SRL NEWSLETTER

INTERNATIONAL SOCIETY FOR ADVANCEMENT OF CYTOMETRY (ISAC)

Newsletter Volume 3 Issue 1 **April 2022**

CYTO 2022 is just around the corner!!!

From June 3rd thru June 7th, the Philadelphia Convention Center will be flooded with cytometrists from around the world, as it hosts the largest cytometry event of the year: CYTO 2022. This year's edition will explore the flourishment of immunotherapy and the quest for future applications in this field in clinical and research settings.

Will this be your first time attending CYTO in person? Are you ready to be amazed but maybe a little anxious? Do you wonder how to make the most out of this year's conference now that we are getting back together after the pandemic? Even if this is not your first CYTO, don't you feel stunned with all there is to see and do, that you often feel like you do not enjoy this unique meeting as much as you would like?

In this issue of the SRL Newsletter, we take a deep look into the CYTO 2022 program to help you on this journey by highlighting talks and workshops, giving SRL-related suggestions, and tips that may help you manage your agenda and get the most out of this year's edition of CYTO, the 35th International Congress of ISAC!

How to get the most out of your first CYTO?

Attend the New Member Meeting

If you are experiencing CYTO for the first time, welcome! We totally understand that you might feel a little lost considering the massive offer of tutorials, talks, events, and workshops, plus all social (networking) events.

Inside this Issue

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To start, we suggest you might enjoy attending the First Time Attendee and New Member Welcome Orientation session, early on the morning of June 4th. There is a presentation about ISAC and what it is all about and a brief overview of the meeting itself. This is a great starting point for beginners. Who knows, maybe this is a good occasion for you to find new colleagues possibly facing the same challenges as you are, and to share experiences, get advice, and learn more about what to expect at the meeting.

SRL Networking Event – A great way to network and meet new people

Of course, for those of you who work in SRL settings (that is Shared Resource Lab, for new fellows), what a better way to end the first day of CYTO then attending the SRL networking event? In fact, for SRL staff members, CYTO has several dedicated workshops with SRL experts addressing Best Practices for user consultations and how these facilities can support users in high-dimensional data analysis. The workshops are spread throughout the meeting, so take your time. Do not hesitate to ask questions, and bring suggestions to improve the services provided at SRLs.

Current and Past Presidents of ISAC

(Left to Right) Andreas Radbruch, Paul Wallace, Jonni Moore, Andrea Cossarizza

Indeed, ISAC has started an SRL Recognition program aiming to recognize excellence in flow cytometry SRLs, according to state-of-the-art guidelines. Want to know more about SRL Recognition Program? Plan to attend the tutorial on it, where insights from the program's first year will be presented, on the morning of June 3rd.

What is available for virtual attendees?

For the past two years, COVID-19 forced us to adapt our lives, our labs, and our meetings to the pandemic scenario. However, we must recognize a few good things came out of the pandemic. It has opened up the possibility to have virtual participations. Of course, it can limit your interaction with experts, participants, and sponsors, but still, you get to hear what is being done in the four corners of the "flow" world. You don't have to stick to only one parallel session, as often the talks are recorded, and you can attend whenever it suits you! It does not matter if you are attending from home or at the beach, if you are a virtual participant, check timetables, and the time at your location for the live presentations you wish to attend. In addition, make sure you confirm which sessions will be made available afterwards for virtual attendees. If in doubt, you can always contact the organizing committee for further information.

The pandemic has emphasized the relevance of discussing biosafety issues globally, but especially for us working in the flow cytometry community. It does not matter if our labs harbor highly sophisticated or classical technologies, we cannot overlook the necessity to assure a safe place for all staff and collaborators. You may find more on this topic in one of the scientific tutorials on the afternoon of

June 3rd, with Kristen Reifel and Evan Jellison discussing aerosolization on analytical cytometers. In addition, CYTO will host a dedicated workshop for "Establishing a Biosafety Plan in an SRL" in the afternoon of the following day.

There is one thing that COVID-19 cannot take away, our will to advance science in new directions. The scientific program of CYTO proves it. You can find workshops detailing the application of sorting in the fields of genomics (Workshop 1, June 4th), or explore which technological innovations are already shaping our future (Workshop 11, June 5th), and if you are just starting out, it is always good to remember the best tools to design a good panel (Workshop 12, June 5th). Good perspectives are also available for "sorting lovers", with tutorials going from basic to intermediate or more specialized approaches, like the tutorial by Zimmerman, Sheridan, Tang and Poulton that will address challenging atypical samples. Of course, you can wrap this all up in the Emerging Trends tutorial, and project your future in this fluorescent world of ours!

Vendors and Sponsors — do not forget to visit them!

