SRL NEWSLETTER

INTERNATIONAL SOCIETY FOR ADVANCEMENT OF CYTOMETRY (ISAC)

Newsletter Volume 2 Issue 1 **April 2021**

To Sheath or Not To Sheath … That is The Question (often posed to SRLs)

Often cytometry SRLs will be presented with enquiries from researchers undertaking experiments that may need to consider alternative to the traditional and widely used sheath driven droplet cytometry.

In cell sorting these challenges can arise from experimental requirements to eliminate unwanted aspects caused by the formation of single stream droplets such as:

- electrostatic charges,
- cell fragility due to sheath pressure,
- biosafety concerns over aerosol generation, and
- potential sample carry over or contamination from exposed systems.

Researchers may also be exploring alternative methods to reach endpoints ranging from single cell isolation, bulk sample yield, sample type or perhaps they've read an article in Cytometry A that's piqued their interest!

Over the last decades in addition to the advances in traditional

Inside this Issue

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sheath driven droplet cytometry there have been advances in sheathless cytometry; ranging from "Lab on a Chip" technologies for culture and study of single cells through to microfluidic pulse technologies and micro-electric-mechanical systems for applications that require low pressures, elimination of aerosols or the ability to isolate single cells for genomic cytometry applications. Cytometry A recently called for special issue on "Quantitative Single Cell Technologies" which will include microfluidics, which SRLs will be looking forward to see the advances in this form of sheathless cytometry.

Why use sheathless in an SRL setting?

Cytometry certainly has a place in the SARS-CoV-2 world, and long established ISAC Biosafety Committee standards regarding aerosol management have been useful in assessing the suitability of individual situations and instrumentation. Biosafety is one attractive feature of sheathless cytometry, especially in studies using infectious diseases where samples can be fully enclosed before being bought to an instrument and processed without the generation of aerosol. This too can be applied to other materials that pose a risk to instrument operators and researchers such as bacteria, modified viruses, yeast and other microorganisms especially when appropriate BSL-3 laboratory conditions are unable to be met. Furthermore as many of the sheathless instruments contain disposable fluidics components, this may be an attractive option to maintain sterility and prevent potential cross contamination with what other agent has been run through the shared conventional cytometer.

Microfluidic systems have the ability to process at much lower pressures than conventional droplet sorters which can reduce cell stress which may be critical for when cell integrity is a key component of the experiment. This is an important component for clinical applications such as preparation for transplant, enrichment for genomic studies and single cell disposition.

Making a decision

When evaluating the suitability of choosing a sheathless assay for your experiment, the SRL should consider if adopting the technology is beneficial answering the biological question that is being asked, and to weigh up the up critical differences to determine their importance to the experiment. These include:

- Cost – Determining if all the factors of adopting a sheathless assay is appropriate for the SRL. This includes factors such as the cost of microfluidic consumables, the cost of lab infrastructure when Biosafety is a major consideration, and of course the cost of using an instrument!
- Time – Will the sorting speed differences (and the desirable purity and yield payoff) between droplet and sheathless be a factor in relation to the cell type being studied?
- Cell Labelling - Will the difference in number and resolution of detectors affect the study?

The advancement of sheathless technology is providing exciting frontiers and possibilities in the field of cytometry. It is important for SRLs to assist researchers interested in this technology to provide broad information that will help inform if and which applications of sheathless cytometry to embrace.

Call for Application to the SRL Recognition Program

The ISAC SRL Recognition Program is intended to promote sustained achievement of excellence in SRL operations and provide these SRLs with acknowledgement of these accomplishments.

To become Recognized, SRLs must be able to show evidence of adherence to ISAC 2016 Flow Cytometry SRL Best Practices

Application submission period:

September 1, 2021—December 31, 2021

Learn more about the SRL Recognition Program and preview the application:

https://isac-net.org/page/SRL-Rec-Prog

Don't miss this opportunity to become one of the first ISAC Recognized Shared Resource Laboratories

Council's Corner: A Quarterly update from ISAC Council about what

Happy April!

