.

Stem cells: Biological cells found in all multicellular organisms, that can divide (through mitosis) and differentiate into diverse specialized cell types and can self-renew to produce more stem cells. They are a potential line of treatment in Parkinson’s, either by directly replacing the old nigrostriatal neuronal cells or by creating growth factor releasing cells. Problems have arisen due to the inability to stop growth, which may cause tumor growth.

Striatum: A large cluster of nerve cells that are part of the basal ganglia. The striatum consists of two sectors: the caudate nucleus and the putamen. It controls movement, balance, and walking; the striatum receives nerve inputs from many parts of the brain including dopamine neurons from the substantia nigra and glutamate neurons from the cerebral cortex. Acetylcholine neurons are located within the striatum. The striatum contains the largest concentration of dopamine and acetylcholine in the brain.

Substantia nigra: (Latin for black substance). A brain structure located in the midbrain that plays an important role in reward, addiction, and movement. Parts of the substantia nigra appear darker than neighboring areas due to high levels of neuromelanin in dopaminergic neurons. The substantia nigra is the site of the brain’s major collection of dopamine neurons, which project their axons to the striatum, the so-called nigrostriatal pathway. These neurons slowly die in PD. The substantia nigra is part of the basal ganglia; the other parts of the basal ganglia include the striatum (caudate nucleus, putamen, and nucleus accumbens), globus pallidus, and subthalamic nucleus. The substantia nigra is made up of two parts: the pars compacta and the pars reticulata.

• Pars compacta: The part of the substantia nigra primarily involved in Parkinson’s. It contains dopamine neurons, and it is black due to the high concentration of neuromelanin within these neurons. (Parkinson’s disease is characterized by the death of dopaminergic neurons in the substantia nigra pars compacta)
• Pars reticulata: Part of the substantia nigra that serves both as the location of dendrites from the pars compacta, receiving nerve signals to the substantia nigra and also as an output, conveying signals to numerous other brain structures. These output neurons are mainly GABAergic neurons.

Subthalamic nucleus (STN): A small lens-shaped nucleus involved in movement control. As suggested by its name, the subthalamic nucleus is located below the thalamus. It is part of the basal ganglia. It receives input from the cerebral cortex and from the globus pallidus interna. It sends its output mainly to the globus pallidus externa and interna. It is a component of the “indirect pathway” within the basal ganglia. It is “overactive” in PD due to loss of inhibitory incoming fibers. It is a common target in deep brain stimulation for PD.

SWEDD – Scans Without Evidence of Dopamine Deficit: when individuals with early-stage Parkinson’s disease have normal dopaminergic functional imaging scans, these are called Scans Without Evidence of Dopamine Deficit.
**Synapse:** The narrow space between two neurons (axon to dendrite) or between a neuron and a muscle. Axons release neurotransmitters at the nerve terminal. The neurotransmitter crosses the synapse to activate or a receptor on the dendrite.

**Synaptic plasticity:** The ability of synaptic activity to modify and adapt to changes.

**Syndrome:** A group of symptoms that tend to occur together and which reflect the presence of a specific disorders or diseases. Parkinson syndrome, also called Parkinsonism, comprise a group of disorders with symptoms and signs in common, such as bradykinesia, rigidity, tremor, loss of postural reflexes, flexed posture and freezing of gait. A person with Parkinsonism does not need to have all of these but must have bradykinesia according to one diagnostic criterion. Disorders that fall within Parkinson syndrome include Parkinson’s disease, atypical Parkinsonism, drug-induced Parkinsonism, and normal pressure hydrocephalus.

**Tau proteins:** Proteins that stabilize microtubules. They are abundant in neurons in the central nervous system and are less common elsewhere. When tau proteins are defective, and no longer stabilize microtubules properly, they can result in dementia (including Alzheimer’s disease).

**Tauopathies:** A class of neurodegenerative diseases resulting from the pathological aggregation of tau protein in so-called neurofibrillary tangles (NFT) in the human brain. Besides Alzheimer’s, this is commonly seen in Pick’s disease, progressive supranuclear palsy (PSP) and corticobasal degeneration (CBD).

