**Introduction**

You will notice that the timing of events for this year’s Annual Meeting is a bit different than the typical conference schedule. We have made a concerted effort to make the meeting as accessible as possible for all attendees around the globe. With this in mind, each day of the Annual Meeting has been split between an ‘early’ session (morning in North America, afternoon in Europe) and a ‘late’ session (evening in North America, morning in Asia/Australia), with a break mid-day. This way, more attendees will hopefully be able to access to the conference events.

Of course, no one time works well for everyone, so this schedule is asking for some compromises from all. Thank you for your understanding, and we are looking forward to an outstanding SPR Annual Meeting!

Dan Foti
2021 Program Chair

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**Pre-conference Workshops**

**Sunday, October 10, 2021**

11:00 a.m.-3:00 p.m. EDT; 3:00 p.m.-7:00 p.m. UTC

**Pre-conference Workshop 1: Mini ERP Bootcamp**
Organizers/Presenters: Steven Luck, PhD
University of California, Davis

Event-related potentials (ERPs) are one of the most commonly used noninvasive measures of human brain activity. This workshop will provide a practical introduction to using ERPs to answer questions about sensory, cognitive, affective, and motor processes in basic science and clinical research. The goal of the workshop is to provide you with a sufficiently detailed overview so that you can fully understand and evaluate published ERP studies and start on the road to conducting your own ERP studies. It is designed for beginning and intermediate ERP researchers—at any career stage—who would like to obtain a firm grasp of the fundamentals of ERP research.

**Outline of Workshop:**

A. What are ERPs and How are They Generated?
B. Examples and Advantages of the ERP Technique
C. Common ERP Components
D. EEG Data Acquisition
E. Artifact Rejection and Correction
F. Design and Interpretation of ERP Experiments
G. Standard ERP Processing and Analysis Steps

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**Tuesday, October 12, 2021**

9:00 a.m.-1:00 p.m. EDT; 1:00 p.m.-5:00 p.m. UTC

**Pre-conference Workshop 2: Ambulatory Psychophysiological Methods: Devices, Measures and Data Considerations**
Organizers/Presenters: Jolie Wormwood, PhD¹, Karen Quigley, PhD², Prof. Dr. Eco de Geus³, Sarah Ostadabbas, PhD³, and Katie Hoemann, PhD⁴

¹University of New Hampshire, ²Northeastern University, ³Vrije Universiteit Amsterdam, ⁴Katholieke Universiteit Leuven

This workshop will provide an overview of the design and data processing considerations particular to collecting peripheral psychophysiological measures in ambulatory settings, including skin conductance, cardiac and hemodynamic measures (e.g., heart rate, heart rate variability, pre-ejection period, cardiac output), and respiration. It is intended for students and faculty who are relatively new to ambulatory monitoring, but interested in incorporating these methods into their research. The first half-day will feature 45-minute lectures from subject matter experts followed by individual Q&A sessions. Lectures will focus on research design and data collection considerations specific to ambulatory psychophysiological studies, including an in-depth discussion of device selection and an introduction to data processing considerations (e.g., time synchronization, artifact detection/rejection, data loss). The second half-day will feature detailed discussions of two example studies involving ambulatory monitoring: one involving testing and validation of ambulatory devices, and one involving physiologically-triggered experience sampling using a wired ambulatory device. The workshop will conclude on the second day with a moderated panel discussion featuring all presenters, followed by individual salon-style breakout groups where participants will be able to meet with presenters to ask more specific research questions one-on-one. Participants are encouraged to bring their own ambulatory study design and analysis questions to be discussed during the panel discussion and breakout groups. The goal is for participants to leave the workshop with the knowledge and resources to design and implement a study utilizing ambulatory recordings of peripheral physiological data.

**Schedule:**

**Day 1: Design and Data Collection (3.5 hrs total)**

A. Research Design (Dr. Katie Hoemann)
B. Device Selection (Dr. Karen Quigley)
C. Overview of Data Processing (Dr. Sarah Ostadabbas)
Day 2: Illustrative Studies and Panel Discussion (3.5-4 hrs total)
A. Validating New Technology (Dr. Eco de Geus)
B. Physiologically-triggered Experience Sampling (Dr. Jolie Wormwood)
C. Moderated Panel Discussion (all presenters)
D. Salon-style Breakout Rooms (all presenters, separately)

11:00 a.m.-3:00 p.m. EDT; 3:00 p.m.-7:00 p.m. UTC
Pre-conference Workshop 2: Mini ERP Bootcamp

Pre-conference Workshop
Wednesday, October 13, 2021

9:00 a.m.-1:00 p.m. EDT; 1:00 p.m.-5:00 p.m. UTC
Pre-conference Workshop 2: Ambulatory Psychophysiological Methods: Devices, Measures and Data Considerations (continued)

11:00 a.m.-3:00 p.m. EDT; 3:00 p.m.-7:00 p.m. UTC
Pre-conference Workshop 1: Mini ERP Bootcamp (continued)