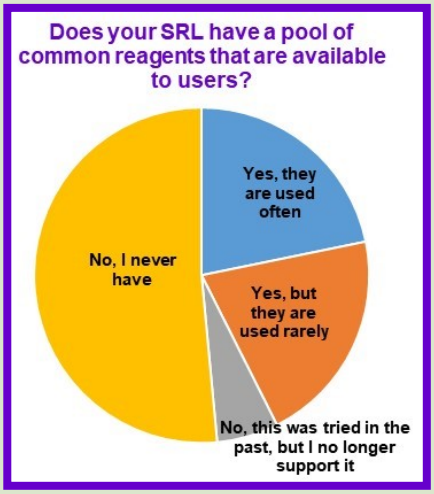
The past few months council has been focused on CYTO 2021 Virtual Interactive. The focus for the year is Global Cytometry- A Diversity of Talent. CYTO Virtual will connect the cytometry community around the world with 4 days of programming – each day in a different time zone. Our focus will be on advancing cytometry research to address current and future global health and environmental challenges. CYTO Virtual will be an interactive experience not to be missed! Our innovative digital platform is designed for learning, collaboration, and networking. The Education Committee has put together an amazing list of Scientific Tutorials, the Meetings Committee has put assembled an inspired program, and the Membership Committee is creating a number of networking breakout topics relevant to ISAC members. There will also be fantastic content from the SRL Committee, CYTO Women, and the Innovation Committee. CYTO 2021 Virtual Interactive is not to be missed! For more details, check out the video below:

https://video214.com/play/BhaXEaEZBn0R5hzn6umL2w/s/dark

Aja Rieger
SRL Committee Council Liaison, 2020-2022

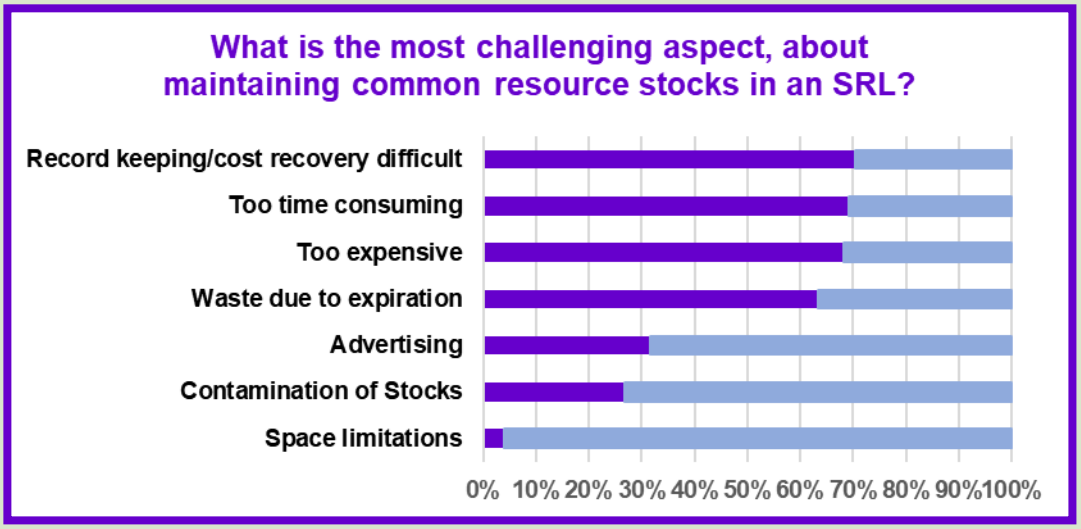
Results from ISAC SRL Survey: Should a SRL Stock Reagents for Users?

As you might have guessed, we received a lot of strong opinions about whether an SRL should stock reagents and have crunched the numbers on what others in the field are doing. Thanks to everyone who responded! We received 101 responses spanning the globe, with 21 responses from Europe, 64 from North America, 11 from Oceania, and 5 from other regions. Overall, nearly half of our community responded that they now stock or have stocked reagents in the past, but only 22 respondents felt their stocked reagents were used often. Only 14 answered that they had an institutional stock room and there was no clear correlation between that and other survey results. Interestingly, although less than half provide a common stock of reagents, nearly two thirds of you (64/101) think that stocking reagents is or would be beneficial to users.