A final note for your CYTO adventure: Do not forget to visit the vendors and sponsors site. Not only are they crucial for making this meeting a reality, but they also can show you some of the latest and greatest tools you may use to address your research questions. Often, their overall perspective, and the interaction with different customers, in different settings and countries, makes them highly valuable partners for researchers and clinicians.

Most importantly, as you attend CYTO 2022, remember to take it slow, enjoy the great talks, and do not get overwhelmed

So let's move forward together and we'll see you in Philly, to empower scientists and push the boundaries of cytometry forward!!!

ISAC Stands with the People of Ukraine

Thursday, March 17, 2022

The International Society for the Advancement of Cytometry joins the global community and particularly the community of scientists in condemning the atrocities that are currently happening in Ukraine. For two years of the pandemic, scientists worldwide showed that when a crisis that affects humanity occurs, our cooperation can cross all boundaries and political ideologies. Today, we call on the world to again unite to provide support in spirit and in resources to all those so tragically affected in Ukraine. Many relief efforts are underway in all countries around the world so that our colleagues, families and friends in Ukraine may have access to needed medical and food supplies.

To help alleviate the disasters caused by war, we invite our associates to join the global solidarity wave uniting scientists and to welcome fleeing students and researchers in their labs. The lists of life scientists who have offered help at various levels (lab space, scholarship, accommodation, establishment of further contacts), can be found at the following links under the News tab on the ISAC website:

A worldwide list maintained by the Galaxy Project volunteers (currently over 1800 labs have joined)

Please fill this form to be added to the list

A list maintained by the EMBO community

We, members of ISAC, stand with Ukraine as you fight to protect your homeland, and we stand with all those worldwide who are seeing their freedoms melt away. Science knows no borders!

Highlighted SOPs in the ISAC SRL SOP Repository

We have two SOP's to highlight in this issue of the newsletter. One following the CYTO2022 Philadelphia theme, is about antibody staining. The second discusses how to train "Super-Users" on the Aria cell sorter platform.

SOP from the University of Pennsylvania in Philadelphia
Professional Standard Operating Procedure on how to stain beads for compensation

SOP from the University of California, San Francisco
Training guide for creating super users on the BD FACSAria II cell sorter

Remember, more SOPs can be found in the SRL SOP repository:
https://archive.org/details/@isacsrl

Help us grow the SOP Repository by submitting your lab's favorite SOP here

https://tinyurl.com/SOPRepositoryform

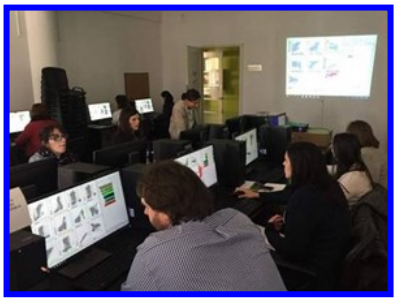
Highlighted ISAC Associated Society

Grupo Rioplatense de Citometría de Flujo (GRCF)

Argentina and Uruguay

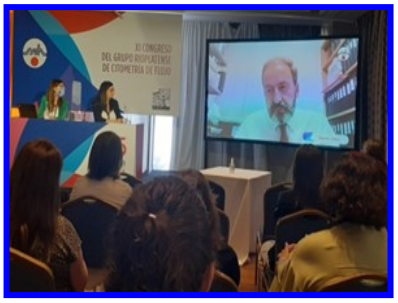
http://grupocitometria.org.ar/

GRCF is a scientific society that brings together a diversity of professionals from the public and private sector, who work with this multiparametric technology. It is constituted by members from Argentina and Uruguay (around 170 members by 2021).
It was created in 1993 as a "Cytometry Club" and in 1997 was consolidated as a non-profit Civil Association under the name of Grupo Rioplatense de Citometría de Flujo (**GRCF**).



Aims of the GRCF:

- To promote the use, development and application of flow cytometry.
- To generate a space that allows the exchange of experiences and knowledge from different institutions and professionals that employ this technology, both nationally and internationally, in order to optimize its uses and applications.

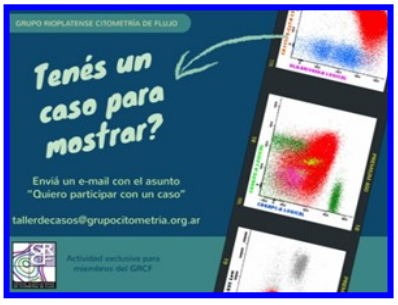


Events & Activities:

Training courses and webinars: Two regular on line flow cytometry courses are delivered. Furthermore, especially due to the COVID-19 pandemic limitations and to reach more professionals around the world, the GRCF organized advanced and topic-specific courses and webinar series.

Meeting and Scientific events: GRCF organizes the annual congress in collaboration with the Argentinean Hematology Society.

External Quality Assurance for Lymphocyte Subpopulations: Contributing to the performance improvement in laboratories that apply flow cytometry for diagnosis.