11:00 a.m.-3:00 p.m. EDT; 3:00 p.m.-7:00 p.m. UTC
Pre-conference Workshop 3: Multilevel Modeling for Psychophysicists
Organizer/Presenter: Elizabeth Page-Gould, PhD
University of Toronto

Outline of Workshop:
A. Introduction
B. Background Concepts
C. MLM Theory
D. Conducting an MLM Analysis Step-by-step
E. Reporting MLM Results
F. Advanced Applications
   a. Effect Size and Power with MLM
   b. Moderation in MLM
   c. Multilevel Mediation
   d. N-level Models
   e. Nested Growth Curves
f. Generalized MLM Models
g. Poisson MLM
h. Logistic MLM
i. Bootstrapping MLM Models
j. Cross-classified Models

Main Meeting - Day 1
Thursday, October 14, 2021

8:30 a.m.-10:00 a.m. EDT; 12:30 p.m.-2:00 p.m. UTC
Big Ideas Session: Physical & Mental Health

- Can Inhibitory Control Training Reduce Weight and Caloric Intake? A Randomized Controlled Event-related Potential Study
  Kaylie Carbine¹, James LeCheminant², Scott Baldwin², Chad Jensen², C. Brock Kirwan², and Michael Larson²
  ¹California State University Dominguez Hills, ²Brigham Young University

- Using Brain Event-related Potentials to Differentiate Distinct Symptom Facets of Alcohol Use Disorder
  Keanan Joyner¹, Ashley Watts², and Christopher Patrick¹
  ¹Florida State University, Tallahassee, ²University of Missouri, Columbia

- Fatigue is Associated with Diminished Cardiovascular Response to Anticipatory Stress in Patients with Coronary Artery Disease
  Julija Gecaite-Stonciene¹, Brian Hughes¹, Julius Burkauskas¹, Adomas Bunevicius¹, Nijole Kazukauskiene¹, Lissane van Houtum¹, Julija Brozaitiene¹, Julius Neverauskas¹, and Narseta Mickuviene¹
  ¹Lithuanian University of Health Sciences, ²National University of Ireland, Leiden University

- A Three-week Executive Control Training Enhances Interference Control and Reduces ERN Amplitudes in Patients with OCD
  Rosa Grützmann¹, Norbert Kathmann¹, and Stephan Heinzel²
  ¹Humboldt University Berlin, ²Freie Universität Berlin

- Prolonged Positive Emotional Responses Measured with Facial EMG: A Measure of Resilience
  Stacey Schaefer, Lauren Gresham, Sterling Johnson, and Richard Davidson
  University of Wisconsin, Madison

8:30 a.m.-10:00 a.m. EDT; 12:30 p.m.-2:00 p.m. UTC
Symposium 1.1
Facial Expressions: From Low-level Physical Parameter to Social Actions
Session Chair: Florian Bublatzky
Central Institute of Mental Health

- Parameter-specific Face and Voice Morphing: Perspectives for Investigating Emotional and Social Perception and Interaction
  Stefan Schweinberger, Celina von Eiff, Jürgen Kaufmann, Andrea Kowallik, Christine Nussbaum, Ayaka Tsuchiya, and Verena Skuk
  Friedrich Schiller University

- Understanding Dynamic Facial Expression Communication Across Cultures Using Data-driven Methods
  Rachael Jack, University of Glasgow
Processing of Fear-gaze Combinations Under Threat-of-scream Procedure
Morgan Beaurenaut, Gaïa Ozeray, Emilie Meaux, Guillaume Dezecache, and Julie Grèzes
1PSL Research University, 2Université Clermont Auvergne

Vicarious Learning and Reversal of Threat and Safety Associations: The Role of Gender and Facial Expressions
Florian Bublatzky, Andreas Olsson, Tana Spethmann, Maïke Haag, and Sabine Schellhaas
1Central Institute of Mental Health, 2Karolinska Institute

Action Decisions to Social Threat
Julie Grèzes and Rocco Mennella
PSL University

8:30 a.m.-10:00 a.m. EDT; 12:30 p.m.-2:00 p.m. UTC
Symposium 1.2
To Generalize or Not to Generalize: An Overview on Subclinical, Pathological and Protective Mechanisms Involved in Generalization Processes
Session Chair: Marta Andreatta
Erasmus University Rotterdam and University of Wuerzburg

Neural Reinstatement Promotes Context-independent Extinction Generalization
Joseph Dunsmoor, Augustin Hennings, Mason McClay, and Jarrod Lewis-Peacock
University of Texas, Austin

Trait Anxiety Hampers the Differentiation Between Threat and Safety Context
Matthias Wieser, Yannik Stegmann, Marta Andreatta, Paul Pauli
1Erasmus University Rotterdam, 2University of Wuerzburg