That apparent initial disconnect is informed by some responses around what you find most challenging around offering common reagents to your users. The most commonly cited reasons were *Record keeping/cost recovery difficult, Too time consuming,* and *Too expensive.* When the data was limited to the 49 respondents who do or have provided common stocks of reagents, two categories were cited more often than the community at large. *Record keeping/cost recovery difficult* and *Advertising making users aware of resource* increased slightly in those groups while all other concerns had a lower frequency in those users. On the flip side, the benefits cited most often were *Convenience*- especially to pilot experiments*, Increased quality* assurance of reagents- especially when stocks were tittered, and perhaps surprisingly given the concerns about *"too expensive"* above- the ability to reduce costs by buying in bulk.

We also asked about whether your SRL already stocked different types of reagents, or you would like them to. Additionally, we asked you to indicate what reagents you provide for free or choose to



charge for. If you are curious about a specific reagent called out in the survey as stocked or not stocked by other SRLs please see the tables below. As far as the highlights, the reagents that were most often provided for free included QC beads, PPE, Disinfectants, FACS Tubes and Pipets. Those items which facilities charged for most often were FACS Tubes with strainers, Cell strainers and Compensation beads. The three reagents most requested that were not already stocked were Live/Dead dyes, Compensation beads and Blocking antibodies and reagents. So, while stocking every reagent your users want is almost certainly not a great idea, those are some candidates to try out with your community. The complete results from this survey can be found on the ISAC SRL website.

Which of the reagents/consumables listed below would you like your SRL to stock?

Stocked Reagent or Consumable	Already stocked	Yes	No
Metal labeled antibodies for mass cytometry	11	4	85
Fluorescently labeled antibodies	17	19	63
Live/Dead dyes	36	38	22
Quality control beads	61	23	13
Compensation beads	38	33	27
Apoptosis reagents	14	14	71
Cell cycle reagents	18	19	62
Blocking antibodies/reagents	12	31	57
Totalseq and Abseq reagents	5	6	89
Cell strainers	52	27	19
Plates	26	17	56
PPE	60	17	18
FACS tubes	67	24	7
FACS tubes with strainers	48	28	23
Pipet tips/Pipets	60	22	15
Disinfecting reagents	70	20	7

Which reagents/consumables listed below does your SRL provide? Please indicate if there is a charge or not.

Stocked Reagent or Consumable	N/A	Free	Charge
Metal labeled antibodies for mass cytometry	93	1	7
Fluorescently labeled antibodies	77	8	15
Live/Dead dyes	46	39	15
Quality control beads	19	70	9
Compensation beads	53	27	20
Apoptosis reagents	88	6	7
Cell cycle reagents	81	11	9
Blocking antibodies/reagents	88	3	10
Totalseq and Abseq reagents	100	0	1
Cell strainers	31	49	20
Plates	76	17	8
PPE	26	70	4
FACS tubes	9	71	18
FACS tubes with strainers	38	37	24
Pipet tips/Pipets	16	79	6
Disinfecting reagents	5	89	5

Thanks again to everyone who responded!

Watch for additional surveys in future newsletters!

Highlighted SOP in the ISAC SRL SOP Repository

This quarter, the highlighted SOP in the ISAC SRL archives is from AMREP Flow entitled "**SOP X20"**

The wonderful people at the AMREP Flow Facility in Australia created this SOP for the LSR-Fortessa X-20. The SOP is structured with a natural flow from sample preparation, instrument set-up and use, to clean up and data export. Images of the sheath tank, sheath filter and waste tank aids in explaining parts of the SOP that words cannot fully convey. A very important point stated in the SOP:

"If a problem arises which you are unsure how to resolve, please do not try to fix it yourself"

You can find this and many more SOPs at the SRL SOP Repository:

https://archive.org/details/@isac_srl

Help us grow the SOP Repository by submitting your lab's favorite SOP. Who knows, maybe your SOP will be featured in a future newsletter!

https://tinyurl.com/SOPRepositoryform

Micro-learning aka Video Snippets from the Flow Content Task Force

For those not familiar with micro-learning, it is a way to deliver relatively small learning units (3—5 minutes) and are designed to meet a specific learning outcome.

The first 3 can be found at the following links:

How to Unclog a Flow Cytometer:

Part 1 https://www.youtube.com/watch?v=6WoRMFNN9SU&t=36s

Part 2 https://www.youtube.com/watch?v=WMbMJfR6CCU

Part 3 https://www.youtube.com/watch?v=C2vdloKMVjw

Upcoming topic: aerosol testing

If you would have an idea for a video snippet or would like to make one yourself please contact Evan Jellison (jellison@uchc.edu) chair of the Flow Content Task Force

FLOW STAR:
Paul Wallace, Ph.D.