Contacts:

ISAC contact: Mariela Bollati-Fogolín (mbollati@pasteur.edu.uy)
GRCF contact: secretaria@grupocitometria.org.ar

@grupocitometria Grupo Rioplatense de Citometría de Flujo grupocitometria

Word Puzzle: Cytometry FUN

O	T	Y	C	R	O	L	O	C	I	T	L	U	M
P	Y	G	N	I	R	E	T	S	U	L	C	F	P
C	L	A	S	E	R	H	I	N	I	L	L	A	D
R	S	E	L	U	F	S	L	I	P	O	G	Y	E
E	H	H	M	E	Y	A	S	E	W	P	R	G	X
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ANALYSIS
BANDPASS
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CYTO
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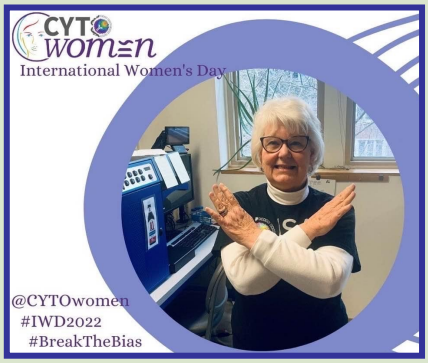
EMISSION
EXCITATION
FACS
FILTER
FIXABLE
FLOWCYTOMETRY
FLUORESCEIN
GFP
HERZENBERG
IMMUNOLOGY
ISAC
LASER
MCHERRY
MULTICOLOR
PARAMETER
PERCP
PHYCOERYTHRIN
SHAPIRO
SHEATH
SRL
TSNE
UMAP

SOLUTION (Leftover letters in the puzzle):



FLOW STAR:
Jonni Moore, Ph.D.

1. What do you think is your biggest contribution to the field of cytometry?

I would like to think my greatest contribution is seeing the big picture and knowing how to drive the technology from academia to patient care. With three decades of experience into research, both clinical and entrepreneurial, it was a priority to collaborate with scientists from all fields, clinicians and expert cytometrists. From defining the best practices in cytometry with Mario Roederer at Penn Cytomics, to elevating the concept of shared resource laboratories to a greater academic level, I emphasized on translating our advances not just as service providers but as innovators and leaders in various domains such as cardiology, neurology, drug discovery, immune and cell therapy to name a few.

2. What is your favorite memory from CYTOs so far?

My favorite memory has been of the after session impromptu meetings in Montpellier in 2002 and 2004. The winding cobblestone streets were filled with cytometrists from all parts of the world who gathered at the small bistros and discussed life and flow cytometry until the wee hours. The setting was perfect for this! At the tables you would find new people to the field as well as icons like Jake Jaccoberger, Paul Robinson, Paul Wallace, Paul Smith, Kathy Muirhead, Jim Watson, and Jim Leary. Frankly I learned as much there as in the sessions. I look forward to gathering in Philadelphia for similar experiences with many of you! We have missed this interaction.

3. What do you like to do when you are not in the lab, the favorite pastime?

I guess you would say I am a foodie and I love to travel. Be sure to ask me about all the amazing restaurants in Philadelphia. I also have 3 of the most adorable little grandchildren whom I love to spend time with!

4. Who has been your favorite mentor?

My best mentor in cytometry had been Carleton Stewart. He was a physicist by training and actually was a post doc with the same person as I, Peter Nowell, the discoverer of the first genetic link to cancer, “the Philadelphia Chromosome”. While here, a few years before me, Carleton built the first flow cytometer on campus at Penn. When I came, I actually created the first shared resource flow cytometry lab with Hank Pletcher, my long-time partner in crime. Carleton always had knowledge of all areas from discovery, to development, to delivery to patients and he was always happy to share all he knew. I have tried to follow that path!

5. Any one message for the present day cytometrist.

Always look outside of the box. When investigators come to you never say it cannot be done or you cannot do it. I always say, I may not know how to do everything, but I know who does! What you need is just to find the right team of experts.

6. Any advice to those who might want to establish an SRL.

The best thing you can do from day one is to understand that you are a partner in research not just a service provider. This means go the extra mile to understand what your investigators are doing and to provide the means to answer their questions. They will be your best advocates!

Highlighted Flow Cytometry Shared Resource Facility
University of Pennsylvania

1. Location

University of Pennsylvania
Philadelphia, Pennsylvania
USA

2. Meet the staff

Derek Jones is the Technical Director, and leads the high dimensional program.

William (Bill) Murphy is the Advanced Instrumentation Engineer

Paul Hallberg is a pathogenic cell sorting specialist, and aided the development of the bio hazardous cell sorting program.

Jennifer Jakubowski is a resource technologist and specialist in the high dimensional program.

