

## Dina Schuster (ETH Zurich & Paul Scherrer Institute)

ASMS 2022, 70<sup>th</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Minneapolis, Minnesota, USA, June 5-9 2022

Thanks to the financial support of the Life Sciences Switzerland (LS<sup>2</sup>) and the Swiss Academy of Sciences (SCNAT) I was able to attend this year's annual conference organized by the American Society for Mass Spectrometry (ASMS). The 70<sup>th</sup> ASMS Conference on Mass Spectrometry and Allied Topics took place in-person, in the United States of America in Minneapolis, Minnesota - a city I would have probably not visited if it were not for a conference on mass spectrometry.

Not only was ASMS my first in-person conference since the start of the pandemic, it was also my first opportunity ever to present my work in the format of a talk at a conference. ASMS is a very big conference with usually more than 6,500 participants, which makes it the biggest mass spectrometry related conference. It has been a long-time goal of mine to attend this conference, not only to hear about the newest advancements in the field but also to meet other people, to talk science and to make new friends in the community.

On the weekend before the start of the conference, I attended a 2-days-long workshop organized by the conference to learn more about native mass spectrometry. The actual conference started on Monday afterwards. The conference center filled up quite quickly on Monday morning with participants from all over the world. Once the conference was in full swing, vendors were introducing their newest mass spectrometry-related technologies while simultaneously participants were presenting their work in posters and talks. As there was so much going on at the same time, it was difficult to choose the most interesting activities for each day while trying not to miss out on anything.

The evenings were filled with different and very diverse workshops on topics such as networking, data analysis or data visualization and panels with famous scientists in the field. On the first night of the conference, I attended a panel highlighting female scientists in mass spectrometry and learned about how they got to where they are today. Following the workshops, vendors organized so-called "hospitality suites" where they offered free food and drinks while introducing their new developments - a great opportunity to socialize.

On Thursday morning, it was my turn to present my PhD work in the biggest room available at the conference. A bit overwhelmed by the size of the room, I presented my most recent data to the audience and received interesting questions and feedback at the end of it.

I am happy to have had the opportunity to attend ASMS 2022 and to present my work in a talk. I made new friends, met and had a chat with well-known scientists, learned about all the newest developments and simply had a great time. In conclusion, this conference was an amazing experience and I would recommend everyone who has a passion for mass spectrometry to attend it if presented with the chance to do so. The city of Minneapolis pleasantly surprised me with a great conference, good food, clean streets and the many parks it has to offer - I am happy ASMS, LS<sup>2</sup> and SCNAT gave me the chance to explore it.



## LS<sup>2</sup> Travel Grant Report of Michele Serra (UZH, USZ)

My participation at the Annual Meeting of The Obesity Society (obesity week) in San Diego was this year my third attendance at an international scientific meeting.

The poster presentation of three of our ongoing projects has probably been the highlight of my participation to this conference. Commonly, poster presentations are awkward situations where one stands in front of a big piece of paper that represents months, or even years, of research work (aka life). One stands there and hundreds of people walk in front of you and the big piece of paper. This situation goes on for hours. With a bit of luck, there will be some eye contact with these lone wanderers, someone will even smile. Only few peers will ask a question. In the best case, there will be one meaningful talk. That talk might develop into a concrete interest and, eventually, a collaboration. Two of my poster presentations developed into concrete interest and now some collaborations might arise from it. This was a highlight that I experienced here for the first time in two years of PhD study.

Furthermore, I had the opportunity to present one of my research outputs in a session reserved to early-career researchers. This experience, even if very educational, left me at unease. The field of research of my presentation was at the interface between surgery and microbiology. The other twelve presentations were centered more on endocrinology and nutrition. Considering that, mostly, only colleagues attend early-career sessions, my presentation was not very appealing for the audience. It can happen. It does not mean that our research is meaningless. Simply, it was not presented to the right audience. Also, I did not apply for this session; I was invited. That was another first of my career and I am happy of this achievement. I was also very satisfied with the quality of my presentation. I had a calm voice and I spoke slowly, leaving time to everyone in the audience to follow my storyline. It took practice and it is a never-stopping development process. Furthermore, presentation is not only about the skills, but also about the character of the presenter.

Regarding the conference itself, I liked some presentation more, some less. Nonetheless, there is a clear direction in the development of obesity research. The concept of obesity itself is being rethought. Even though there is no clear definition, yet. The breadth of this disease is what makes it challenging for patients, clinicians, and researcher, but also what drives the enthusiasm in understanding it and tackling its burden. On top of that, physicians and basic researchers like to engage in animated discussions and entertain the audience, which is hilarious to look at as an early-career researcher. Blessed souls.

My attitude toward the conference was much better than at the Annual Meeting of the International Federation of Surgery for Obesity in Miami, just three months ago. I understand now with more cognition what my expectations for such events should be, and what I can expect from myself. I still need practice to effectively realise all the above. I have underestimated the preparation for it. One needs at least one week to fully profit from the potential of such a conference.

I am extremely thankful to my mentor, Prof. Dr. med. Marco Bueter., for the opportunity to develop myself in these international contexts. Now, I have the honour to be grateful also to the Swiss academy of sciences and Life Sciences Switzerland. They have supported a decisive moment of this year and of my career.

I think to be talking for most of the PhD students enrolled in my Doctoral Program when I say that there are moments where we feel lost in our Doctoral projects. We embark in a journey with the "idea" of a title. We realise only at the half of the way that we are chasing something else than a title. Value, contribution, recognition. We look for something from society, from our peers, from our

projects, from ourselves. In my way, I found that the right path for me starts from myself. Philosophy requires clarity of mind. Honesty of intentions. Readiness to effort.

In this already mind-consuming setting, one must often fight against depressive episodes. Not everyone would admit it or look for help, but many would have experienced what I am talking about. Being a competitive athlete on the side helped me sometimes to overcome these episodes and other times worsened the situation. It is only when my sport performance was affected that I decided to look for professional help. Also there, I might not have taken this brave decision without the support of my fellow PhD colleague, Daniela. A support that acted even stronger was the one of my mentor. Prof. Bueter is always ready to invest time in listening to me, even in his very busy schedule. I am aware that no one has the privilege to be listened.

I do not want to let anyone down and I too often let myself down. I have seen friends leaving life behind for the career. Not taking care of their health. Finding comfort in euphoria. The future generation of scientists which I hope to be part of is a generation of charismatic examples of eudaimonia. Life should not be in the research work. Research work should be one of the fruits of life. We should first be able to give value to our lives.

Everybody deserves the mentoring and the opportunities that I have had. Everyone deserves to be given the opportunity to express their own approaches.

Communication should start within one's own Atheneum. Universities should facilitate and encourage internal collaborations. While participating to these international conferences, it is striking how research groups of the same universities aim to answer the same research questions but have never talked with each other. I am committed to make interdisciplinary approaches a core of my academic and clinical career.



## Meeting summary CICON22

Arend Keller (ETH Zurich, D-HEST)

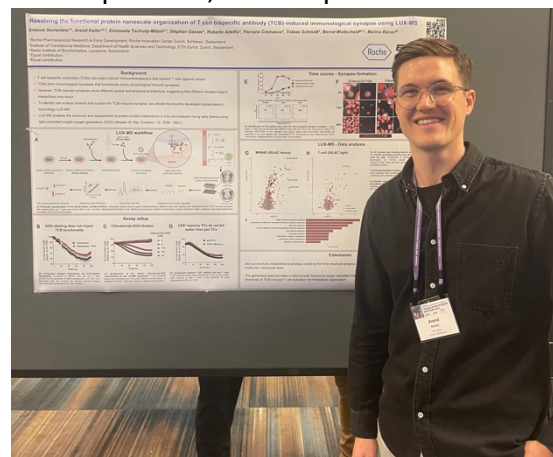
### Poster presentation: Resolving the functional protein nanoscale organization of T cell bispecific antibody (TCB)-induced immunological synapse using LUX-MS

CICON22: International Cancer Immunotherapy Conference  
September 28-October 1, 2022, New York (USA)

The LS2 Travel grant enabled me to participate in the international cancer immunotherapy conference (CICON22). The conference was held in New York (USA), with a focus on “Translating Science into Survival”. Internationally leading researchers and the next generation of early career scientists were brought together for the scientific discourse about new findings and innovations in the field of cancer immunotherapy. The four days have been filled with an interesting and multifaceted conference program. The keynote speakers showed their latest exciting research, but also the more specialized sessions were of extraordinary scientific quality. Interesting lunch seminars and an interactive poster session completed the program. Besides the scientific program, the lunch and coffee breaks facilitated interactions with researchers from all around the world. Attending the conference allowed me to gain in-depth knowledge about the most recent findings and novelties in the field of cancer immunotherapy. Altogether, it was exceptionally motivating meeting these fantastic researchers in person. Additionally, meeting young scientists while discussing their poster contributions was inspiring and helped to boost new ideas.

The CICON22 organization committee selected my submitted abstract for a poster presentation. Enthusiastic about this fortunate opportunity, I presented our findings of the cell surface protein interactome in the immunological synapse. In a collaboration with the Roche Innovation Center Zurich, we were working with T cell bispecific antibodies (TCBs), which are potent cancer immunotherapeutics that redirect T cells against cancer. To identify cell surface proteins that sustain the TCB-induced immunological synapse, we utilized our recently developed optoproteomic technology LUX-MS which enables the discovery and assessment of protein-protein interactions in (cis) and between living cells (trans) using light-controlled singlet oxygen generators (SOG). The poster presentation led to many interesting discussions, relevant input for the project, and some potential collaborations in the future.

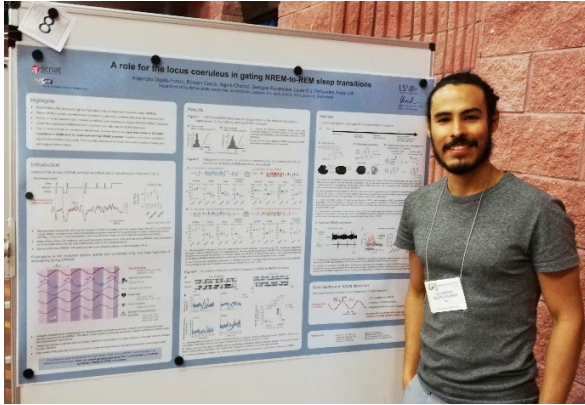
Collectively, I would like to thank the LS2 Committee for awarding me the travel grant. It enabled me to enjoy this unique opportunity to present among other international scientists of all career stages, made the exchange of project ideas possible, and helped me to form a scientific network for my future career.





## Alejandro Osorio-Forero (University of Lausanne)

Gordon Research Seminar and Conference (GRS/GRC) in Sleep Regulation and Function (March 12-18, 2022), Lucca, Italy



The Life Sciences Switzerland (LS2) and the Swiss Academy of Sciences (SCNAT) were crucial support for my attendance in the Gordon Research Seminar and Conference (GRS/GRC) in Sleep Regulation and Function. These events took place in Lucca, Italy, from the 12<sup>th</sup> to the 18<sup>th</sup> of March 2022.

These meetings are among the most prestigious conferences in Sleep Research. I had the opportunity to share my latest results with the community through my poster "A role for the

locus coeruleus in gating NREM-to-REM sleep transitions" in the poster sessions on the 13<sup>th</sup> of March at the GRS on the 16<sup>th</sup> and 17<sup>th</sup> of March during the GRC.