Anxiety Sensitivity as Mediator for Generalization of Conditioned Anxiety
Marta Andreatta, Dorothea Neueder, Hannah Genheimer, Matthias Wieser, and Paul Pauli
1Erasmus University Rotterdam, 2University of Wuerzburg

Overgeneralization of Conditioned Fear in PTSD can be Reduced with Sufficient Learning Trials
Shmuel Lissek, Abbey Hammel, and Nathaniel Helwig
University of Minnesota, Twin Cities

10:00 a.m.-11:30 a.m. EDT; 2:00 p.m.-3:30 p.m. UTC
President’s Symposium on Diversity, Equity, and Representation
Sponsored by the WISE and the Diversity and Outreach Committee
Session Chair: Lisa Gatzke-Kopp
Pennsylvania State University

Recognition Proficiency, Implicit Racial Bias, and Early Face-sensitive ERP Responses
Gizele Anzures and Melissa Mildort
Florida Atlantic University

Examining the Effects of (Mixed) Race on Pain Perception, Evaluation, and Treatment Using the P300 in a Modified Oddball Task
Catherine J. Norris, Elena Do, Elise M. Cummings, and Peter Mende-Siedlecki
1Swarthmore College, 2University of Delaware

Do Trait Psychological Characteristics Moderate Sympathetic Arousal to Racial Discrimination Exposure in a Natural Setting?
Elizabeth Jelsma, Bridget Goosby, and Jacob Cheadle
University of Texas, Austin

Angry in America: Psychophysiological Responses to Unfair Treatment
Julian Thayer, Luca Carnevali, Andrea Sgoifo, and DeWayne Williams
University of California, Irvine

11:30 a.m.-1:00 p.m. EDT; 3:30 p.m.-5:00 p.m. UTC
Symposium 2.1
Studying Dynamic Emotion Processing Disruptions in Psychiatric Disorder: A Research Framework that Improves Translation to Clinical Impact
Christopher T. Sege and Evan J. White
1Medical University of South Carolina, 2Laureate Institute for Brain Research

Discussant: Lisa M. McTeague
Medical University of South Carolina

Picture Viewing as a Template for a Dynamic Systems Approach to Investigating Disrupted Emotional Processing
Evan White, Christopher Sege, and DeMond Grant
1Laureate Institute for Brain Research, 2Medical University of South Carolina, 3Oklahoma State University

Coping in the Clinic: Effects of Clinically Elevated Anxiety on the Dynamic Mechanisms of Avoidance and Escape Preparation
Christopher Sege, James Lopez, Holly Fleischmann, and Lisa McTeague
Medical University of South Carolina

Individual Differences in Error Monitoring After Conditioned Contextual Threat
Danielle Taylor, Jacob Kraft, Kristen Frosto, Danielle Deros, Kaitlyn Nagel, and DeMond Grant
1University of Maryland, College Park, 2University of Delaware

Electrophysiological Measures of Reward Sensitivity in Gambling and Non-gambling Contexts
Emilio Valadez and Robert Simons
1University of Maryland, College Park, 2University of Delaware

11:30 a.m.-1:00 p.m. EDT; 3:30 p.m.-5:00 p.m. UTC
Symposium 2.2
Bursts of the Brain: Rethinking the Structure and Function of Beta and Gamma Oscillations
Session Chair: David Cole
Ausblick Therapie

Discussant: David Cole
Ausblick Therapie
Dynamic Modulation of Subthalamic Beta Bursts and Motor Performance
Flavie Torrecillos
University of Oxford

Differential Inputs to Deep and Superficial Lamina Drive Beta Bursts in Human Motor Cortex
James Bonaluto
Le Centre National de la Recherche Scientifique

The Effects of Proactive and Reactive Inhibitory Control on Sensorimotor and Fronto-central Beta-bursts in Healthy Humans
Jan Wessel
University of Iowa

The Network Determinants of Gamma Burst Frequency and Duration
André Longtin and Arthur Powanwe
University of Ottawa

11:30 a.m.-1:00 p.m. EDT; 3:30 p.m.-5:00 p.m. UTC Symposium 2.3

David Shapiro: His Life, Legacy, and Influence on Psychophysiology
Session Chair: Julian F. Thayer
University of California, Irvine

A Review of Heart Rate Variability Biofeedback Studies
Paul Lehrer
Robert Wood Johnson Medical School, Rutgers University

Pioneering the Combination of Ambulatory Physiology with Ecological Momentary Assessment: From Paper and Pencil to Electronic Diaries
Cristina Ottaviani
Sapienza University of Rome

Ethnic Differences in Blood Pressure: The Role of Vascular Factors
Julian F. Thayer
University of California, Irvine

4:00 p.m.-5:00 p.m. EDT; 8:00 p.m.-9:00 p.m. UTC Invited Address
The Social Neuroscience of Prejudice
David Amodio, PhD
Professor of Psychology and Neural Science, New York University Professor of Social Psychology, University of Amsterdam