Roswell Park Comprehensive Cancer Center

Director, Department of Flow and Image Cytometry

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

Going way back to the mid 80's, I was very fascinated by T-cell subsets and wanted to develop a flow based assay. My colleague Kathy Muirhead and I published one of the first papers defining the methodological approaches for clinical flow cytometry that have now become a routine. I'll probably be best known for my work on the lipophilic dyes such as PKH26 and its use to monitor cell Proliferation. At Zynaxis we had developed an assay called the Cell Census Plus assay which was marketed by Sigma to perform proliferation studies. These days I am a big proponent of standardized or at least harmonized methods in clinical flow cytometry including PNH and multiple myeloma minimal residual disease testing.

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

I have many delightful memories but the one that stands out was a keynote given by Stephen Henry Lewis at the Quebec City Cyto in 2006, about how flow cytometry can help address HIV Crisis in Africa. Later, Cytometry for Life (C4L) was set up as a consequence of this talk which still actively engages in education and training in Africa. Roger Tsien who won the Nobel Prize for his GFP discovery and development was another keynote speaker at this meeting whose talk I found very inspiring. But when it comes down to it, it's my fun-filled memories of all the great people I've interacted with at CYTO over the years that are my favourite.

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

I love to go for long walks in the woods and do so most mornings. I also actively try to find time to hike interesting places. But my most enjoyable time is the time I spend time with my kids and granddaughter.

4. Who has been your favourite mentor? What was your biggest lesson learnt from your mentor?

I was fortunate enough to have several mentors. Kathy Muirhead, mentioned above, is a very good friend and collaborator. I've worked with her on many projects most recently to provide ISAC as a stand-alone Society an organisational structure. Paul Horan, who with Scott Cram was an early pioneer in flow cytometry, was the founder of Zynaxis whose zeal for flow cytometry and scientific mind I deeply admired. Page Morahan, my PhD mentor, taught me how to think scientifically, develop hypotheses, ask appropriate questions, and then design experiments to address those questions. I owe her greatly for bringing the mentor out of me. Then there is Carl Stewart, who as a student I idolized and considered to be the God of flow and then later as a PI was proud to call my friend. His down to earth and amicable nature were just some of the extremely admirable qualities about this jokester.

5. Any one message for the present day cytometrists.

I would say label your axis (mAb and fluorochrome) and make sure everyone around you does the same. Oh, and by the way, forward scatter doesn't really equal size and side scatter doesn't really equal granularity.

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

An SRL is a service. Providing plenty of high quality and varied educational opportunities should be always a Resource priority. But my number one rule is to find out what our users wants and needs are and then to actively stay in touch making sure we are meeting their expectations and that they know how important they are to us.

Highlighted Flow Cytometry Shared Resource Facility

VIB Flow Core Ghent *(https:// twitter.com/IRCFlowCore)*

1. Location

VIB-UGent Center for Inflammation Research
Technologiepark-Zwijnaarde 71 – 9052 Ghent – Belgium

2. Meet the staff

Gert Van Isterdael, Head of Flow Core
Julie Van Duyse, Research Technician
Elien Ruyssinck, Research Technician

3. Instrumentation in the facility

BD FACSymphony S6 - 5 lasers 30 parameters
BD FACS Aria III - 3 lasers 16 parameters
BD FACS Aria III - 3 lasers 13 parameters
BD FACS Aria II - 3 lasers 13 parameters
BD FACS Melody - 3 lasers - 10 parameters
Biorad S3e - 2 lasers 6 parameters
BD FACSymphony - 5 lasers - 30 parameters
BD LSR Fortessa - 5 lasers 20 parameters
Cytek Aurora - 4 lasers - Full Spectrum Analyzer
Agilent Quanteon - 4 lasers 25 parameters
BD LSR Fortessa - 4 lasers 17 parameters
ThermoFisher Attune 4 lasers 16 parameters
BD LSRII - 3 lasers 14 parameters
BD LSRII + HTS - 3 lasers 14 parameters
BD FACS Verse - 3 lasers - 10 parameters
Luminex Imagestream$^{X®}$ MarkII - 4 lasers 12 parameters
Meso Scale Discovery QuickPlex SQ120
Curiox Laminar Wash HT2000 System

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

I am proud that we have managed to create a vibrant, fast growing, flow core facility here at VIB-UGent. Maintaining an open and collaborative atmosphere within our facility has always been one of our top priorities and paves the way for successful science. Researchers from different fields (top immunologists, plant biologists, virologists,…) meet in our SRL and this cocktail creates a unique and perfect environment for interdisciplinary interactions.