The two events sum up six days and nights of exchange with our training peers and principal investigators in sleep research. First, the GRS was organized for and by worldwide graduate and post-doctoral students. This enabled us to share our data, discuss it and receive feedback directly from our peers. During this event, I was honored to chair the Sunday morning session on "*Sleep and Wake Disruption: Implications for Human Health*" with engaging talks from Ph.D. students and post-docs from the United States and Switzerland. Additionally, together with Dr. Jelena Tadic, we got elected to chair the next GRS in 2024, which will occur in Texas.

Then, from Sunday 13<sup>th</sup>, the GRC started. During this conference, we benefited from talks well-balanced between recognized scientists and young researchers in the sleep field with insightful debates after each lecture. Additionally, I was involved in inspiring discussions with some of the most influential scientists in the field, with significant personal and professional implications for my future life and career. During my poster presentation, I got meaningful insights from the attendees interested in the novel and creative techniques used in our laboratory to perform REM sleep deprivation and the exciting results obtained.

Undoubtedly, the GRS and GRC have been significant opportunities to increase our work visibility, share ideas and goals, sharpen our objectives, get inspired by pioneers in our field, and get to know them, both at the professional and personal level. Most importantly, during these events, I refilled my excitement about the future of sleep science. We, the trainees, have the responsibility to continue to be good critics of our work, rigorous with our hypotheses, experiments, and conclusions, and keep the excitement going, the joy of understanding the secrets of the slumber brain and body.

I thank the LS2 and SCNAT for their support throughout my Ph.D., for the trust in our work, and for giving me the chance to represent our life science community.

## Camille Rabesahala de Meritens (UNIGE)

*Neutrophil 2022, 3<sup>rd</sup>-6<sup>th</sup> December 2022, Mexico City*

Neutrophils being one of the lesser researched cells of the immune system, the research on these cells often gets drowned out during general physiology or immune system conferences by other cell types. Having the opportunity to join a community that shares the same interests and that offers a rich environment to learn from leading experts in the field, theoretically and practically, was a huge asset to take advantage of. The conference focussed on neutrophils, neutrophils and nothing but neutrophils!

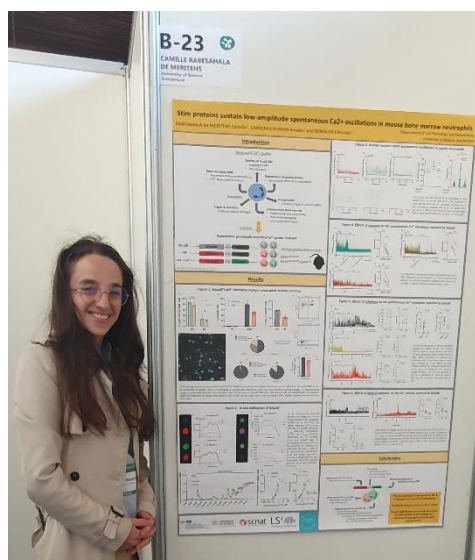
The “Neutrophil” conference is typically held every two years, but due to the Covid19 outbreak “Neutrophil 2020” was sadly cancelled and delayed until “Neutrophil 2021” which took place online. Despite the fantastic organisation from the British team who put together an amazing collection of speakers, it was a great pleasure to be back for “Neutrophil 2022” in-person and in a culturally rich city. Hundreds of leading scientists and students from around the world gathered together in a friendly environment with people coming from countries such as the USA, Mexico, Germany, UK, Switzerland, France, Israel, Italy, Brazil, Singapore, Spain and many more.

The many talks revealed the intricacies of such a cell as the neutrophil, their complexities and of course their fascinating nature and behaviour that has yet to be fully understood. Listening to the speakers and discussing their methods and work during the poster sessions was a great place to learn how to improve my data acquisition as well as analysis. It also became clear that people had the same difficulties and limitations when working with such sensitive and temperamental cells, which brought both feelings of frustration and relief.

With a large focus on migration, NETosis (the release of neutrophil extracellular traps), neutrophil heterogeneity and RNAseq, I learned a lot of information that either explained my current results but also inspired me for future work and assays to trial. Particular work from Arturo Zychlinsky on NETosis, Michael Gruber and his student Tobias Hundhammer on cell behaviour after centrifugation, Matthew Lawrenz on neutrophils and the black death, Klaus Ley on integrin activation, Matteo Napoli on Ca<sup>2+</sup> responses (using a similar model to my own) and Sergio Catz on neutrophil exocytosis were of exceptional interest to me.

With the highs and lows of life as a budding researcher, this conference definitely reignited my passion and interest in participating in unravelling the neutrophil’s multifaceted behaviour.

As a European student, having the chance to explore Mexico City as well as visit Teotihuacán, taste local specialities and practice my Spanish was an exciting adventure. A huge thank you to the organisers who put together not only fantastic and interesting conference, but also fun “extracurricular” activities. Of course, I also want to send my gratitude to the LS2 and SCNAT for helping me fund my trip and allowed me to attend such an “exclusive” neutrophil specific conference. I hope to be able to participate in the next “Neutrophil” conference, currently planned for 2024 in Munich, Germany.



## **18<sup>th</sup> European Congress on Digital Pathology- Berlin, Germany, June 15<sup>th</sup>-18<sup>th</sup>, 2022**

I was delighted to have my abstract accepted for a talk at the 18<sup>th</sup> European Congress on Digital Pathology, in Berlin. My abstract was as well selected for the best abstract award among 120 submitted abstracts. This congress is a yearly event joining from across Europe all the research groups and people working in digital pathology: data scientists, bioengineers, industry partners, and pathologists in one meeting to discuss the updates in the field of digital pathology: new technologies in machine learning and deep learning applied in teaching, diagnosis, prognosis and in therapies. Even if this is my second in-person congress, but it felt so good to be back to physical meetings, and interact in a live manner with the community and experts in the field that I already know partially from virtual events. The physical component was much needed, to be able to share my work, build connections in the field, get to know who the leading experts are and where is the field moving and in which direction, and most importantly to get visibility in my field and help me build connections for my next career step being it in academia or industry. First, I want to highlight some feedback after my presentation, I was happy that it went extremely well, and I presented part of my PhD work in front of 400 attendees. I received constructive feedback, input, questions and saw how other people perceive my work, and appreciated all the research that was done behind it. That helped later in interacting with other people, either the pathologists to see how they perceive my tool or the industrial partners or even with colleagues in academia to get their experience in terms of which journal to pick for publishing.

The congress' talks tackled different areas in the field all the way from hardcore machine learning and development to clinical application of digital pathology tools, integration of the tools in an educational setting, and all the regulatory affairs behind these to have a CE or FDA approved tool. Now we see an evolution in the perception of the field. The roles are now clearly defined from both sides: pathologists and data scientists. We know well the limitation of each side and how they complement each other for patients' benefits as it was well highlighted in a talk by PAIGE company. I want to highlight Prof. Inti Zlobec, Andrew Janowczyk, and Jens Rittscher talks which were fitting within this scope. These talks were all the way from technical aspects of digital pathology (quality control tools) to tissue microarray technology updates and to more subject-specific AI algorithms used for myelofibrosis grading and megakaryocytes classification fitting very well in the scope of my research. This leads me to appreciate how much the field is growing and moving and how much I can do more with my project from different aspects.

Another interesting interaction was the one with the companies and startups like Cytomine, Prima, and Tribun and how they are keen on interacting with researchers to be able to develop products tailored to our needs and facilitate this digital transition integration.

I am very fortunate that I was able to attend physically this congress and participate actively in many talks and round tables. I learned tremendously about the different digital pathology and AI research areas and tool development processes from research to clinical implementation and to legal certification. I even learned about the business model and market studies in this field. I still feel that the field is male-led, but I was very happy to see a few proactive women highlighted in this congress and I want to highlight two of them: Inti Zlobec



and Sabine Leh, two pioneers and inspirational scientists and professors. I felt that there was an effort from the organizers to have a gender balance but still a lot can be done to improve the visibility of women in this field all the way from hardcore programmers, and researchers to pathologists supporting digital pathology.

Seeing the bigger picture while chatting with experts in the field, helped in reducing a few frustrations I had for the field and reminded me why I love doing science, and translational research.

I am leaving the congress with a lot of motivation, stimulation, energy, and enthusiasm to go continue making an impact in this field. I am leaving the congress convinced that I might stay in this interdisciplinary and highly translational field.

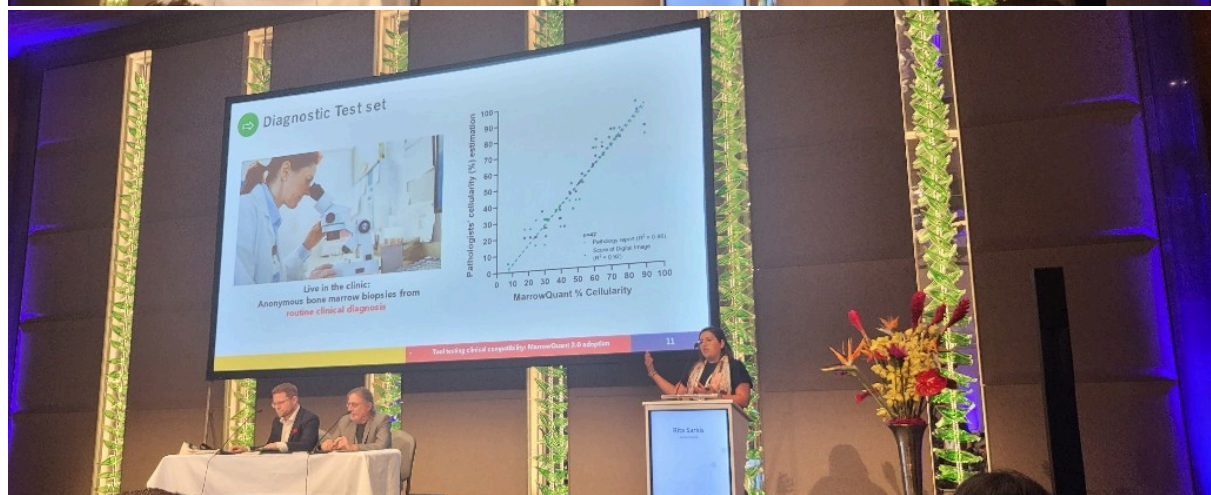
For sure without the support of LS2 and SCNAT, I would not have been able to attend this congress. This was one of the meetings that are key in my career path, right before graduating and at a critical career planning timepoint in my life. I want to take the opportunity to warmly thank LS2 and SCNAT for their significant help and support for my scientific career.