5:00 p.m.-6:30 p.m. EDT; 9:00 p.m.-10:30 p.m. UTC Big Ideas Session: Psychophysiology Across the Lifespan

Childhood Family Stress and Women's Health: Respiratory Sinus Arrhythmia Stress Reactivity as Risk and Resilience Factors
Li Shen Chone, Anna Yeo, and Betty Lin
University of Albany, State University of New York

Cerebrovascular Reactivity in Aging: Measures of Timing and Amplitude Predict Brain and Cognitive Health
Benjamin Zimmerman, Kathy Low, Grace Clements, Daniel Bowie, Hannah Jones, Samantha Rubenstein, Gabriele Gratton, and Monica Fabiani
University of Illinois, Urbana-Champaign

Transient Dynamics of Resting-state MEG Networks in Cognitive Ageing
Roni Tibon, Kamen Tsvetanov, Darren Price, David Nesbitt, and Richard Henson
University of Cambridge

Age-related Reductions in Neural Selectivity: Evidence from EEG
Rachelle Pichot, Daniel Henreckson, Morgan Foley, and Joshua Koen
University of Notre Dame

Aperiodic EEG Power Spectrum Predicts ADHD Risk in Infancy and Adolescence
Sarah Karalunas1, Brendan Ostlund2, McKenzie Figuracion3, Hanna Gustafsson2, Dan Foti4, Joel Nigg5, and Elinor Sullivan5
1Purdue University, 2Pennsylvania State University, 3Oregon Health & Sciences University

Maintaining Negative Information in Working Memory Modulates Frontoparietal Activity During Aversive Anticipation
Daniel Stout1,2, Jessica Bomyea1,2, Victoria Risbrough1,2, and Alan Simmons1,2
1University of California, San Diego, 2VA San Diego Healthcare System

The Right DLPFC Plays a Mechanistic Role in the Interaction Between Anxiety and Cognition
Nicholas Balderston1, Monique Ernst2, and Christian Grillon2
1University of Pennsylvania, 2National Institutes of Health

Associations Between Worry and Verbal Working Memory are Dependent on Estradiol
Nazanin Derakhshan and Bethany Chapman
Michigan State University

Error-related Negativity and its Relationship with Anxiety in Brance Cancer: Implication for Targeting Attentional Control
Nazanin Derakhshan1, Bethany Chapman1, Jessica Swainston1, Courtney Louis2, and Jason Moser1
1Birkbeck University of London, 2Michigan State University
Symposium 3.2
Suicidal Thoughts, Behaviors, and Their Relationship to Neural Functions
Session Chairs: Greg Hajcak and Thomas Joiner
Florida State University

Discussant: Greg Hajcak
Florida State University

Neurophysiological Response to Reward and Suicidality in Adolescents
Samantha Pegg and Autumn Kujawa
Vanderbilt University

Are There Neural Differences Between Those with Suicidal Thoughts and Behaviors and Non-suicidal Controls? An Examination of the REWP, LPP, ERN, and P300 in Depression
Austin Gallyer1, Nicholas Santopetro1, Marielle Gomez2, Julia Klawohn2, Thomas Joiner1, and Greg Hajcak1
1Florida State University, 2Humboldt-Universität zu Berlin

Reward Sensitivity Abnormalities in Suicidal Thoughts and Behaviors: The Importance of Reinforcement Valence
Brian Albanese1 and Norman Schmidt2
1Auburn University, 2Florida State University

Multimodal Neuroimaging of Suicidal Thoughts and Behaviors in a U.S. Population-based Sample of School-aged Children
Pablo Vidal-Ribas1, Delfina Janiri2, Gaelle Doucet3, Narun Pompattananangkul4, Dylan Nielson5, Sophia Frangou6,7, and Argyris Stringaris8
1National Institutes of Health, 2Sapienza University of Rome, 3Boys Town National Research Hospital, 4University of Otago, 5National Institute of Mental Health, 6Icahn School of Medicine at Mount Sinai, 7University of British Columbia

6:30 p.m.-8:00 p.m. EDT; 10:30 p.m.-12:00 a.m. UTC
Journal of Psychophysiology Workshop
Submitting Registered Reports to Psychophysiology

Symposium 4.1
Functional Correlates of the Stimulus-preceding Negativity (SPN)
Session Chairs: Steven Hackley and Ya Zheng1
1University of Missouri, Columbia, 2Dalian Medical University

Stimulus Modality and Contents Differently Affect SPN Cortical Distributions and Components
Yasunori Kotani1, Yoshimi Ohgami1, Nobukiyo Yushida1, Akira Kunimatsu1, Shigeru Kiryu1, and Yusuke Inoie1
1Tokyo Institute of Technology, 2University of Tokyo, 3International University of Health and Welfare, 4Kitsato University

Decomposing the Effort Paradox During Reward Anticipation
Ya Zheng and Mang Zhang
Dalian Medical University