One of the recent scientific highlights was a collaboration between our team and researchers from the VIB Center for Plant Systems Biology, which lead to a publication in Science. Lots of plant protoplast sorting and single cell analysis!

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

We see a large variety of samples in our SRL, but parakeet spleen cells particularly stood out! Alongside a range of murine and human samples, we have a large user group of plant researchers. As a result, we sort plant protoplast and nuclei from a range of species on a weekly basis. Additionally, we analyze and sort algae, diatoms, oysters, bacteria, yeast cells, … "Name it, we flow it!" could be a potential slogan of our SRL.

Call for submission: Want to have your SRL highlighted? Follow this link **https://tinyurl.com/HighlightSRLform** and fill out the form.

ISAC 2020 Graduated SRL Emerging Leaders

Christian Kukat

1. What did you do during your time as an Emerging Leader?

The ISAC SRL Emerging Leader Award made it possible for me to attend CYTO meetings in Seattle, Boston, Prague, and Vancouver. I was involved in workshops at CYTO meetings and chaired sessions. At CYTO 2017 in Boston, the Emerging Leaders team reshaped the SRL Networking Event format and hosted the event. I served for two years on the ISAC SRL Content Task Force and four years on the ISAC SRL Services Committee. During that time, we created the ISAC SRL Recognition Program. I am a member of the ISAC Governance Committee. I feel like an unofficial ambassador for ISAC when talking to people in other groups about our great collaborative community.

2. What impact did being a SRL Emerging Leader have on your career?

The ISAC SRL Emerging Leader Award increased my visibility and gave me the self-confidence to take on challenges and take responsibility. One of the reasons I was elected into the German Society for Cytometry (DGfZ) council in 2018 was my active role within ISAC; that experiences opened doors for me. I am on the advisory board of German BioImaging, and in 2020, the Max Planck BioImaging Core Unit Network (MaxBI) was founded, and I was elected as Financial Officer to the steering committee. Recently, I joined the initiative QUAREP (Quality Assessment and Reproducibility for Instruments & Images in Light Microscopy), I am co-chairing a working group. Here again, my experiences from ISAC committees are beneficial. SRL Emerging Leader Award improved my standing within our institute and put more weight behind my requests for resources and staff because of my relationship with the international society, which also published the best practice manual for SRLs (Barsky *et al.,* 2016 Cyt. Part A) and advice for SRLs on how to deal with the COVID-19 pandemic. My SRL won grants for several new instruments; I recruited and kept two new staff members, utilizing management skills I learned in the Emerging Leader program.

3. Now that you are graduating from the SRL Emerging Leaders program, what are your future plans?

I plan to stay engaged with ISAC and ISAC committees; I enjoy the spirit and collaborative atmosphere within ISAC. My contact with other SRL Emerging Leaders will continue because they are full of experiences and ideas, helping tackle problems and issues. Our group chat is active 24/7 because everyone is located in different time zones; questions immediately get many replies. Now, my role is also to share my experiences with the new classes of Emerging Leaders.

4. What was your favorite CYTO moment?

I love CYTO's welcoming atmosphere. I proudly wore the SRL Emerging Leader flag on my badge. Many attendees approached me about how to apply to the program. My favorite CYTO moment was when we hosted the SRL Networking Event at CYTO 2017 in Boston. We had no idea how many attendees would come and if they would like the new format. But it worked out tremendously, with a few hundred people having intensive conversations and networking. We received great feedback from the event.