Sincerely yours,

Rita Sarkis

EPFL/UNIL

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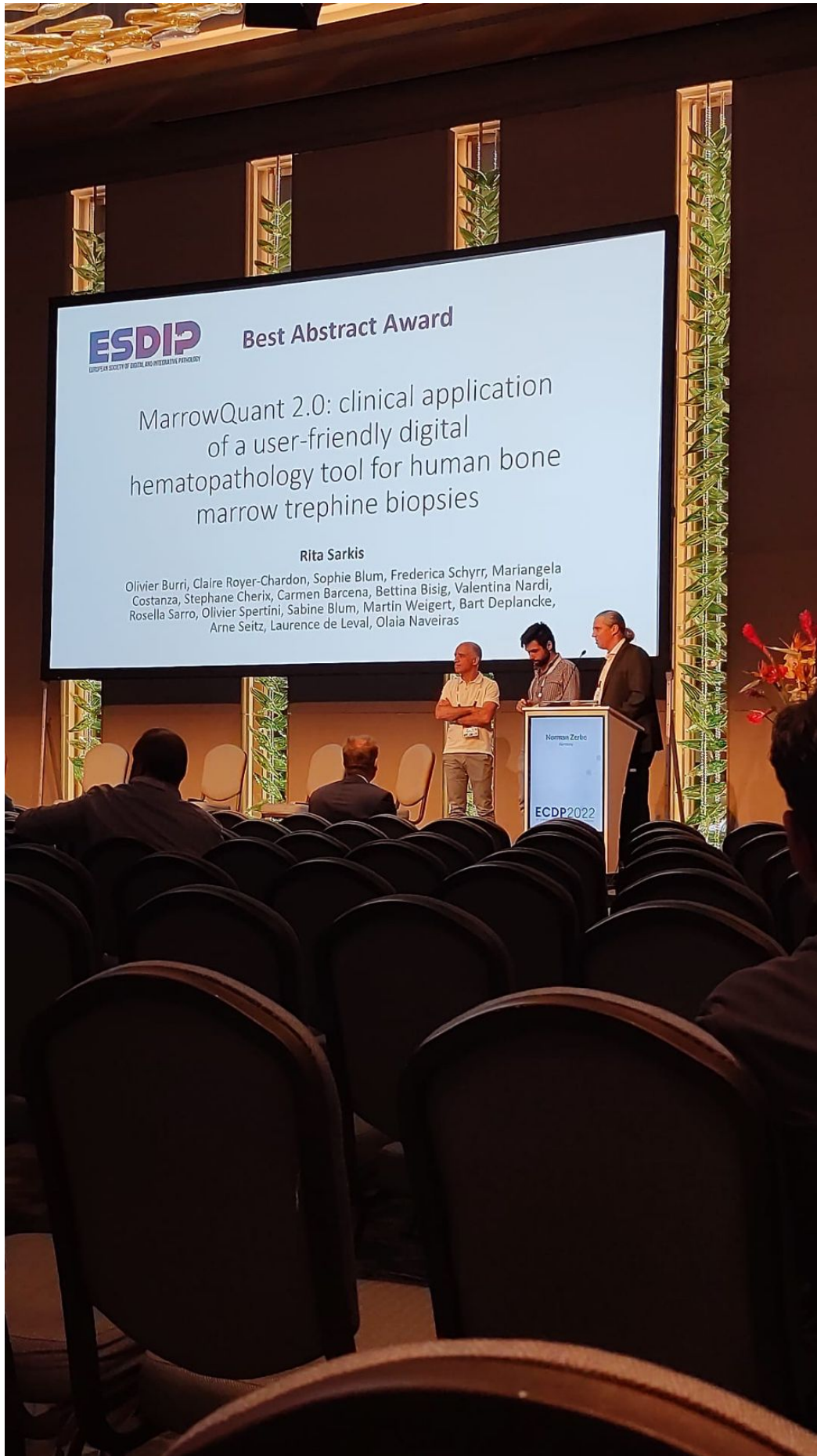


## Best Abstract Award

MarrowQuant 2.0: clinical application  
of a user-friendly digital  
hematopathology tool for human bone  
marrow trephine biopsies

Rita Sarkis

Olivier Burri, Claire Royer-Chardon, Sophie Blum, Frederica Schyrr, Mariangela Costanza, Stephane Cherix, Carmen Barcena, Bettina Bisig, Valentina Nardi, Rosella Sarro, Olivier Spertini, Sabine Blum, Martin Weigert, Bart Deplancke, Arne Seitz, Laurence de Leval, Olaia Naveiras



Elena Tantardini – University of Zurich

*“Protein phase transitions in ageing and age-related diseases:  
from atomic resolution to cellular solutions”*

Roscoff, France  
17<sup>th</sup>-21<sup>st</sup> October 2022

Thanks to the support of Life Science Switzerland (LS2) I had the chance to attend the “*Protein phase transitions in ageing and age-related diseases: from atomic resolution to cellular solutions*” Jacques Monod Conference in Roscoff (France) from the 17<sup>th</sup> and 21<sup>st</sup> of October 2022, organized by Dr. Ellen Nollen and Dr. Ronald Melki.

This congress happens once every two years and it aims to merge pioneers’ expertise on aggregation of misfolded proteins coming from different fields such as biochemistry, cell biology, physic and neuropathology. The small size of the conference and the high frequency of open discussion sessions allow a great exchange of ideas and promote multidisciplinary collaborations among different groups. Most of the talks in the congress highlighted mainly the recent results about different change of phase/aggregation patterns of misfolded proteins such as alpha-synuclein, beta-amyloid, TDP-43 and FUS, obtained both from *in vitro* and *in vivo* studies. As the most studied aberrantly folded proteins are involved in neurodegenerative disease, the conference focused mostly on shedding a light on the pathophysiology of Parkinson’s diseases, Alzheimer’s disease and Amyotrophic lateral Sclerosis (ALS). The overall take-home message from the conference is that it is extremely important to study the different protein aggregation pathways because it is thought to be the main culprit of the huge patients’ heterogeneity within the same neurodegenerative disease. Continuing with this path, precision medicine will hopefully be available soon for each patient according to their symptoms and physiopathology.

As part of the Polymenidou’s laboratory, I am trying to elucidate the mechanisms of toxicity of the RNA-binding protein FUS in the neurodegenerative diseases amyotrophic lateral sclerosis (ALS) and frontotemporal dementia (FTD). FUS, indeed, is also characterized by aberrant phase transition and aggregation in the pathology. Since my research is widely overlapping with the topic of the Jacques Monod Conference, I was accepted to present my recent data with a poster presentation. The poster sessions were extremely lively: I received many constructive inputs and welcomed new ideas that I mean to implement in my future work.

Overall, I had a very enriching and mind-opening experience at the “*Protein phase transitions in ageing and age-related diseases: from atomic resolution to cellular solutions*”. Networking is fundamental in academia and, in Roscoff, I had the chance to build some new connections with scholars and discuss, among many other things, about post-doctoral position openings in their groups. Besides, Roscoff is a very cozy village I would recommend anybody to visit!

Thank you LS2!



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2. Swiss Institute of Bioinformatics (SIB), Lausanne, Switzerland

**Name/place/date of conference:** HUPO 2022 - Human Proteome Organization World Congress, Cancun Mexico, 4<sup>th</sup>-8<sup>th</sup> of December 2022

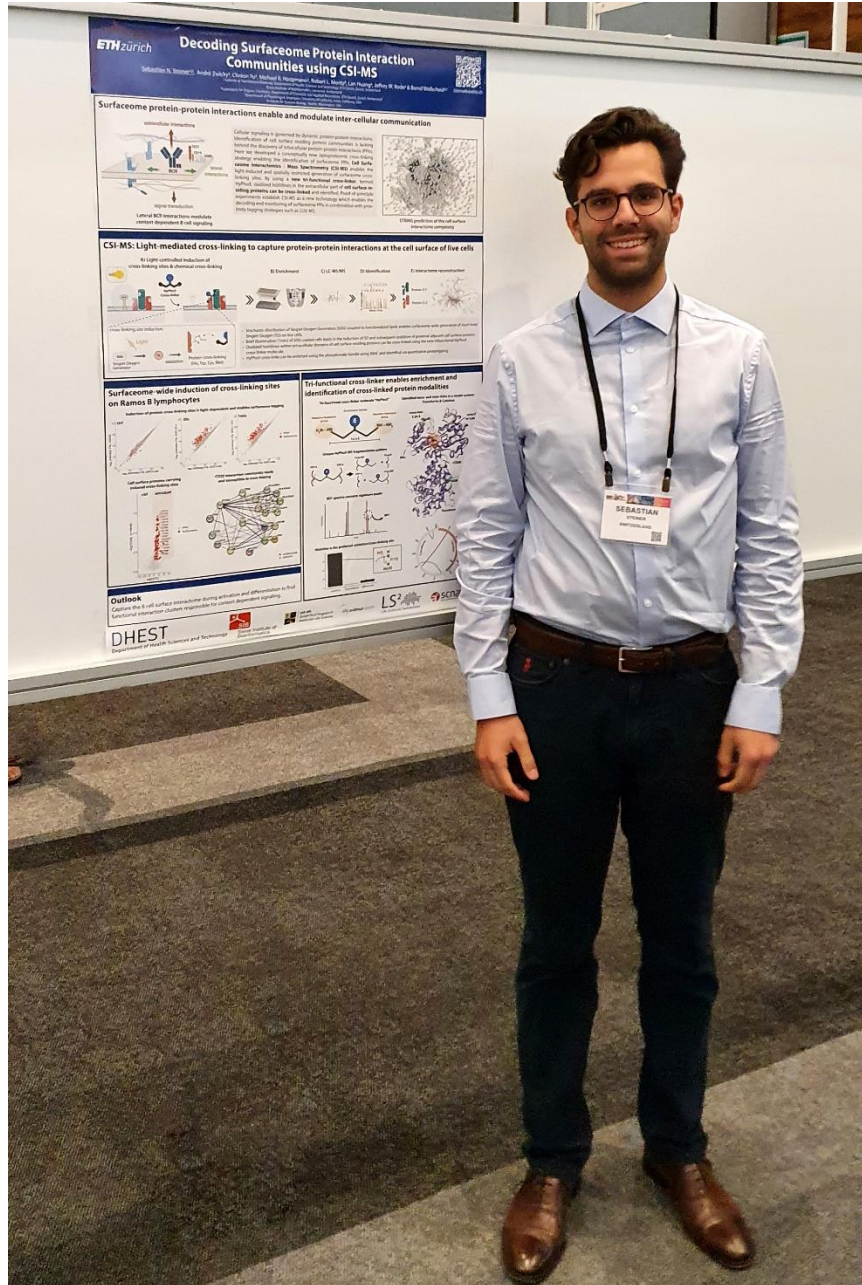
**Travel Grant Report:**

First of all, I would like to thank Life Sciences Switzerland (LS<sup>2</sup>) and the Swiss Academy of Sciences (SCNAT) for giving me the opportunity to attend the Human Proteome Organization (HUPO) World Congress 2022. This was my first international overseas conference with leading scientists from all over the world. HUPO is an international scientific organization aiming to promote international collaborations in the field of proteomics. This year's conference was held in Cancun Mexico and consisted of a 5-day program full of opportunities to learn as well as discuss most recent progress in proteome research. The program was very diverse and offered pre-congress workshops, inspiring plenary talks, topic specific multi presentation sessions and a poster session with roughly 600 posters to explore. Personally, the plenary speakers were one of the highlights as it was very inspiring to listen live to these excellent scientists that I only know from literature. A nice quote I remember very well from the first plenary sessions by Dr. Sameer Velankar is that "Proteins are not pretty structures. In fact, in the human proteome about 30% of the residues have high disorder propensity which are not reflected in traditional protein structure databases but for the first time predicted and nicely displayed in AlphaFold.". Besides the excellent scientific content, it was also very impressive to see top-notch storytelling skills and visuals of the long talks. In the short and topic related talks, I learned a lot about new biological findings and technological developments like application of proximity labeling techniques to understudied protein groups. In between talks, there were extensive poster sessions that gave the opportunity to interact and discuss science with researchers from different sub-fields and different universities from all over the world. The conference also included a dinner night that was an excellent opportunity to connect with other students or also meet collaborators from other countries I have only talked to on video calls. I was very happy that the organizing committee selected my abstract for the poster presentation session "Protein-Protein Interaction and Spatial Proteomics". I enjoyed the unique opportunity of presenting my PhD work in front of broad expert audience and the multitude of inspiring discussions. Further, I was thrilled to participate in the "Early Career Researcher" poster competition and super excited to have managed to win the runner-up prize for my poster.