SPN and Predictive Coding During Reinforcement Learning
Steven Hackley1, Sabrina Bhangu1, Shreya Sharma1, Xi Ren1, and Fernando Valle-Inclan2
1University of Missouri, Columbia, 2University of La Coruna

8:00 p.m.-9:30 p.m. EDT; 12:00 a.m.-1:30 a.m. UTC
Poster Session 1

Main Meeting - Day 2

Friday, October 15, 2021

8:30 a.m.-10:00 a.m. EDT; 12:30 p.m.-2:00 p.m. UTC
Poster Session 2

10:00 a.m.-11:00 a.m. EDT; 2:00 p.m.-3:00 p.m. UTC
Invited Address
Oscillatory Brain Activity in Humans: Selection, Suppression, Neural Sequestration and the Resolution of Environmental Competition
John J. Foxe, PhD
Killian J. and Caroline F. Schmitt Chair in Neuroscience, Director, The Ernest J. Del Monte Institute for Neuroscience, Director, The University of Rochester Center for Brain Imaging, Professor & Chairperson, Department of Neuroscience
University of Rochester School of Medicine and Dentistry
11:00 a.m.-12:30 p.m. EDT; 3:00 p.m.-4:30 p.m. UTC
Presidential Symposium: Understanding Psychophysiological Processes within a Developmental Science Framework
Session Chair: Kristin A. Buss
The Pennsylvania State University
Discussant: Adele Diamond
University of British Columbia
Towards a Social Neuroscience of Human Attachment
Pascal Vrtička
University of Essex, Colchester (UK)
Psychophysiological Tools for Understanding Developmental Change in Children and Adults
Rebecca J. Brooker
Texas A&M University
Development, ERPs, and RDoC: Identifying Pathways to Psychopathology
Isaac T. Petersen, Alexis Hosch, and Eliot Hazeltine
University of Iowa
Psychophysiological Emotion Regulation and Digital Technology Use in Anxious Adolescents
Sarah Myruski1, Jennifer DeRutte2,3, Amy K. Roy4,5, Tracy A. Dennis-Tiwary2,3
1The Pennsylvania State University, 2Hunter College, CUNY, 3The Graduate Center, CUNY, 4Fordham University, 5NYU Langone School of Medicine
12:30 p.m.-2:00 p.m. EDT; 4:30 p.m.-6:00 p.m. UTC
Big Ideas Session: Social & Cognitive Processes
Physiological Influence in Doctor-patient Interactions
Marta Vigier1,2, Kathrine Thorson3, Elisabeth Andritsch1, Clemens Farkas1, Andreas Schroerdtfeger2,4
1Medical University of Graz, 2University of Graz, 3Barnard College of Columbia University, 4BioTechMed Graz
How the Heart Helps to Deal with Unfamiliar Others – Resting Heart Rate Variability's Benefits for Distanced Social Interactions
Heidi Maurersberger1, Till Kastendieck2, Anna Czarna2, and Ursula Hess1
1Humboldt-Universität zu Berlin, 2Jagiellonian University, Kraków
Can I See Your Open Face? Openface 2.0 as an Alternative to Electromyography for Studying Facial Mimicry of Mask-Covered Faces During the COVID-19 Pandemic
Till Kastendieck, Stephan Zillmer, and Ursula Hess
Humboldt-Universität zu Berlin
Everybody Gets a Second Chance, the Circumstance to Get Rejected? The Influence of a Second Offer in the Ultimatum Game on Decision Making and EEG Feedback Responses
Johannes Rodrigues1, Martin Weiß2, Patrick Mussel3, and Johannes Hewig1
1Julius-Maximilians Universität Wurzburg, 2Universitätsklinikum Würzburg, 3Freie Universität Berlin
Effects of Nature Exposure on EEG Indices of Cognitive Control
Sara LoTemplio1, Ty McKinney1, Amy McDonnell1, Emily Scott1, Spencer Castro2, Kevin Greenberg1, David McNay1, Brennan Payne1, Matt Euler1, and David Strayer1
1University of Utah, Salt Lake City, 2University of California, Merced
12:30 p.m.-2:00 p.m. EDT; 4:30 p.m.-6:00 p.m. UTC
Symposium 5.1
State Affect Influences in Event-related Potential Research: Considerations for Understanding Internalizing and Externalizing Psychopathology
Session Chair: Brian Albanese
Auburn University
Discussant: Anna Weinberg
McGill University
Cognitive Control Under Stress in PTSD: Cross-sectional and Prospective Evidence from the P3 in Two Clinical Samples
Brian Albanese1, Hailey Fox1, and Norman Schmidt2
1Auburn University, 2Florida State University
Difficulties in Regulating Emotion: The Effect on Intraindividual Change in the Late Positive Potential
Sierra Flynt1, Annmarie Huet1, Caroline Gooch1, Nicholas Allan1, Norman Schmidt2
1Ohio University, 2Florida State University
Acute Stress Modulation of the Cannabis Cue-elicited Late Positive Potential: Towards a Novel Biomarker of Cannabis Use Disorder Severity and Chronicity
Richard Macatee, Kaveh Afshar, and Meghan Carr
Auburn University
Affective Context, Prior Experience and Agency: Effects on Cognitive Reappraisal and Error Monitoring
Annmarie MacNamara, Michael Imburgio, and Elizabeth Bauer
Texas A&M University
12:30 p.m.-2:00 p.m. EDT; 4:30 p.m.-6:00 p.m. UTC
Symposium 5.2
Beyond Grand Averaging: Using Single-trials ERPs to Study Within-person Variation in Neurocognitive Processes
Session Chairs: Hannah Volpert-Esmond1 and Bruce D. Bartholow2
1University of Texas, El Paso and 2University of Missouri, Columbia
Discussant: Elizabeth Page-Gould, University of Toronto
Race and Gender Categorization of Faces: The Benefit of Examining Within-person Variation
Hannah Volpert-Esmond1 and Bruce Bartholow2
1University of Texas, El Paso and 2University of Missouri, Columbia
A Trial-level Analysis of Anxiety, Depression, and Negative Performance-related ERPs
Margaret Tobias and Tiffany Ito
University of Colorado, Boulder
An Examination of Single-trial Late Positive Potentials to Socially-relevant Images in Probands with Psychosis, Their Siblings, and Controls: A Multilevel Modeling Approach
Peter Clayson¹, Jonathan Wynn², Michael Green², and William Horan³
¹University of South Florida, ²VA Greater Los Angeles Healthcare System, ³VeraSci