**Thalamus:** A midline paired symmetrical structure situated between the cerebral cortex and brain stem, both in terms of location and neurological connections. It relays sensory signals to the cerebral cortex and motor signals from the cortex to the spinal cord and brain stem.

**T.R.A.P.:** Acronym for four primary Parkinson’s disease symptoms:
- Tremor: Shaking of limb (usually hands) while they are at rest.
- Rigidity: Muscle stiffness and resistance to movement.
- Akinesis/bradykinesia: Slow movement or difficulty initiating voluntary body movements; Slowed ability to start and continue movements.
- Postural instability: Loss of postural stability can cause falls and produce a feeling of unsteadiness.

**Transcription factors:** Proteins in eukaryotes (cells which contain complex membrane-bound structures within the cell) that regulate the transcription of genes.

**Translation:** A step in protein biosynthesis wherein the genetic code transferred from DNA to messenger RNA (mRNA) is decoded to allow the formation of a protein molecule. The process is preceded by transcription.

**Tremor:** Involuntary shaking, trembling or quivering movements of the muscles. In Parkinson’s disease it is characteristically a resting tremor, which lessens with movement and is aggravated by stress. It can occur in any part of the body, although it often begins in one hand or arm. Although it is one of the main symptoms of Parkinson’s disease, not everyone will have a tremor.

**Tyramine-induced hypertension:** High blood pressure caused by an increase in tyramine in the blood, which forces noradrenaline/norepinephrine out of vesicles and into circulation. This is the so-called ‘cheese effect’ because some fermented cheeses (and other foods) contain high concentrations of tyramine. Normally, tyramine is broken down in the gut by MAO-A. When this enzyme is inhibited, the tyramine in food is able to enter the blood stream and produce its hypertensive crisis.

**Ubiquitin:** A small regulatory protein that is composed of 76 amino acids. It is involved in the degradation of damaged proteins. In Parkinson’s disease, it is believed that accumulation of damaged proteins ‘choke’ the cell leading to the eventual death of the cell.

**Unified Parkinson’s Disease Rating Scale (UPDRS):** A rating scale used to measure the severity of Parkinson’s disease. The UPDRS can follow a person’s worsening over time and also measure improvement with various treatments. The UPDRS is made up of the following sections:
- Part I: Evaluation of mentation, behavior, motivation and mood
- Part II: Self-evaluation of the activities of daily life (ADLs) including speech, swallowing, handwriting, dressing, hygiene, falling, salivating, turning in bed, walking, cutting food
- Part III: Clinician-scored motor evaluation
- Part IV: Measures some of the adverse effects (such as motor complications of “off” states and dyskinesias) of levodopa therapy in Parkinson’s disease

The UPDRS has been modified by the Movement Disorder Society to include more non-motor features of PD. This new version is called MDS-UPDRS.

**Vesicle:** An organelle in a cell that separates other molecules from the rest of the cell. In nerve terminals the vesicles are called synaptic vesicles. They store neurotransmitters, which are released into the synapse when the nerve fires.

**Wearable devices:** devices worn on the body, incorporating computers, electronics, software and/or sensors, often used to measure some aspect of function or physical manifestation, for example: activity trackers, accelerometers, gyroscopes etc.
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<td>David Vaillancourt</td>
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<td>Heather Zwickey</td>
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OREGON CONVENTION CENTER (OCC)

777 NE Martin Luther King, Jr. Blvd, Portland, Oregon 97232
www.oregoncc.org
HOTELS

1. Double Tree by Hilton Portland
2. Courtyard by Marriott Portland Downtown/Convention Center
3. Crowne Plaza Portland Downtown
4. Hilton Portland & Executive Tower
5. Quality Inn Downtown Convention Center
6. Eastlund Hotel Portland
7. Embassy Suites Downtown
8. Courtyard Marriott City Center
9. Portland Marriott City Center
10. Residence Inn by Marriott-Lloyd Center
As of July 2016, the following 194 partners from 45 countries have partnered with the WPC:

444 Parkinson’s Foundation
ACEPAR
AGILE: Chartered Physiotherapists Working With Older People
Agnosia Amigos de Parkinson
Africa Parkinson’s Disease Foundation
Albanian Society of Neurology
Alliance for Aging Research
American Association for Geriatric Psychiatry
American Association of Neuroscience Nurses
American Brain Coalition
American Neurological Association
American Parkinson Disease Association, Inc.
American Physical Therapy Association
American Society of Neuroimaging
American Speech Language Hearing Association
Antiparkinson Romanian Association
Argentine Neurological Society
Asociación de Familiares y Enfermos de Parkinson de Albacete
Asociación Mexicana de Trastornos de Movimiento
Asociación Parkinson Valencia
Asociación Provincial Parkinson Jaen
Asociación de Parkinson Catalana per al Parkinson
Asociación Brasil Parkinson (Brazilian Parkinson Disease Association)
Association of Physiotherapists in Parkinson’s Disease Europe
Association Tumiste Parkinson
Australasian Neuroscience Nurses Association
Austrian Parkinson’s Disease Society
Austrian Society of Neurology
Basal Ganglia Disorders Program
BMRI Parkinson’s Disease Research Clinic University of Sydney
Booth Gardner Parkinson’s Care Center
Brain Support Network
Brazilian Movement Disorders Group, Brazilian Academy of Neurology
Brian Grant Foundation
British B Irl Neurologist’s Movement Disorders Group
British Association of Neuroscience Nurses
British Geriatrics Society Movement Disorders Section
Brooklyn Parkinson Group
Bulgarian Neurological Society
California Institute for Regenerative Medicine
Canadian Movement Disorder Society
Caregiver Action Network
Clinical Centre for Research Excellence in Gait Analysis & Rehabilitation
Community Transcultural Support Services
Courageous Steps for Parkinson’s
Critical Path Institute
Croatian Organization of Patients with Movement Disorders
Croatian Parkinson’s and us Association
Cyprus Parkinson’s Disease Association
Dallas Area Parkinsonism Society
Dance for PD/Mark Morris Dance Group
DANMODS Dutch Movement Disorder Society
Davis Philmeny Foundation
Delta Hungarian Parkinson Association
Deutscher Parkinson Gesellschaft (German Parkinson Society)
Druzhbo Treptvetta, Parkinson’s Disease Society of Slovenia
Dutch Movement Disorders Group
Edmond J. Safra Philanthropic Foundation
Epikouros – Krissis
European Foundation for Health and Exercise
European Parkinson’s Disease Association
Fédération française des groupements de parkinsoniens
Finnish Parkinson Association
Fondazione Guglielmo per il Morbo di Parkinson
Friends of Parkinson’s Inc.
GZ Sobol’s Parkinson’s Network
Hong Kong Parkinson’s Disease Association
Hong Kong Parkinson’s Disease Foundation
Houston Area Parkinson Society
Indiana Parkinson Foundation
InMotion
International Association of Parkinsonism and Related Disorders
International Neurological Physical Therapy Association
Internationale Parkinson Fonds Nederland
Israel Parkinson Association (IPA)
Italian Association for Parkinson’s Disease and Extrapyramidal Disorders
Japan Parkinson Disease Association
Kaiser Permanent Northern California Neuroscience Movement Disorders Program
Kempeftzneckt Parkinson (German Parkinson Study Group)
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Korean Parkinson’s Disease Association
Legacy Health
Light of Day Foundation
Lithuanian Parkinson’s Disease Society
Litan Neurological Research Foundation
LSVT Global Inc.
Malaysian Parkinson’s Disease Association
Mazorwikie Stowarzyszenie Osób z Choroba Parkinsona
Meadowlark Hills Parkinson’s Program
Melvin Weinstein Parkinson’s Foundation
Melvin Yahr International Parkinson’s Disease Foundation
Michigan Parkinson Foundation
Move4Parkinson’s Foundation Limited
Movement Disorders Program-Kingston Centre-Southern
Movers & Shakers Inc.
Muhammad Ali Parkinson Center
Multiple Sclerosis and Parkinson’s Canterbury
National Alliance for Caregiving
National Parkinson Foundation
National Parkinson Foundation Central and Southeast Ohio
Negot Semblant Parkinson’s Society Malaysia
Neuro Challenge Foundation
Neuroscience Nursing Foundation