All in all, this international conference was a unique experience, and I met many new young and senior scientist doing extraordinary research. All the discussion and presentations were very stimulating and boosted new ideas to be implemented in my own research. I was also able to appreciate and learn how renowned principal investigators hold excellent talks and manage to



convey scientific messages with ease. Lastly, it was a huge honor and learning experience to present a poster to experts in the field as well as to an expert jury for the poster competition. I would like to thank again the LS<sup>2</sup> committee for awarding me the travel grant and enabling me to attend as well as present my work at an international proteome conference. It was an amazing learning experience and I establish new connections for my current work, as well as my future career.





**Irina Bregy, University of Bern**

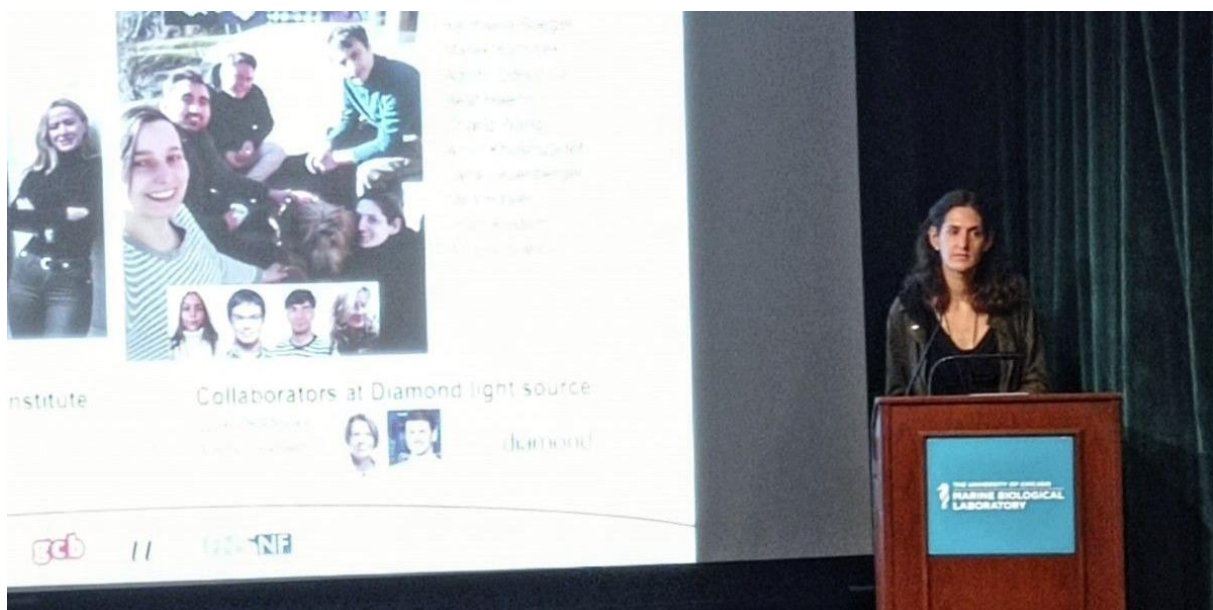
[Kinetoplastid Molecular Cell Biology Meeting, September 13-17th 2022, Woods Hole \(MA, USA\)](#)

After a three-year break, the kinetoplastid community has reunited, and I was delighted to be part of the gathering. The Kinetoplastid Molecular Cell Biology Meeting (KMCB) is an international conference focusing on protists belonging to the order of the Kinetoplastida. Among these are the *Trypanosoma ssp.* and *Leishmania ssp.*; both of which are known for causing disease in humans and animals. Furthermore, the Kinetoplastida have been under investigation by researchers interested in processes such as antigenic variation, RNA editing, mitochondrial biology, and evolutionary processes. Being a Trypanosome mitochondrial biologist myself, I was excited to participate in such a highly specialized meeting dedicated to my pet parasite.

For me it was the first opportunity to meet the major players in the field, as well as other young scientist with an enthusiasm for kinetoplastid research. During these five days in the picturesque fisher's village of Woods Hole, I learned where kinetoplastid research is currently at, and which directions the field is taking. The organizers kindly granted me a 15-minute time slot to present my own work in front of an interested and highly interactive crowd of researchers. The structural biology topics I brought to this audience of mainly molecular biologists and biochemist, seemingly raised quite some interest among the attendees. The detailed feedback I received from the audience allowed me gain new inspiration and perspectives on the future headings of my project. I was able to understand possible concerns of future reviewers, and gained new ideas on follow-up experiments. The insights on the projects of other researchers of my field further broadened my knowledge on my favorite model organism and the methods used to study it.

Furthermore, the conference was an important networking opportunity for me. I am absolutely convinced that knowing the people in my field will considerably boost my career. As a big bonus, it felt like meeting celebrities when I met the authors of some key publications that represent important building blocks of the kinetoplastid field.

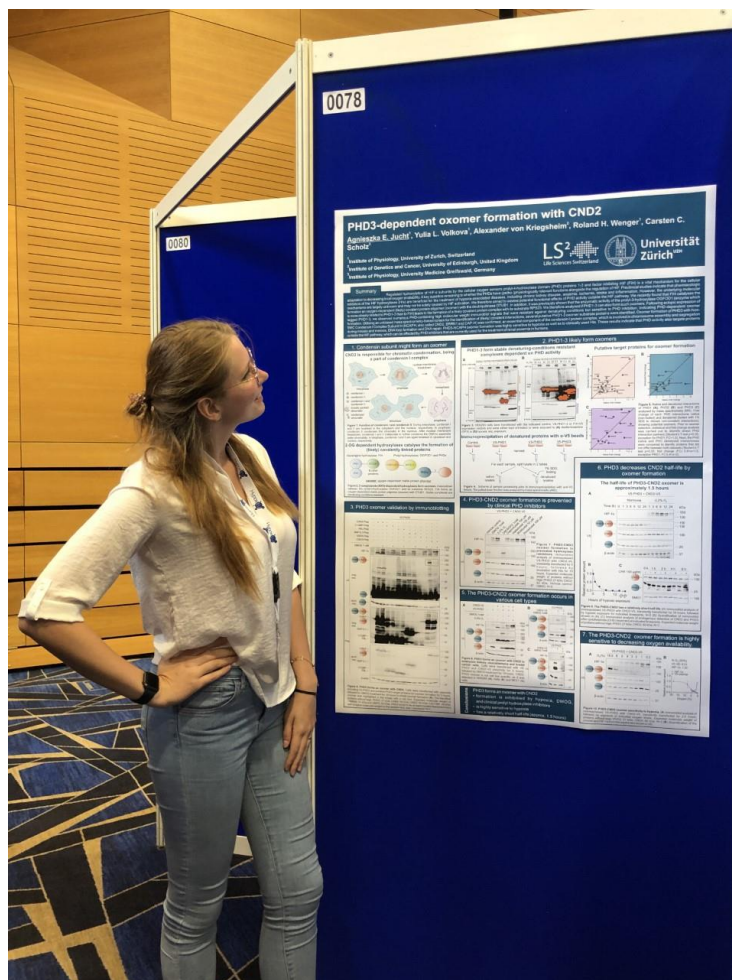
I am very thankful to the LS2 for granting me their support and making this amazing experience possible for me!



## Agnieszka Jucht (University of Zurich)

In September 2022, thanks to The Life Sciences Switzerland (LS2) and the Swiss Academy of Sciences (SCNAT) Tavel Grant, I was able to attend the HypoxEU conference in Dublin, Ireland. The conference focused on gathering researchers investigating oxygen sensing in organisms. HypoxEU is a novel establishment aiming to connect scientists from Europe working in the hypoxic field. Initially, due to COVID-19, these meetings took place in a form of online seminars. It was very refreshing to meet everybody in person and put faces to the speakers I saw presenting in the past few online sessions. The conference had a family feeling to it, as we all knew each other from previous online events and it was relatively easy to understand the talks due to similar subjects discussed. The meeting covered topics of hypoxia's effect on inflammation, metabolism, in vitro and in vivo models, red-ox-ygen biology, targeting of oxygen sensing pathways for therapeutic purposes, and oxygen sensing and signaling beyond hydroxylation. Intriguingly, two talks in a form of controversies were given, where the scientists from this specific area were discussing concepts of when is a hypoxia-inducible gene a HIF target, and which amino acid has been modified and was it enzyme-dependent. This new setup was very interesting, especially for the younger scientists, as the controversies currently present in the field were clearly outlined and discussed. It was intriguing to see senior scientists engage in a discussion and listen to the points and questions they would bring up. It was also very eye-opening to listen to the keynote speaker, Prof. Sir Peter Ratcliffe, the receiver of The Nobel Prize in Physiology or Medicine 2019, for his work on how cells sense and adapt to oxygen availability. His input and questions during the talks showed me that there is still a lot to discover in my field of research.

I presented my work as a poster during the conference. Due to the nature of the conference, the questions I got were much more specific and it was easier to get into a scientific discussion with the viewers. I also got a lot of insightful feedback and good ideas for future experiments, as well as considerations for my research. I am grateful that I was able to attend the conference in person, and that LS2 and SCAT made it possible for me. I would recommend engaging with the LS2 community to all young scientists.



**Katrin Wendrich (UNIFR)**

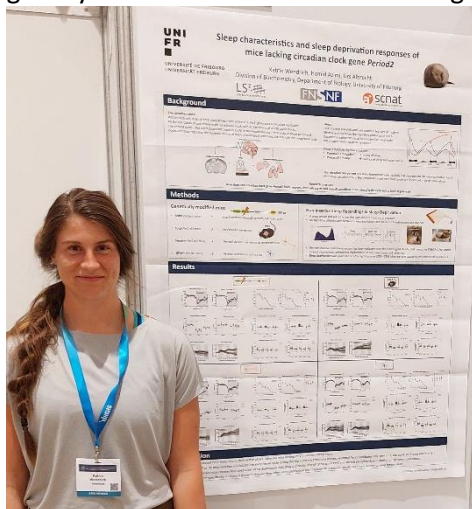
Sleep Athens 2022, the 26<sup>th</sup> Congress of the European Sleep Research Society, 27 – 30 September 2022, Athens, Greece

With the financial support from the LS2 and SCNAT I was able to attend the biennial sleep congress of the European Sleep Society with over 2300 colleagues from 67 countries around the world and with very little sleep over the four days albeit the conference's name. For me, it was the biggest and most international conference outside of Switzerland to attend and this also in person.

Within this setting I was picked to present my research in the "Oral Session 13 – Sleep and Chronobiology". In my eight-minute-talk I could present the sleep project of my PhD, revolving around the question if genes of the circadian clock are implicated not only in the first process of sleep regulation – the circadian component regulating the timing of sleep – but also in the second process of sleep regulation – sleep homeostasis tracking sleep need. I was investigating the impact of the core clock gene *Period2* on sleep and sleep homeostasis when it is specifically lacking only in the neurons or the astrocytes of the brain.