5. How did you learn/demonstrate leadership to ISAC?

ISAC expects Emerging Leaders to participate in committees and host workshops at CYTO. Without the Emerging Leaders program, I would not have joined ISAC committees. As an Emerging Leader, it was much easier to get to know the people who are actively engaged in ISAC and approach them to find out which committees best fit my interests and skill set. In the SRL Services Committee, we reshaped the SRL Networking Event format, which is still in use. I am proud that I have been part of the SRL Recognition Program's development, which will launch soon.

Erica Smit

1. What did you do during your time as an Emerging Leader?
In my first year as a SRL Emerging Leader, I worked at the South African TB Vaccine Initiative in South Africa and was managing the Flow Facility at the Institute part-time. I was responsible for calibration, maintenance, and quality control of the flow cytometers. I conducted the facility users' training and was involved with managing the facility like billing, maintaining the time scheduling system, and data analysis. In 2017 I moved to the United States and currently work in the Flow Cytometry Core in the Vaccine Research Center at the NIH in Bethesda, MD. I work primarily on Instrument Calibration/ Maintenance and Technology Development and optimize flow cytometry-related assays, including data analyses, training, communication, and high parameter flow panel development. As an Emerging Leader, I attended the CYTO meetings, participated, and served on the SRL Content Taskforce and currently on the CYTO Women's Taskforce.

2. What impact did being a SRL Emerging Leader have on your career?
I met and formed a network with very experienced and knowledgeable peers (and friends) at different specialties in the SRL arena, which improved my knowledge and handling of challenges related to the job, and grateful for their support and readiness to help out with advice or suggestions. The program also provided me with opportunities to engage with many scientists at different levels to learn from and build networks and, importantly, be mentored by experts in their fields. With my work at the VRC, this has boosted my knowledge and confidence in working in a SRL, helping and training flow users at different levels, and working on more advanced projects independently.

3. Now that you are graduating from the SRL Emerging Leaders program, what are your future plans?
I would like to continue being involved with the Society and contributing and maintaining the networks and friendships I formed during this time. For the near future, I am enjoying my work at the VRC, working with a great team, and still deciding where my career path will take me after that. But I am very happy and grateful for all that I could achieve and gain as well as contribute during my time as a SRL Emerging Leader.

4. What was your favorite CYTO moment?
Spending time with the fellow ELs, when we go to lunch as a group, the SRL networking events, and of course attending the great presentations and workshops (which is always difficult to choose which one to attend as there are so many relevant ones)

5. How did you learn/demonstrate leadership to ISAC?
Attending the leadership day sessions and learning from other ELs and scientists about leadership (that there are many ways of being a leader). Initially, it's a bit overwhelming, but because of the support structure, I could start by engaging, voice my opinions and contribute with suggestions or guidance in specific areas of my expertise.

Gert Van Isterdael

1. What did you do during your time as an Emerging Leader?
After my selection as an SRL Emerging Leader I joined the ISAC SRL Services Committee. This committee was responsible for organizing the SRL Networking event at CYTO meetings. I organized several of these events together with other Emerging Leaders from our class. Another major project, which is still ongoing and overseen by the SRL services committee, is the development of the ISAC SRL Recognition Program. I am happy to have been able to contribute to the development of this program over the last few years and look forward to its launch.

2. What impact did being a SRL Emerging Leader have on your career?
This role has had a dramatic impact, helping me to advance my career. Receiving this international award from ISAC, the largest flow cytometry community in the world, increased my visibility both within our institute and university as well as more broadly within the flow cytometry community. My employer, VIB-Ghent University, clearly valued the recognition I received from ISAC and as a result, I am sure this award increased my career opportunities. I was, and still am, very honored to have received this award.

3. Now that you are graduating from the SRL Emerging Leaders program, what are your future plans?
Looking forward, my main priority is to continue to grow and develop the VIB Flow core facility, which I lead. In 2013, I was managing the SRL on my own with 5 analyzers and 2 sorters. Now we have 11 flow cytometer analyzers and 6 FACS sorters and have grown to a team of 3. This exponential growth keeps me quite busy to be honest. In addition to my management role, I want to continue to contribute to ISAC and the field of flow cytometry while training and educating the next generation of flow cytometrists.