New Mexico Parkinson’s Disease Coalition
NIH National Institutes of Neurological Disorders and Stroke
Northwest Parkinson’s Foundation
Norwegian Parkinson Association
Pakistan Parkinson’s Society
ParkLife Australia Pty Ltd
Parkinson & Movement Disorder Alliance
Parkinson Alberta
Parkinson Association of the Carolinas
Parkinson Association of the Rockies
Parkinson Canada
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Parkinson Fonds Deutschland
Parkinson Foundation of the National Capital Area
Parkinson Patients Support Organization – Ethiopia
Parkinson Pipeline Project
Parkinson Research Consortium
Parkinson Research Foundation
Parkinson Selbsthilfe Österreich Dachverband
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Parkinson Study Group
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Parkinson Switzerland
Parkinson Vereniging
Parkinson Voice Project
Parkinson Wellness Recovery
Parkinson Young Onset Support Group of CT Inc.
Parkinson’s ACT Inc.
Parkinson’s Association of Ireland
Parkinson’s Association of San Diego
Parkinson’s Australia
Parkinson’s Awareness Association of Central Indiana
Parkinson’s Creative Collective
Parkinson’s Disease and Movement Disorder Society – India
Parkinson’s Disease and Related Disorders Association of South Africa
Parkinson’s Disease Foundation
Parkinson’s Disease Nurse Specialist Association
Parkinson’s Disease Society Singapore
Parkinson’s New South Wales Inc.
Parkinson’s New Zealand
Parkinson’s Queensland Inc.
Parkinson’s Resources of Oregon
Parkinson’s Resource Organization
Parkinson’s South Australia
Parkinson’s Tasmania Inc.
Parkinson’s UK
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Parkinson’s Western Australia
Parkinsonsonline Österreich
People Living with Parkinsons
People with Parkinson’s Inc.
Perak Parkinson’s Association
Persian Neurological Society
Power for Parkinson’s
Project Spark Foundation
Radio Parkes
Rock Steady Boxing Inc.
Run for Parkinson’s Global
Shake It Up Australia Foundation
Society of Indian Neurosciences Nurses
SOLAMA Sociedad Latinoamericanas de Movimientos
Southeast Parkinson Disease Association Inc.
Southland Multiple Sclerosis Society Inc.
Spoleconst Parkinson, o.s.
Spotlight YOPD
Stitching Parkinson’s On the Move
Struthers Parkinson’s Center
Summit for Stem Cell
Swedish Parkinson Research Foundation
Swedish Parkinson’s Disease Association (Parkinson Frohndeln)
Taiwan Neurological Society
Taiwan Parkinson Association
The Barbados Parkinson’s Trust & Support Group
The Cure Parkinson’s Trust
The International Parkinson and Movement Disorder Society
The Michael J. Fox Foundation for Parkinson’s Research
The Michael Stern Parkinson’s Research Foundation
The Movement Disorder Society of Australia
The Parkinson Alliance
The Parkinson Council
The Parkinson Life Center of Southern New Jersey
Turkish Society of Parkinson’s Disease
Unidos Contra el Parkinson
VA Parkinson’s Disease Research, Education and Clinical Center
Well Spouse Association
Wilkins Parkinson’s Foundation
Wisconsin Parkinson Association
World Confederation for Physical Therapy
World Federation of Neuroscience Nurses
World Parkinson’s Disease Association
World Parkinson’s Education Program

For more information on these organizations, please visit: www.worldpdcoalition.org/partners
# ACKNOWLEDGEMENTS

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  - National Institute of Neurological Disorders and Stroke
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- 444 Parkinson’s Foundation
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- LSVT Global
- Northwest Parkinson Foundation
- Parkinson Canada
- Parkinson Creative Collective
- Stephen McCarthy & Lucinda Parker McCarthy
- The Kenneth Aidekman Family Foundation

### FRIENDS
- Patricia Davies
- Robert Gardino, MBA
- Leonore Gordon

# WPC 2016

PORTLAND, OREGON, USA

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The World Parkinson Coalition thanks you for your support and invites you for WPC2019 in Kyoto, Japan, in June 2019!

World Parkinson Coalition Inc.
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