Using Reinforcement Prediction Errors to Filter the Information Content From Single Trial EEG
James Cavanagh
University of New Mexico

2:00 p.m.-3:30 p.m. EDT; 6:00 p.m.-7:30 p.m. UTC
Symposium 6.1

Neural Correlates of Error Monitoring as Markers of Risk, Mechanisms, and Trajectories of Mental Disorders
Session Chairs: Anja Riesel¹ and Julia Klawohn²
¹University Hamburg, ²Humboldt-Universität zu Berlin

Discussant: Michael J. Larson
Brigham Young University

Error-related Negativity and Polygenetic Risk for OCD
Julia Klawohn¹, Anja Riesel¹, and Norbert Kathmann¹
¹University Hamburg, ²Humboldt-Universität zu Berlin

From Risk to Illness: Mapping Pathways to Anxiety by Examining Associations Between Life Stress and the Error-related Negativity
Anna Weinberg, Iulia Banica, and Aislinn Sandre
McGill University

The Predictive Validity of the Error-related Negativity for COVID-19 Related Risk, Stress, and Symptoms
Anja Riesel¹, Kai Härpfer, Norbert Kathmann, and Julia Klawohn¹
¹University Hamburg, ²Humboldt-Universität zu Berlin

Neural Indicators of Performance Monitoring in Depression: The Error-related Negativity and Reward Positivity as Targets and Predictors of Response to Aerobic Exercise
C.J. Brush¹, Greg Hajcak¹, and Brandon Alderman²
¹Florida State University, ²Rutgers University

5:00 p.m.-6:30 p.m.; 9:00 p.m.-10:30 p.m. UTC
Faces of the Future Flash Talks

6:30 p.m.-8:00 p.m.; 10:30 p.m.-12:00 a.m. UTC
SPR Anniversary Event: Past Early Career Award Symposium
Session Chair: Terry Blumenthal, PhD
Wake Forest University

Speakers:
Greg Hajcak, PhD
Florida State University

Sharna Jamadar, PhD
Monash University

Cristina Ottaviani, PhD, PsyD
Sapienza University of Rome

Heleen Slagter, PhD
Vrije Universiteit Amsterdam

6:30 p.m.-8:00 p.m. EDT; 10:30 p.m.-12:00 a.m. UTC
Big Ideas Session: Health & Aging

Examining Psychophysiological Indices of Affective Chronometry Across the Lifespan Using Midus Data
Anna Finley¹, Carien van Reekum², Richard Davidson¹, and Stacey Schaefer¹
¹University of Wisconsin, Madison, ²University of Reading

Frontal-Cerebellar EEG Source Localization and Functional Connectivity During Inhibitory Control Differentiates Healthy Elders by Apolipoprotein-E ε4: A Pilot Study
Elizabeth Paitel and Kristy Nielsen
Marquette University

Resonance Breathing can Improve Interoceptive Awareness
Mateo Leganes-Fonteneau, Marsha Bates, Evgeny Vashchillo, and Jennifer Buckman
Rutgers University

Augmented Reality for Psychophysiology and Psychotherapy: Current Reality and Future Possibilities
Travis Baker¹, Omer Liran², Jaleesa Stringfellow¹, and Mei-heng Lin¹
¹Rutgers University, ²Cedars-Sinai Medical Center