4. What was your favorite CYTO moment?
I have many favorite CYTO moments. My first CYTO meeting was in 2014 in Fort Lauderdale, Florida, and since then I have not missed a single one. I have countless fond memories of the famous FlowJo parties, the SRL network events, the discussions with researchers during the poster sessions (with ice cream breaks) and the inspirational talks from the leaders in the field. I particularly enjoyed the fantastic networking opportunities that are available at CYTO meetings. The atmosphere is truly unique. Everyone is open for discussions or questions and I always make sure to make the most of every opportunity to meet new people. With the current COVID situation you really appreciate how valuable these moments are. I can honestly say that within ISAC, I have made friendships for life.

5. How did you learn/demonstrate leadership to ISAC?
By participating in the SRL services committee I have learned a lot and gained valuable experience. I organized a workshop in Prague at CYTO2018, and co-organized several others. This would not have been possible without the SRL EL recognition. Currently I am an active member of the ISAC SRL Outreach Task force and in Belgium, my home country, I am setting up and contributing to local cytometry initiatives.

Radhika Rayanki

1. What did you do during your time as an Emerging Leader?
My first CYTO was in Seattle in 2016, when I received an Emerging Leader award. I was amazed to meet so many wonderful people who are technologically and scientifically driven to advance the field of cytometry. Since then, I have worked on various committees with them, SRL Services committee, programing committee, organized "SRL Education and Networking Event" at three annual CYTO meetings. I actively participated in CYTO leadership day, reviewed oral/poster abstracts, and co-chaired scientific tutorials.

I co-organized the local Chesapeake cytometry consortium, which is affiliated with the ISAC and NIH flow directors, and successfully involved our flow cytometry core group at AstraZeneca in ISAC activities & networking events. Together with my company's laboratory safety organization, I hosted CYTO University webinar on SRL Lab safety, leading to productive discussions and safety measures implemented in the cytometry lab.

As an Emerging Leader, I found an amazing mentor, Virginia Litwin. She supported and guided me on various ISAC tasks and my project work on **"***Transform Cytometry with Automation & Informatics".*

2. What impact being an SRL Emerging Leader have on your career?
The Emerging Leader program had a tremendous impact on my career growth. I worked as an R&D Associate in the flow cytometry team when I received an Emerging Leader award. During the 5 years, my work has been recognized by AstraZeneca. I was awarded three promotions and raised to my current level of Scientist Bioscience I. Overall, I became more confident with the technology and developed into a lead expert in mass cytometry and cell sorting. At a company-wide meeting called "Science Matters", I had the opportunity to present a talk on mass cytometry. All of this would not have been possible without the support of my fellow cytometry experts with whom I interacted and gained knowledge at every CYTO meeting. I continue to cherish and foster these relationships.

3. Now that you are graduating from the SRL Emerging Leaders program, what are your future plans?
My future lies in the advancement of cytometry, supporting the scientific vision of AstraZeneca. I will also continue to engage with the ISAC committees and contribute to supporting my fellow researchers at AstraZeneca to involve cytometry in their scientific studies, thereby advancing the impact of cytometry even more.

4. What was your favorite CYTO moment?
I eagerly look forward to interacting with fellow emerging leaders, old colleagues and cherish every moment spending with them at CYTO meetings. I have many favorite CYTO moments and enjoyed all networking parties in the late evenings after busy scientific/technology sessions. I particularly enjoyed our gathering at the CYTO 2019 at Vancouver, our last meeting before the pandemic.

5. How did you learn/demonstrate leadership to ISAC?
I succeeded in leadership roles in different capacities at local and global levels and strengthened my knowledge of flow and mass cytometry. I demonstrated leadership by hosting *"Best practices for the implementation of CyTOF Core"* at CYTO 2018, working with Chris Groves and co-facilitators from Harvard Medical School and the University of Sydney. The workshop's primary purpose was to address the difficulties in implementing and managing the mass cytometry core facility. The key findings have been summarized into a best practices document, an excellent resource for new and existing CyTOF cores.

Suat Dervish

1. What did you do during your time as an Emerging Leader?
My interest in the program was largely because of the opportunities for the development of cytometry at the leading edge and the subsequent dissemination/implementation at a local level of these innovations. The program has completely fulfilled my expectations with extensive experience gained with collaborating researchers locally and internationally, the communication channels established, and the opportunities to share and implement learned knowledge with the Australasian Cytometry Society (ACS) as well as within my institute. My involvement with the ACS locally has provided a means to share via workshops (BYO cytometer), seminars, and conference organization, now also as part of the advisory council.