I was very glad to be in person at this conference, not only because I met Alexander Borbely, who published exactly 40 years ago the first version of the two-process model, which became one of the most influential models in sleep research with many researches putting their findings into its context, but also because I could participate in the session "Roundtable - 40 years Process S: from molecules to ecology". Here, Jeffrey Hubbard held his talk "Re-evaluating delta power dynamics as a marker for NREM sleep homeostasis", which in principle dismantles the so far very used practice to use delta wave power (brain waves, predominant during deep sleep) as a proxy for sleep homeostasis. 40 years after the first publication of the elusive process S, we still haven't found its biological correlates! It was very exciting to be in the middle of a budding scientific turnover where basic concepts or interpretations thereof might be overthrown due to new findings. It would have been fascinating to hear Borbely's opinion in the following discussion about this, but the by now over 80-years-old left before Jeffrey Hubbard's talk. To sum it up, I want to quote the chairman of the session Tom de Boer: "We are back to the beginning – we know nothing – and the sole person able to explain has left the room." Nonetheless, the evidence raised by Jeffrey Hubbard will surely change fundamental concepts in the field of sleep science. Sometimes, even scientific offspring misbehaves :D - but for the better (Alexander Borbely was Paul Franken's PhD supervisor, Jeffrey Hubbard was Paul Franken's Postdoc, Hubbard and Franken published the overthrowing findings in question together).

Apart from scientific discussions, I had the chance to view many posters in the field and expand my horizon about recent research within the sleep community. Additionally, the conference was the opportunity to meet a professor from Canada (of which I knew, she was coming and that I am interested in her research) and talk about future possibilities in joining her lab. Furthermore, I met many other scientists and had great exchanges. Overall, I enjoyed my attendance a lot and benefited greatly from the network and exchange opportunities!





Devmini Moonamale, University Children's Hospital Zürich  
*AACR annual meeting 2022, New Orleans, Louisiana, April 8-13, 2022*

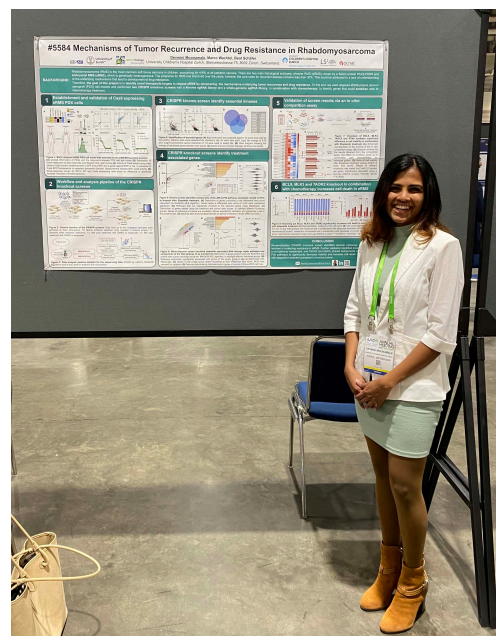
The AACR annual meeting is one of the largest and most impactful cancer research meetings that take place in different cities in America every year. This year, it was held in New Orleans on April 8<sup>th</sup> to the 13<sup>th</sup>. Thanks to the LS2 Travel grant, I was able to attend this year's meeting which was held in-person. More than 15,000 participants attended the conference in New Orleans with an additional 5000 joining in virtually. There were many sessions running in parallel where the topics covered all aspects of cancer research ranging from basic to translational research, epidemiology, and science communication. The sheer scale of this conference was overwhelming but overall, a very worthwhile experience.

I was particularly interested in the sessions that focused on drug resistance and pediatric cancers. Resistance to chemotherapy and targeted therapy is one of the primary reasons for the short-term success of most cancer therapies. It was very interesting to listen to experts in the field such as Prof. Charles Sawyers and Prof. Peter Sorger discuss the importance of creating a framework to address this issue by assessing the physical properties of tumors, tumor drivers, druggability, dependencies, vulnerabilities, as well as detecting the emergence of resistance early on, paired with precise monitoring and careful analysis. Pediatric cancers are often driven by fusion proteins between transcription factors or proteins that are deemed to be "undruggable". Therefore, much of the work is focused on creating innovative methods to target these "undruggable" proteins. I also attended a session titled 'Trust in science' where patients and experts highlighted the importance of communicating science in the correct manner and the importance of making research and information about clinical trials more accessible and understandable to the general public.

Attending this conference gave me the opportunity to understand and experience different layers of the juggernaut that is cancer research from industry, academia, all the way to patient outcomes and stories from cancer survivors and how these different facets come together to work towards a common goal, which was truly an inspiring experience.

I presented the main work of my PhD at one of the poster sessions. I was able to discuss the key findings of my project titled 'Mechanisms of Tumor Recurrence and Drug Resistance in Rhabdomyosarcoma' with interested attendees who ranged from PhD students, post-doctoral researchers to industry professionals. I was able to gain useful insights that aided me in choosing the direction for the final part of my project.

Finally, visiting New Orleans has been on my bucket-list for quite some time. New Orleans is a colorful and vibrant city with good food, great music, and a lively atmosphere. Attending one of the biggest conferences in the field of cancer research in a city that I have been wanting to experience has been one of the highlights of my year.





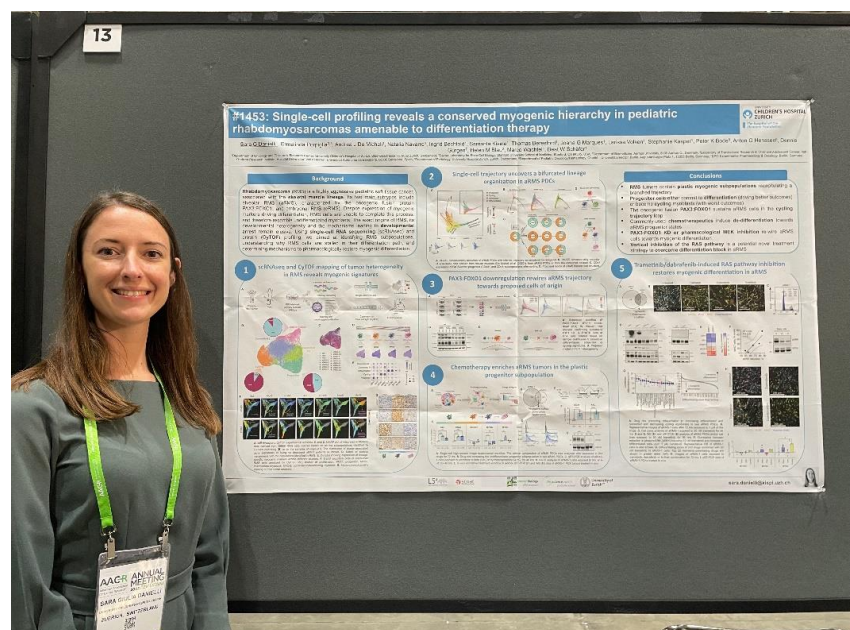
**Sara Danielli, University Children's Hospital of Zürich**  
*AACR Annual Meeting 2022, New Orleans, Louisiana, April 8-13, 2022*

Thanks to the LS2 Travel Grant, I was able to attend the AACR annual meeting 2022, which took place in New Orleans on April 8-13. The AACR annual meeting is the biggest and most importance cancer research meeting; this year, more than 20'000 people attended the conference, of which 15'000 were present in-person. Because of the high number of attendees, there were a lot of sessions running in parallel, which made the conference an overwhelming but also very fruitful experience. I mostly attended sessions focused on pediatric cancers, which ranged from the development and use of preclinical models to predict patient sensitivities, to the development of new strategies which allow to target cancer-specific dependencies, that were believed to be "undruggable". In particular, I was fascinated by a session focused on "Pediatric Cancer Pathogenesis and Therapeutic Advances", where renowned pediatric oncologists presented exceptional preclinical responses observed upon the use of anti-GD2 immunotherapies in neuroblastoma. These results gave me hope and strength to believe that the work we are doing will eventually be useful and help improve the survival rates of children with those aggressive cancers.

I was also very impressed and glad to see that single-cell technologies are emerging fundamental technologies to gain insights into the biology of cancer, as this has been the focus of my PhD, and what I would like to keep on working during my future career as a scientist. By using single-cell RNA sequencing or single-cell protein profiling, for example by mass cytometry, many questions regarding drug resistance, metastasis formation or immune-evasion have now been answered, but many more remain to be answered. At the conference, I have learned that spatial single-cell profiling is a hot topic which will help address some of those unanswered questions in the future. The scientific community is now trying to develop models and algorithms to quantify and interpret the outputs of such methods, as they are high-dimensional, and therefore complicated to be analyzed.

During the meeting, I have had the opportunity to present my main PhD project focused on single-cell profiling of childhood sarcomas as a poster presentation. I presented my latest results, where we show that childhood sarcomas contain subpopulations of cells resembling normal developing muscles. Besides the descriptive analysis, I have also presented important functional aspects of the subpopulations that I have identified, in particular regarding response to treatment, relapse, as well as novel therapeutic vulnerabilities. I have discussed my findings with many scientists, mainly all familiar with single-cell technologies, and was very happy to receive inputs as well as critics from some of them. I will for sure keep them in mind for my future directions.

Last but not least, my stay in New Orleans has been a cultural enriching experience. Jazz music, beignes, voodoo, and so much more that I truly enjoyed. New Orleans is a melting pot of French, Spanish, American and African culture, and I am very glad from the opportunity to combine my conference participation to this city visit.



## LS2 travel grant report for EMBL|EMBO Symposium at Heidelberg

Sigma Pradhan

Plasticity across Scales: from Molecules to Phenotypes (26 – 29 Oct, 2022)

I am grateful to Life Sciences Switzerland (LS2) for accepting my travel grant application and funding for the EMBL|EMBO Symposium at Heidelberg- Plasticity across Scales: from Molecules to Phenotypes. This was a premier EMBL|EMBO symposium, and as the name suggests, it was initiated with the focus on diverse disciplines across a wide range from molecular, phenotypic, developmental to multi-generational plasticity. It was a great platform to meet and interact with experts as well as young researchers in the field to discuss molecular mechanisms and phenotypes from varied environmental stimuli in driving plasticity, and further their perspectives with regard to novel evolutionary theories. The session topics broadly involved- plasticity and molecular mechanisms, transgenerational plasticity, role of plasticity in driving evolutionary novelty and plasticity in real world. Two particular talks by two experts that was greatly relevant to me was by Dr. Oded Rechavi and Dr. Ralf Sommer as they focused on transgenerational plasticity to stress in nematodes *C. elegans* and *P. pacificus* respectively.

As a young researcher, I was thrilled to have the opportunity to present my Ph.D. project as a short talk in the symposium in an intensive conference setting. My talk was scheduled on the second day where I presented about the role of parental dietary restriction (DR) on progeny growth and development in *C. elegans*. Progeny from DR parents show reduced growth rate and developmental delay when hatched in fully- fed conditions, that coincide with reduced ribosome concentration at hatch. They upregulate ribosomes within few hours after hatching to correct for the mismatch with the environment, but the developmental delay persists throughout development, leading to delayed maturity. Throughout the symposium, there were ample opportunities to network and engage in thoughtful discussions with fellow attendees, including during the "meet-the-speakers" sessions. I received valuable feedback and insights into my project outlook during these interactions. I must mention, this symposium being special to me for this was my first international conference where my abstract was selected for a short talk.