Using the LPP and P3B to Capture Automatic Associations of Exercise-related Images
Andrew A. Ude¹, Hannah Purdue¹, Sayaka Carpenter¹, Matthew Miller², and Brandon Alderman¹
¹Rutgers University, ²Auburn University

8:00 p.m.-9:30 p.m. EDT; 12:00 a.m.-1:30 a.m. UTC
Symposium 7.1

The Brain in Control: Investigation of Individual Differences in Cognitive Control
Session Chairs: Gabriele Gratton and Monica Fabiani
University of Illinois, Urbana-Champaign

Inhibitory Control Deficits in Healthy Aging and Lesion Patients as Identified by Bayesian Modeling and Beta-bursts
Jan Wessel, Yoojeong Choo, Dora Matzke, Mark Bowren, and Daniel Tranel
University of Iowa

Cognitive Control and Neurodevelopment in Psychotic Disorders
Cameron Carter, Jason Smucny, Joyce Guo, Tyler Lesh, Tara Niendam
University of California, Davis

Jointly Modeling Brain and Behavior to Derive Neurometric Measures of Proactive Cognitive Control
Frini Karayanidis¹, Fayeem Bin Aziz¹, Guy Hawkins¹, Montana McKewen¹, and Mark Steyvers²
¹University of Newcastle, ²University of California, Irvine
Not Only Theta: Complementary Roles of Theta and Alpha Oscillations in Cognitive Control
Gabriele Gratton, Grace Clements, Daniel Bowie, Kathy Low, and Monica Fabiani
University of Illinois, Urbana-Champaign

8:00 p.m.-9:30 p.m. EDT; 12:00 a.m.-1:30 a.m. UTC
Big Ideas Session: Interpersonal Psychophysiology

A Friendly Touch Supports, a Cold Touch Frightens: Social Support During Instructed Fear of Shock
Stephen Benning1 and Stephany Molina2
1University of Nevada, Las Vegas, 2Bridgewater State Hospital

Sweating the Big Stuff: Arousal and Stress as Functions of Self-uncertainty and Identification
Joshua Brown1, Zachary Hohman1, Elizabeth Niedbala2, and Alec Stinnett1
1Texas Tech University, 2U.S. Army Aeromedical Research Laboratory

Magnitude and Length, But Not Pattern, of Physiological Linkage Predict Communication of Emotion Via Touch
Heather Kissel, Mikaley Bolden, Prisha Thapar, Alyssa Tsui, and Bruce Friedman
Virginia Tech

Interoceptive Awareness Moderates the Influence of Affect in Social Perception
Jolie Wormwood
University of New Hampshire

Effects of Neural Synchrony on Reactions to Intergroup Threat: Preliminary Evidence
Bettina J. Casad1, Jillian E. Franks1, Zachary W. Petzel2, Melinda M. Kittleman1, Christina E. Garasky1, and Taylor R. Jancetic1
1Texas A&M University, 2University of Georgia

9:30 p.m. EDT; 1:30 a.m. UTC
Student Social

Main Meeting - Day 3 and Post-conference Workshop

Saturday, October 16, 2021

8:30 a.m.-10:00 a.m. EDT; 12:30 p.m.-2:00 p.m. UTC
Symposium 8.1
Turning Threat into Safety: A Variety of Emotional Manipulations and Their Underlying Neuronal Mechanisms
Session Chairs: Barbara Schmidt1 and Matthias F.J. Sperl2
1University of Jena, 2University of Marburg

Pharmacological Modulation of Threat and Safety: Noradrenaline Potentiates Conditioned Fear Bradycardia and N170/LPP ERP Amplitudes
Matthias Sperl1,2, Christian Panitz1, Nadine Skoluda4, Urs Nater4, Diego Pizzagalli1, Christiane Hermann4, and Erik Müller1
1University of Marburg, 2University of Gießen, 3Harvard Medical School, 4University of Vienna

Threat Controllability, Picture Processing and Error Salience
Elizabeth Bauer1, Gina Thomas2, and Annmarie MacNamara1
1Texas A&M University, 2University of Georgia

Hypnotic Suggestions of Safety in the Lab and in the Intensive Care Unit
Barbara Schmidt
University of Jena

Lateral Prefrontal Goal Representations Causally Influence Behavioral Avoidance: A TMS/fMRI Study
Regina Lapate1, Marisa Heckner2, Audrey Phan3, Mark D’Esposito1
1University of California, 2Research Center Juülich, 3University of Berkeley

8:30 a.m.-10:00 a.m. EDT; 12:30 p.m.-2:00 p.m. UTC
Symposium 8.2
Open and Reproducible Science in Psychophysiological Research – Challenges and Emerging Solutions
Session Chair: Tina Lonsdorf
University Medical Center Hamburg-Eppendorf