2. What impact did being a SRL Emerging Leader have on your career?
The SRL EL program provided resources and communication channels that assisted in optimal management of our local cytometry shared resource laboratory 'Westmead Cytometry'. The framework, foundation, and training enabled progression in my career to manage three shared resource laboratories within our scientific offering on campus (Imaging, EM & Cytometry). The intangible benefits include the recommendations and project collaborations that have arisen due to contacts made through the SRL EL program.

3. Now that you are graduating from the SRL Emerging Leaders program, what are your future plans?
In addition to the management of the facility and the development of research projects in collaboration with researchers, I hope to promote the use/profile of cytometry through the organization of monthly user group meetings, annual scientific conferences, and clinical collaborative projects currently underway. In conjunction with a focused ACS team organization of a hybrid conference in Sydney towards the end of 2021 is on the horizon. I am also involved in the mentoring of SRL staff, along with a continuing contribution to CYTO annually.

4. What was your favorite CYTO moment?
CYTO 2016 SRL Forum planning and execution. It was a buzz!

5. How did you learn/demonstrate leadership to ISAC?
In my mind, through setting, adhering to, and practicing high standards in various aspects of cytometry, including training quality, biosafety implementation, technology development, participation, and community engagement/sharing.

Ask Old Dr. FITC

Dear Dr. FITC,
I have a lot of flow experiments to run, but not enough time to run them. My lab mate says I should just concentrate my samples in smaller a volume so they'll take less time to acquire. Her record is a 10 million event sample run in just 5 minutes! Do you think I can go even faster?
Florence G

Hello Florence,

I know that some people think that time is money, but you can't rush greatness! Faster is not always better, especially when dealing with sensitive markers and rare populations. Not only will your data suffer for it, but you're also likely to clog up the sample line with all those cells coming through at once. If you commute to the lab each day, you know first-hand how bad a traffic jam can get. You're likely to spend more time fixing clogs than you would have saved by running the samples this way. When it comes to running flow, remember that slow and steady wins the race.

If you have a question you would like Old Dr. FITC to answer please send it to **isacsrl.outreach@gmail.com** . Who knows, maybe your question will be select for the next issue!

Complaint Department
or Somedays in the SRL it feels like you are trying to herd cats!

Simple Problems Have Simple Solutions

Have you ever had a user come to you in a panic, often on a weekend or evening, with a very simple problem that they just could not see the equally simple solution to?

Research institutions employ some of the most brilliant minds in science. They work tirelessly to find new treatments for disease and improve the lives of mankind. These same brilliant minds can also be impressively short sighted and thrown off course by the smallest issue.

As a flow core manager, some of the most common "urgent" problems I'm called upon to solve by distraught users include: software is frozen, a fluidics/air line is disconnected, the computer monitor is turned off, they didn't put the instrument in "run" mode, and turning off caps-lock, just to name a few. My recent favorite was a user who claimed the cytometer software was "completely haywire". Upon closer inspection I found they had put their laptop on the workstation keyboard and it was holding the F1 key down. I should bring in a jar and add $1 every time I need to say the phrase "try turning it off and an on again."

If you have a user, instrument, or management anecdote that you would like to get off your chest please send an email describing it to **isacsrl.outreach@gmail.com**. One complaint will be "highlighted" in each issue of the newsletter.

ISAC SRL related Meetings and Webinars

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**
European Society for Clinical Cell	April 21—24, 2021	www.escca.eu/
Evaluating Spectral Cytometry for Immune Profiling in Viral Disease Dr Paula Niewold Dr. Thomas Ashurst	April 21, 2021	Learning.isac-net/on-demand webinar
CYTO Virtual Interactive 2021	June 7—10, 2021	Cytoconference.org
XVII Congress—Iberian Society of	June 14—18, 2021	https://sic2021.com

Recorded CYTO U Webinars—Recent Additions https://learning.isac-net.org/	
Topic	**Presenter**
Collaborative Image Analysis in the Cloud for Improved Reproducibility and High Scalability	Dr Peter Bajcsy, Dr. Nathan Hotaling, and Dr. Sreenivas Bhattiprolu
Reproducibility Crisis and Antibody Validation of Flow Cytometry	Dr. Pablo Engel