I would like to express my appreciation to the organizers of this symposium for their successful execution of the four-day event, and allowing the participants an extra-ordinary experience at EMBL. A key highlight of this conference was how everybody connected extremely well and were grateful for being able to meet and network in-person after a long pandemic. Overall it was an enriching experience with the scientific community and hence, I would like to thank LS2 once again for their generous support.



## Report for Cell Bio 2022 conference - by Mengjing Bao

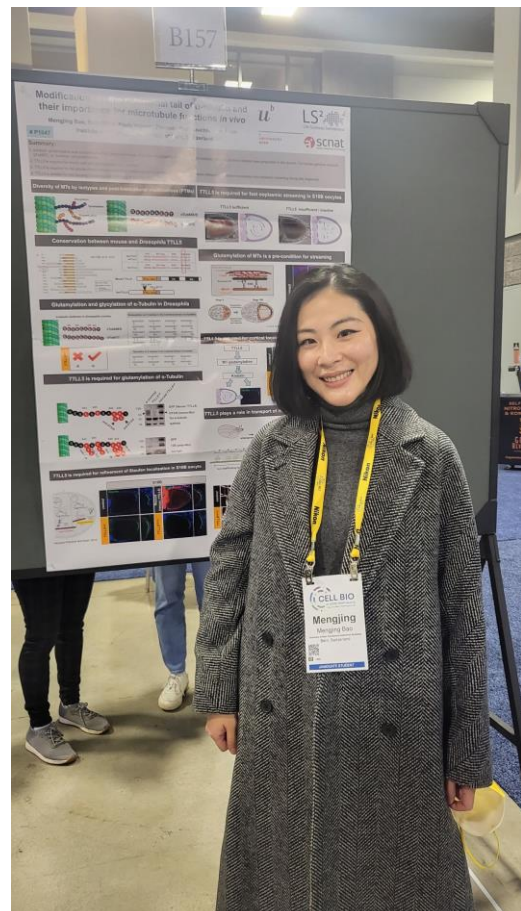
I am fortunate to get this opportunity to attend the Cell Bio 2022 conference, taking place in Washington DC, US, on 3-7th December 2022. I must express my gratitude to the LS2 travel grant committee, which funded me for this conference.

It was a big international conference, bringing cell biologists from different countries and backgrounds to present their new results and ideas. I was pretty interested in the section on "microtubule and cytoskeleton," and there were a lot of great talks and posters showing the most recent advance in the field of microtubule. I also presented a poster in this section. My research mainly focused on the functions of post-translation-modification on microtubule function in *Drosophila*. During the presentation, I received a lot of constructive input and precious suggestions from senior researchers, postdocs, and graduate students. I learned a lot and enlarged my research network by talking with different people.

Apart from the research section, I attended the section regarding suggestions for my future career. I participated in the talks like: "The transition from PhD to academia," "The life and work experience shared by senior postdocs," "How to prepare for a job application in industry" etc. These talks inspired me a lot when I choose my career path in the future.

Worthy of mentioning that the conference was well organized. An APP was set up to show clearly the topics, time, and locations. This APP enabled people to locate their interested topics very fast.

It was the first time I could attend and present in a physical meeting in the US after three years of pandemic. I enjoyed the week spent in this county to experience life in a different culture. I am glad to see life is returning to normal and people are connecting.





Sim Sakong, EPFL, Switzerland – 66<sup>th</sup> Biophysical society conference annual meeting

Thanks to the financial support of the Life Sciences Switzerland (LS2) and the Swiss Academy of Sciences (SCNAT), I got a chance to attend the biggest conference in Biophysics. It is the 66<sup>th</sup> Biophysical society conference annual meeting (BPS), which is held in San Diego, February 18 – 22, 2023.

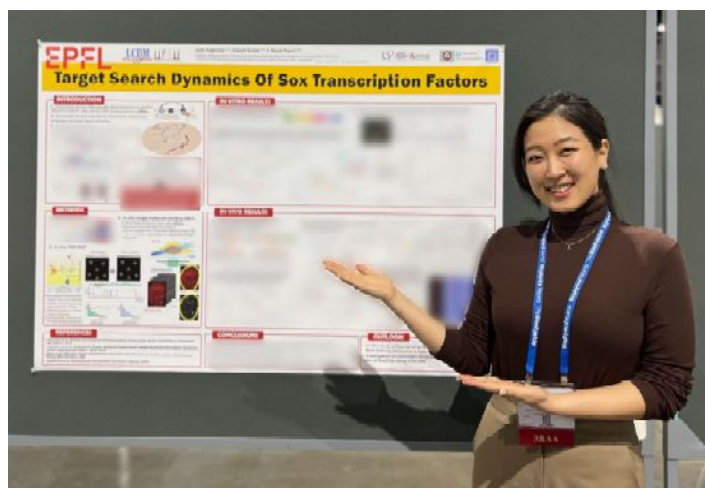
BPS 2023 definitely gathers not only Americans but also international biophysicists after Covid 19. Having a background of Material physics and Optics, it was my first time to meet such number of biophysicists ever since I started my PhD study in Life science. thousands of researches joined this meeting and, every day, there were always 5 – 6 parallel symposia and platforms which have interesting talks to me consecutively or at the same time from one session to another. Using their mobile application, I could organize the sessions fortunately. For me, particularly, the seminar, 'Protein-Nucleic Acid interactions' was relevant with respect to my project and the subgroup symposium 'Macromolecular Machines and Assemblies' grasped my attention as well. I have also met people whose lab I am concerned in doing my post-doctoral research in.

The poster sessions were organized in every afternoon for about 2 hours, I could talk more with other PhD students and also can definitely meet more people who are in the very close field, unlikely Gordon research conference I participated in last year, where I could more interact with PIs who I discussed with more in a sense of validation on results and motivations. In BPS, I could make peer-networking and discuss with researchers who work directly for their own projects doing experiments by themselves and studying deeply in more practical perspectives. That is why the conversations I got with them are helpful in learning new methodologies and thinking about the details again on my work.

Interestingly, I also talked to several people I have already met before from other conferences and it was good to keep in touch with them by such re-meeting from different conferences. I also unexpectedly found a Korean biophysicist sub-meeting group on the second day. They come from various regions: Korea, Japan, East and West of USA, and Germany. I hope this meeting becomes another opportunity for worldwide networking.

The overall impression on research trends in Biophysics, people made a simulation with AI machine learning to validate their modeling as well as perform empirical approaches. Also, in TF target search, my research topic, many research groups are now aware of the importance of the role of the regions outside of DNA binding domains, especially, focusing on the intrinsically disordered regions in eukaryotes. Therefore, after attending this conference, I got highly motivated to finish my project and I cannot help waiting for the moment that I share what I have found officially and openly. I would love to keep this enthusiasm to contributing more in Science and our society.

Lastly, I am grateful and honored to be awarded the LS2 and SCNAT travel grant that helped for my academic career and scientific adventures.





I had the opportunity to attend the ENDO2022 congress in Atlanta, GA, USA and I want to express my gratitude to LS2 for awarding me a travel grant. The congress by the endocrine society attracts roughly 5000 clinicians and scientists every year. This year represented the first in person meeting after the pandemic. The conference had several symposia, plenary sessions, and oral talks running in parallel over the 4 days. Further, a poster meet-and-greet session was held every day with over 200 posters each.

After the majority of the travel anxiety disappeared after receiving my negative pre-flight COVID-test results, I started my journey to the peach state. Given the long travels, none of my colleagues from Zurich attended the conference with me, but fortunately the flight departing from Amsterdam was already filled with other attendees. I stayed in a hotel in downtown Atlanta, a 15 min foot walk away from the conference centre which, in the southern heat (it was roughly 35°C) was a lot longer than I would have wished.

I am almost at the finish line of my PhD and due to the pandemic, this was the first international conference I was able to attend. I was selected to present my project in a 15-min oral talk titled “Paracrine Growth Factor Signaling Regulates Muscle Regeneration in Aged Mice via miR-501”. As part of a session focusing on the pathogenesis of diabetes, it was a great opportunity to highlight the relevance of skeletal muscle in whole body metabolism. The diverse expertise of the audience led to an interesting question round. The conference was generally divided into a clinical section and a basic science section, with separate social receptions each. During this time, I managed to meet new people from all around the world but also re-connect with a former colleague. Additionally, a myriad of pharmacological companies attended the EndoEXPO. This provided a unique opportunity to observe how novel findings on diseases such as diabetes are implemented in treatment strategies. Regarding the scientific sessions, my personal favourite was a symposium featuring Chris Geyer, Jon Oatley, and Stephanie Page. The session focused on the latest findings in reproductive endocrinology, more specifically the development of male contraception.

Once again, I am grateful for the opportunity presented to me by LS2 with the travel grant, allowing me to attend the ENDO2022 conference.



## **Akrivi Dimitra Daskalaki (University of Lausanne)**

[EMBO Meeting on Autophagy in brain health and disease \(Sant Feliu de Guixols, Spain, 11-14 May 2022\)](#)

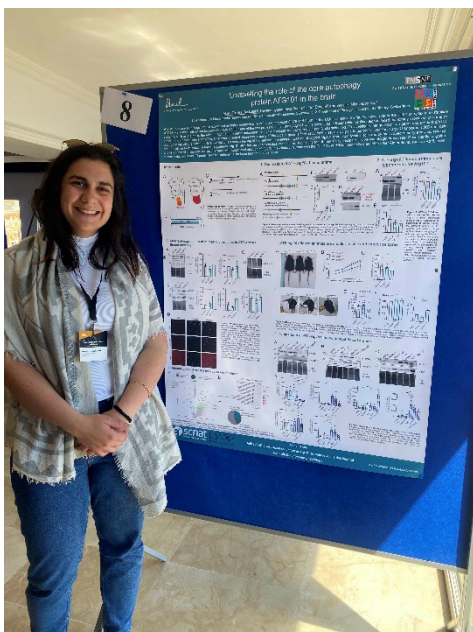
The travel grant from Life Sciences Switzerland (LS2) specialized in Autophagy field and the Swiss Academy of Science (SCNAT), gave me the opportunity and support to join an interesting and constructive EMBO meeting in Autophagy in Brain health and disease. This fascinating conference took place at Sant Feliu de Guixols, Spain between 11-14 May 2022.

It was the first conference after the outbreak of the pandemic that I could join in presence, giving me the opportunity to interact and discuss with other scientists for our common interest, autophagy. Despite COVID-19 insisting presence, affecting the regulations of several European countries still, we had an interaction of outstanding-importance with our peers, both scientifically and socially.

The program of the conference was intense with exquisite speakers from Europe and US and interesting poster sessions. In addition, roundtables during lunch time made the interaction with the speakers even easier. The good weather was making the atmosphere even more relaxing and inspiring. I had several constructive discussions, which will help me progress with my PhD project, but also offered me ideas and tips to progress myself as a scientist in general. As my abstract was selected for a poster presentation, I got feedback from a specialized and expert community on autophagy in neurons.

Interestingly the conference included a session of how family and diversity can be included in the life of a scientist, important to be discussed among scientists, by sharing personal experiences and thoughts.

Finally, the EMBO meeting on Autophagy in brain health and disease was a milestone for my PhD, as it was the first time that I had such constructive discussions and get feedback from scientists that I admire. I made acquaintances that will help me for my status but also in my future development as a scientist.