Andy Morschauser is a pathogenic cell sorter operator.

Charles (Hank) Pletcher is a senior advisor and consultant.

Richard Schretzenmair is a senior manager and consultant, and possesses an encyclopedic knowledge of CD markers and their cellular expression profiles.

Shifu Tian is a pathogenic cell sorting specialist, and has spearheaded a new program offering training in Mandarin Chinese.

Thomas Williams is the emeritus Technical Director.

3. Instrumentation in the facility

We currently have 22 analytical cytometers (Canto, LSR, LSR Fortessa, A3 Lite, Symphony A5), 9 cell sorters (Aria, Aria Fusion, Melody, Influx), and a Symphony A5.2 full spectrum cytometer. Our facility consists of a central laboratory area with 9 satellite locations campus-wide.

4. What recent accomplishment in your lab are you most proud of?

Our newest SRL member recently received her SCYM(ASCP)^{CM} certification, meaning that every member of our staff has earned and maintained this accreditation. This achievement is a testament to the high degree of expertise among our staff, and signifies their ongoing participation and contri butions to the field of cytometry.

5. What is the most unique/odd sample have you analyzed in the facility?

With almost 200 years of cumulative flow cytometry experience, our staff have seen a wide range of odd samples. No list would be complete without the obligatory fecal bacteria sort, but other standouts include: sea squirt embryos; rods and cones from tadpole eyes; and fish B cells from live trout sourced in Philadelphia's own Chinatown.

Ask Old Dr. FITC

Don't feed the ~~pigeons~~ sorters

Dear Dr FITC,

Why do my users insist on feeding my sorters against my express wishes? I take pride in looking after my instruments, treating them well, and I don't need another person's help. Then, every week at least one user sneak's feeder cells into their sample causing havoc with my sorter. What can I do to stop this?

- Flossy

Dear Flossy,

I understand your troubles, people think they are being helpful by feeding the sorter, but they don't understand the trouble they are causing with flow cytometer indigestion and blocked arteries. For readers who might not know, feeder cells are often used as a "catalyst" to aid the growth of cells that won't proliferate on their own, such as induced pluripotent stem cells. The feeder cells provide the environment necessary for their growth, including cytokines, chemokines, and cell-cell interactions. However, when the user comes down for their sort, they come saying they want to sort 8µm iPS cells and ignore the presence of the ENORMOUS and w*AcK*y shaped fibroblast feeder cells. You put the 70µm nozzle on the sorter and within seconds…BLOCKED. The sorter needs help urgently; sonicated nozzle, Contrad, Coulter Clean, maybe even a sample line change (!!!); all because the user didn't tell you they were planning on feeding the sorter.

How do I deal with these feeders? I would educate them up front and remind them to tell you the <u>largest</u> size cell in the sample and not just the size of the cell they want to sort. I would be very assertive with extending booking times (and costs) if a blockage occurs or if the nozzle needs changing, and I would make them wait and watch the sort with you if you suspect secret feeding so they can see the damage they are causing to your ~~baby~~ sorter. Sincerely, Dr. FITC

ISAC SRL related Events and Resource Links

If you, have a meeting/webinar that you would like to have included in the next newsletter please send the information to the Outreach Task Force at isacsrl.outreach@gmail.com.

Upcoming Meetings and Webinars		
Meeting	**Dates**	**Link/Webinar**
VI National Congress of ISCCA—Societa Italiana per l'Analisi Citometrica Cellulare—Catania, Italy	**May 25 –27, 2022**	https://www.iscca.eu/Meeting.aspx
XXXVth InternationalSymposium on Technical Innovations in Laboratory Hematology—Bologna, Italy	**May 25 –27, 2022**	https://www.islh.org/2022/
CYTO 2022 Moving Forward: Empowering Scientist. Advancing Cytometry	**June 3—7, 2022**	https://isac-net.org/page/CYTO
FlowcytometryUK 2022	**July 20 –22, 2022**	https://www.rms.org.uk/rms-event-calendar/2022-events/flowcytometryuk-2022.html
Recorded CYTO U Webinars—Recent Additions https://learning.isac-net.org/		
Topic	**Presenter**	
Yes, You Can: A Simple Guide to the Complex Immunometabolism World	**Rafael J. Arguello, Ph.D.** (Tenured CNRS Researcher and Leader of the Immuno Metabolism and Translational team, the DeCiBEL laboratory at the Centre d'Immunologie de Marseille Luminy, France	
Experience in Academia: Development of Time Resolved Flow Cytometry While Navigating Career Challenges and Successes in Chemical & Materials Engineering (First Video as Part of the CYTO Women Webinar Series)	**Jessica Perea Houston, Ph.D**. (Professor in Chemical & Materials Engineering at New Mexico State University in Las Cruces, New Mexico, USA	