A Data-processing Multiverse Analysis of Event-related Potentials (ERPs): Implications for ERP Reliability, Data Quality, and Experimental Effects
Peter Clayson1, Scott Baldwin2, Harold Rocha3, and Michael Larson2
1University of South Florida, 2Brigham Young University

Distraction Under Competition: A Multi-laboratory Multiverse Study of Limited Capacity
Andreas Keil1, Moran Eidelman2, Lior Kritzmann2, Matthias Müller3, Nava Levit-Binnun2, Dean Sabatinelli2, Maeve Boyan1, and Kierstin Riels1
1University of Florida, 2Sagol Center for Brain and Mind Interdisciplinary Center, 3University of Leizpzig, 4University of Georgia

Navigating the Multiverse of Skin Conductance Response Quantification Approaches
Manuel Kuhn1,2, Rachel Sjouwerman1, Anna Gerlicher14, Sabrina Illius1, Maren Klingelhöfer-Jens1, Angelos Krypotos16, and Tina Lonsdorf1
1University Medical Center Hamburg-Eppendorf, 2McLean Hospital/ Harvard Medical School, 3Johannes Gutenberg University Medical Center, 4University of Amsterdam, 5Utrecht University, 6KULeuven

Opening Pandora’s Box: An Inventory of Open Data in Psychophysiology
Tina Lonsdorf
University Medical Center Hamburg-Eppendorf

Is There an Open Access Advantage for Studies of Human Neurophysiology? Impact of Open Access on Citations and Altmetrics
Michael Larson1, Peter Clayson2, and Scott Baldwin1
1Brigham Young University, 2University of South Florida

10:00 a.m.-11:00 a.m. EDT; 2:00 p.m.-3:00 p.m. UTC
Invited Address
Speech Processing with (and without) Neural Oscillations
Anne-Lisa Giraud, PhD
Professor, Department of Neuroscience, University of Geneva
11:00 a.m.-12:30 p.m. EDT; 3:00 p.m.-4:30 p.m. UTC

**Early Career Award Addresses**

Stress and Reward: Understanding Pathways to Depression
Anna Weinberg, PhD
McGill University

On The Relationship Between the Error-related Negativity and Anxiety Across Development: From a Neural Marker to a Novel Target for Intervention
Alexandria Meyer, PhD
Florida State University

12:30 p.m.-1:30 p.m. EDT; 4:30 p.m.-5:30 p.m. UTC

**Diversity and Outreach Committee Event**

Building Inclusive Workplaces: An Evidence-based Framework
Aparna Joshi, PhD
Arnold Family Professor of Management, Smeal College of Business, Pennsylvania State University

5:00 p.m.-6:30 p.m. EDT; 9:00 p.m.-10:30 p.m. UTC

**Poster Session 3**

6:30 p.m.-7:30 p.m. EDT; 10:30 p.m.-11:30 p.m. UTC

**SPR Business Meeting and Awards**

7:30 p.m.-9:00 p.m. EDT; 11:30 p.m.-1:00 a.m. UTC

**Saturday Night Social**

Monday, October 18, 2021

9:00 a.m.-1:00 p.m. EDT; 1:00 p.m.-5:00 p.m. UTC (workshop is repeated from presentation on Wednesday)

**Post-conference Workshop: Multilevel Modeling for Psychophysiologists**
Organizer/Presenter: Elizabeth Page-Gould, PhD
University of Toronto

Multilevel modeling (MLM) is a statistical analysis used to analyze datasets where cases are not independent (e.g., repeated measures), as is commonly the format in which psychophysiological data is recorded. Moreover, MLM is a flexible analysis that can be learned once and readily adapted to most psychophysiological designs. Especially for psychophysiologists who are used to working with Within-Subjects ANOVA, MLM offers an improved method for harnessing the statistical power of within-subjects designs and can easily incorporate continuous predictors.

This workshop will provide a practical introduction to MLM for psychophysiologists, including advanced topics like growth curves, non-Gaussian data, cross-classified models, mediation, moderation, and the calculation of effect sizes. We will also discuss visualization, how to work through convergence issues, and a brief nod to alternatives to MLM in different data contexts. Workshop materials will include example data and syntax for SPSS, R, and SAS. The goal is for you to leave the workshop with the conceptual and pragmatic knowledge you need to immediately begin analyzing psychophysiological data with MLM.

**Outline of the Workshop:**

A. Introduction
B. Background Concepts
C. MLM Theory
D. Conducting an MLM Analysis Step-By-Step
E. Reporting MLM Results
F. Advanced Applications
   1. Effect Size and Power with MLM
   2. Moderation in MLM
   3. Multilevel Mediation
   4. N-level Models
   5. Nested Growth Curves
   6. Generalized MLM Models
   7. Poisson MLM
   8. Logistic MLM
   9. Bootstrapping MLM Models
   10. Cross-classified Models
G. Conclusion and Recommendations