**Raquel Maria Ramos Calçada, University of Zurich**

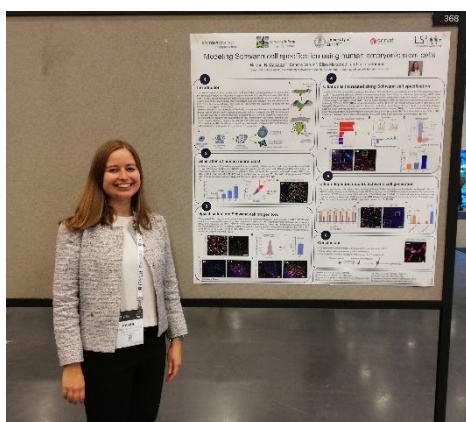
International Society for Stem Cell Research (ISSCR) Annual Meeting 2022, San Francisco, USA, 15-18 June 2022

Thanks to the travel grant offered by the Life Science Switzerland (LS2) and the Swiss Academy of Science (SCNAT), I was able to attend the ISSCR conference in San Francisco and to present my PhD project about modelling Schwann cell specification using human embryonic stem cells.

The ISSCR Annual Meeting 2022 took place in the Moscone West Convention Center of San Francisco, from the 15<sup>th</sup> to 18<sup>th</sup> of June 2022. During four days I was immersed in a unique scientific atmosphere, which gathered the biggest minds working on stem cells. Throughout the conference I had the chance to listen to multiple organoid human pluripotent stem cells (hPSC)-based models, single cell RNA sequencing analysis, among other topics. On the first day I had the pleasure to attend the inspiring talks of Leonard Zon, Jose Polo, and Prisca Liberali. While on the second day I had the chance to hear more about the latest news in stem cell therapy and regeneration, as well as reprogramming strategies. The dynamics of gene regulatory networks across space and time, disentangled by single cell analysis, were the focus on the third day. However, the highlight of that day was Lorenz Studer's talk. Finally, on the last day, I heard about the cutting-edge technologies and computational biology tools currently used to address the questions in the field.

The three first days of the conference were accompanied by poster sessions, where I had the opportunity to learn more about several topics, including some related to my field of research, such as neural tube organoid models. On the second day of the conference I had the chance to present my PhD work during the poster session, and for two hours I shared my results with a very exciting scientific community, and received a positive feedback. During this time, I also had the opportunity to interact with potential employers, to discuss future job positions. I also had the chance to interact with many companies and start-ups, that sell essential products for my research, and were presenting their newest technologies.

Overall, this conference was fantastic and I feel honoured to have been awarded this travel grant. I had the pleasure to listen to beautiful talks of the latest results in the field, to interact with PhD students, postdocs, and professors working with stem cells, and finally to discuss the results of my PhD. I am looking forward to the next ISSCR meeting!



## Report Travel Grant LS<sup>2</sup> & SCNAT — Jana Koch (UZH/SIAF)

### 6-10. September 2022, CSHL meeting translational control

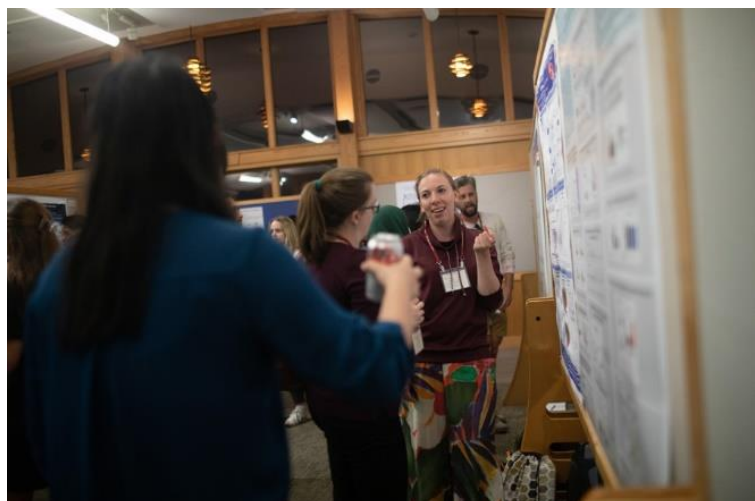
The LS2 and SCNAT travel grant gave me the opportunity to attend the Cold Spring Harbor Lab (CSHL) meeting on translational control in Cold Spring Harbor, NY, USA. This opportunity was singular in two ways. First, it was my first meeting overseas and as such extended my experience as a scientist. Second, it was the first meeting I attended that was very specific to the topic I am working on – translation. I am extremely grateful for having been able to join this very focused and productive meeting, and to meet so many grand people in my field of research.

The conference featured 78 talks in eight sessions focusing on ribosomes, regulation of translation, initiation, elongation, quality control, the central nervous system and development as well as translational control associated with other diseases. There were keynote speeches by Judith Frydman about changes in proteostasis in Huntington's disease, Thomas Dever about translational control by upstream open reading frames (uORF) and Jamie Cate about eukaryotic initiation factor 3 (eIF3). In particular the latter keynote was of great importance for my own research as the speaker extensively works on T cells. Detecting translated uORFs in T cells is part of my thesis project and many of the talks gave some new stimuli and interesting points to explore in the future.

In addition to the talks, there were three poster sessions with around 70 posters being presented in each of them. Due to the poster sessions lasting about 3 hours per session, there was ample time for general discussions, networking and of course receiving input on projects from experts in the field of translation. These discussions usually went on during the meals, since breakfast, lunch and dinner were provided for everyone in a large dining hall on campus. This was great to connect with people that worked on different aspects of translation that are not directly related to one's immediate focus of research.

I presented a poster on the third day of the conference about our work on translational regulation in T helper 1 (Th1) cells specifically in respect to metabolic pathways that are translationally changed during Th1 cell differentiation and activation in comparison to naïve, unstimulated CD4+ T cells. We are focusing on this field because T cell differentiation requires rather rapid and extensive reorganization of the cells. This process is very likely to be regulated on all levels of protein biosynthesis including translation. We were able to detect so far unknown translation events on RNA annotated as non-coding and are in the process of verifying these translation events on the protein level. This does not only help to increase our understanding of T cell differentiation but might also provide new targets for the treatment of different T cell mediated diseases. The feedback I got at this conference was very helpful to plan the next steps of the project and also for my PhD thesis in general.

Overall, this meeting was one of the best experiences of my academic life so far and extremely helpful for my future career. I would like to thank the LS2 evaluation committee for supporting my research by supporting me in participating at this international conference.





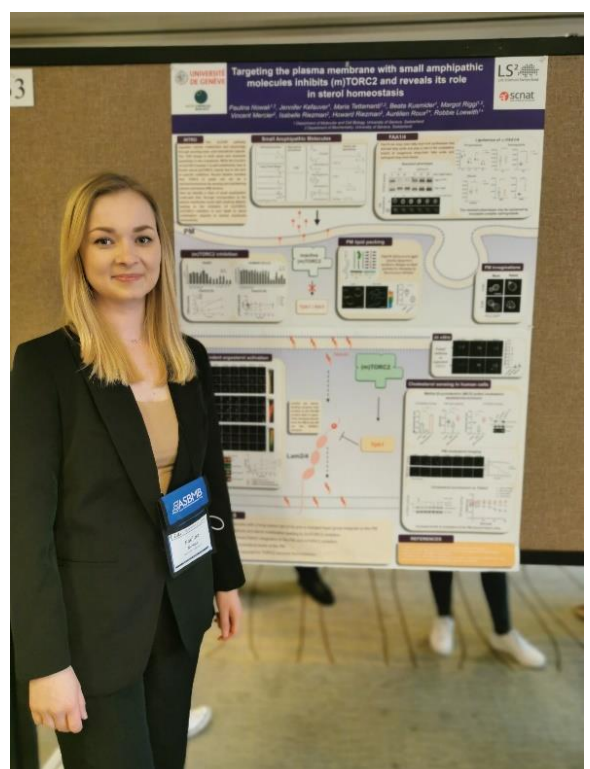
## Paulina Nowak (University of Geneva)

Deuel Conference on Lipids is organised annually by the American Society for Biochemistry and Molecular Biology. This year's edition took place in Monterey, California, from 1st to 4th March. The conference topics covered various aspects of lipid biology, putting them in the context of cell signalling and metabolism. This interesting coalescence enabled the networking of researchers from different fields - lipid experts and chemists with biochemists and cell biologists who had only recently begun to explore the role of lipids in their research projects.

Conference sessions covered research topics on various levels of complexity – from *in vitro* studies, through the cell and tissue models, all the way to clinical trials. Presenters represented both academia and industry and displayed an impressive record of scientific achievements. Topics were segregated according to the region of interest within the cell, covering the lipid trafficking in lysosomes, lipid homeostasis of the plasma membrane, lipid synthesis and storage in the endoplasmic reticulum. The final session focused on the consequences of disturbed lipid trafficking in diseases like obesity and diabetes. One of the Deuel Conference highlights was the opening lecture delivered by a scientific director of the biotechnology company Amgen, Murielle Véniant. Dr. Véniant talked about new molecular and genetic approaches developed at Amgen to understand and treat obesity.

Besides gaining extensive knowledge of lipid biology, I had a chance to present my work in the form of a poster. My doctoral project has only recently been focused on lipids. Getting feedback from the lipid-oriented community was a valuable experience. Now, I have new ideas to bring back to the bench, as well as contact with some other attendees in order to establish long-term collaborations.

Overall, the Deuel Conference on Lipids was a successful event providing information on the newest developments in lipid biology and trafficking and presenting cutting-edge techniques to better understand the topic's complexities. Scientific connections established during the conference will undoubtedly result in improving the level of lipid research.



## Perret Angélique - University of Geneva

Thanks to the support of the LS<sup>2</sup> travel grant, I had the opportunity to be part of the EMBO/FEMS summer course “The new microbiology” in Spetses (Greece) from August 30<sup>th</sup> to September 9<sup>th</sup>.

During the 10 days of the workshop, we enjoyed lectures given by experts about the wide spectrum of Microbiology: from understanding the molecular basis, the genetic and the cell biology of a microorganism to understand microorganism network and communication. About how microorganisms can sense their environment and/or evolved from being beneficial and necessary to becoming a pathogen.

We also followed a specific EMBO lecturer given by the Dr. Edith Heard about the Women in Science emphasizing the reversal of the ratio women/men in science between early stage of the career and group leader position. And a second one, by the Dr. Rino Rappuoli, about the importance of fast vaccine delivery as demonstrated in the present SARS-CoV2 pandemic.

The great organization of this workshop allowed us to closely interact with experts and students through the preparation of group presentations of scientific articles. Moreover, the creation of small groups during lunch and dinner with different mentors enable us to discuss specifically about everyone’s research topic, the future of the research and science communication it. It was also a perfect time to get advice about our future careers and discussion about becoming a group leader.

Finally, we had a poster session where I presented my research project entitled “Disruption of membrane microdomains increases resistance to *Mycobacterium marinum* infection”. After the poster presentation, I was awarded with one of the three best poster prizes which gave me the opportunity to present a short talk on the same topic. In conclusion, this workshop was an incredible experience not only to present and get feedback about my PhD project from specialists in microbiology and infectiology, but also to create a strong network with other PhD, Post-doc and senior researchers.



**Tahir Idris (University of Geneva) tahir.idris@unige.ch**

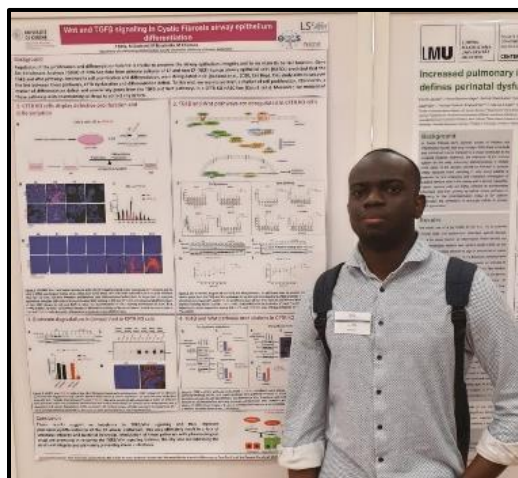
17<sup>th</sup> ECFS Basic Science Conference, 30 March – 02 April 2022 in Albufeira, Portugal

First of all, I would like to thank the LS<sup>2</sup> travel grant committee for giving me the opportunity to attend the 17<sup>th</sup> European Cystic Fibrosis Society (ECFS) Basic Science Conference that took place from the 30<sup>th</sup> of March to the 2<sup>nd</sup> of April in Albufeira, Portugal. Albufeira, a beautiful city along the coastlines of southern Portugal, is an ideal location to host one of the most important conferences in the Cystic Fibrosis (CF) field. Indeed, esteemed researchers from across the world came together to share their latest ideas on how to best tackle one of the most lethal genetic disease in the world.

The conference started on Wednesday with a keynote lecture from Dr. Camille Ehre, an up-and-coming researcher, about Mucins and mucus in CF. On Thursday, we had several symposia focusing on “gene expression and RNA processing” of the CF transmembrane conductance regulator (CFTR) gene, “personalized medicine approaches” for CF patients and “rare CF mutations”. These symposia included several eye-opening talks from established researchers as well as young scientists. I had the pleasure to present my PhD project at the flash poster session and eventually at the poster session that took place after dinner. As a short summary, my project is based on the concept that there is a differentiation defect in CF. To investigate this, we monitored two signaling pathways that are implicated in the differentiation process, the Wnt and TGF $\beta$  signaling pathways. We observed an imbalance in these two pathways thus leading to abnormal differentiation. Furthermore, by manipulating these pathways, we were able to correct some of these defects. The poster session was very engaging with multiple visitors, including top researchers and young scientists, invested in my project. I received several tips and ideas that will definitely be pursued and hopefully will lead to new avenues. Furthermore, the discussions that took place led to building of networks that will be very useful for my future career.

The other days of the conference followed a similar pattern and concluded on Saturday with a stimulating keynote lecture from Prof. Margarida Amaral, one of the most important researchers in the CF field, about how to tackle what is still missing in CF. A social event on Saturday night officially closed the conference with the distribution of awards and I was honored to receive an award to travel to the North American Cystic Fibrosis Conference in Philadelphia in November.

All in all, the conference was a wonderful experience and I look forward to the next editions!





# Travel Grant Report - Serena Melgrati (University of Bern)

Chemotactic Cytokines Gordon Research Conference 2022 – Les Diablerets, CH

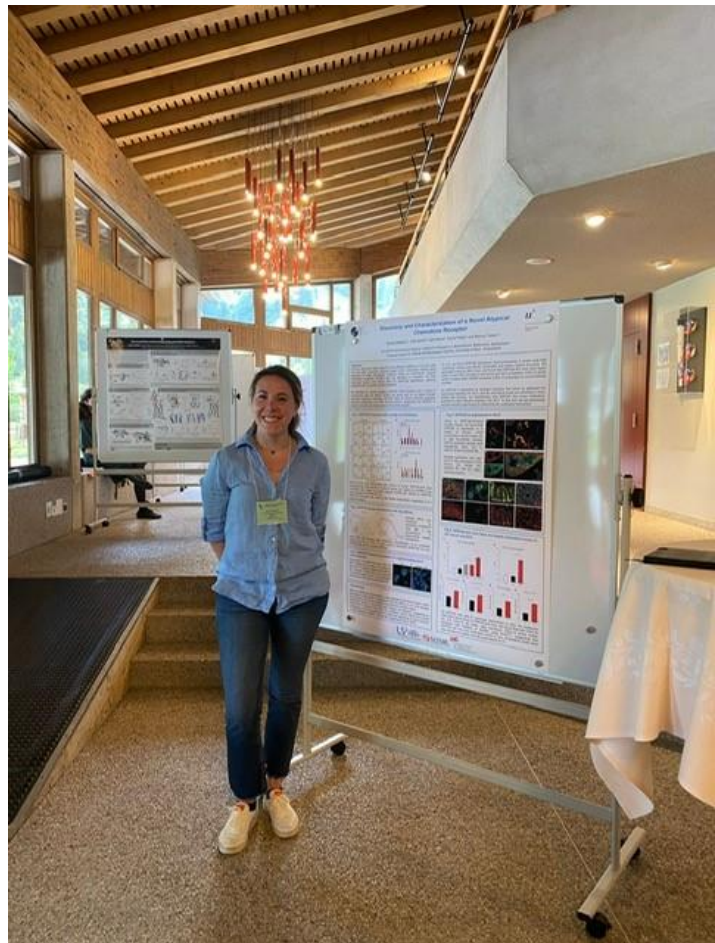
Role: Speaker (15min talk) and poster

The 2022 chemotactic cytokines GRC was a great conference held in Les Diablerets. It was the first conference in which I was able to meet international scientists from around the world, as most of these were cancelled due to the pandemic.

My poster and talk were about characterizing a new broadly scavenging chemokine receptor, which we hope to name ACKR5 in the near future. I showed *in vitro* data about chemokine interactions, including its broad spectrum and affinity, signaling properties, and coupling to an intracellular protein known as beta-arrestin. *In vivo*, I showed expression patterns in a reporter mouse. I then showed chemokine serum levels, and levels in secondary lymphoid organs, in knock-out animals.

My talk generated a lot of interest, with a fruitful discussion at the end. Many people also came to my poster later to talk more about the project. We were able to set up two new collaborations, one with the Medical College of Wisconsin, to generate structural models of the receptor, and one with the University of Wurtzburg (Germany), who would like to test our knock-out mice in leukocyte trafficking. We also strengthened our existing collaborations and received precious input on how to continue with the project.

Overall, this was a great experience that has allowed me to receive valuable suggestions regarding my project and meet interesting people.





Merel van Gogh (University of Zurich)

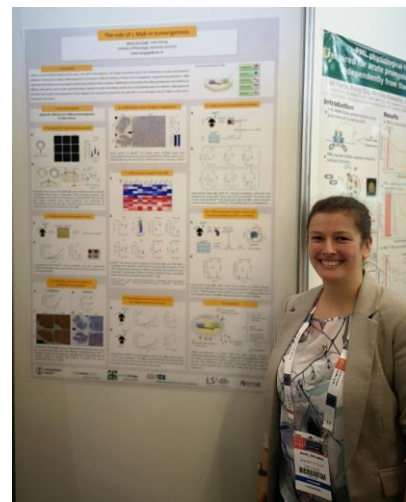
EACR 2022 Congress – Innovative Cancer Science: Translating Biology to Medicine  
Seville, 20-23 June 2022

Every year, the European Association for Cancer Research (EACR) organizes a four day congress, bringing together cancer researchers from all over the world. This year, thanks to the travel grant of Life Sciences Switzerland (LS<sup>2</sup>) I was able to attend this congress in Seville, Spain. Over 1800 researchers attended this years congress and shared their ongoing research during different sessions. There were many great presentations and discussions, and since it will be too much to discuss in this travel report, I will focus on what I thought were some of the highlights of the congress.

First of all, the different sessions were very well put together, each focusing on a different aspect of cancer research. Starting with a choice between several Educational Sessions, where experts gave a presentation containing more extended background information. These sessions were followed by many different Symposia, each containing about five different talks, from both renowned and more junior scientists about their ongoing research. I especially enjoyed the presentations of Prof. Yardena Samuels; I attended both her talks during the Educational Session and the Biomarkers for Immunoncology Symposium about neoantigens. My own research is now touching upon this subject and it was amazing to hear about it in detail from an expert in this field. In addition, I enjoyed the Symposium on how cancer cells instruct host cells, in particular the talks by Dr. Giulia Biffi on cancer-associated fibroblasts in pancreatic cancer and Prof. Karin de Visser on how mutations in breast cancer cells shape the immune landscape. This latter presentation showed some overlap with my own PhD research project, where we also look at how the dysregulation of one protein changes the tumor microenvironment, this was great to get some ideas for my own research! Besides the Symposia, different Keynote Lectures were spread throughout the conference. My absolute favorite was on the last day by Prof. Ton Schumacher on how different cytokines function within a tumor and the use of designer cytokines to treat cancer.

Secondly, the congress was also attended by several Editors from major scientific journals, such as Nature and Cancer Discovery. On the first day, a ‘Meet the Editors Panel’ was held, in which they answered questions related to publishing your scientific work. In addition, there were ‘Career Development Sessions’ where, together with six others, I met with dr. Victoria Aranda, an editor at Nature. We talked about the whole publishing procedure, tips and tricks and also about job opportunities. It was great to peek behind the curtain of one of the big scientific journals.

Lastly, I got the opportunity to present my PhD research in a poster presentation. I had great discussions with different people, resulting in great ideas for the future. In general, I met a lot of great, (young) scientists with whom I could share my passion for cancer research. I believe this congress helped tremendously in pointing me in the right direction for my future career in science!



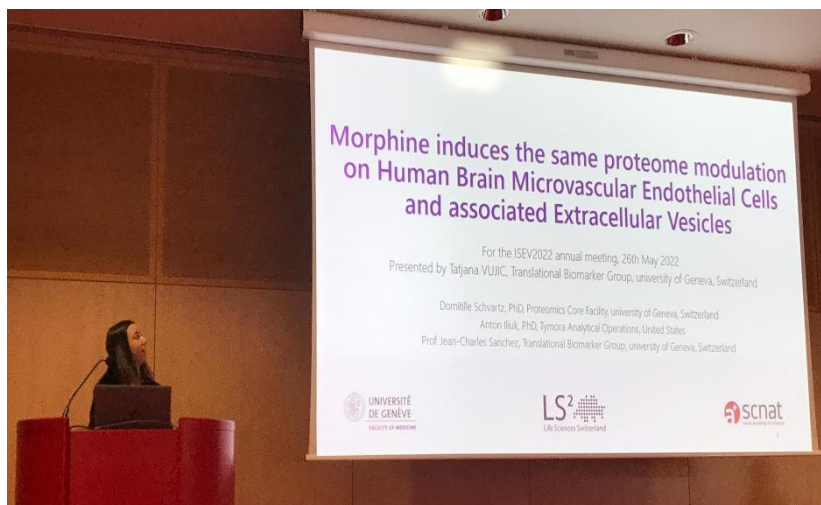
**Tatjana Vujic, Department of medicine, UNIGE, [tatjana.vujic@unige.ch](mailto:tatjana.vujic@unige.ch)**

11<sup>th</sup> International Society for Extracellular Vesicles Annual Meeting, 26-29 May 2022, Lyon, France

I would like to sincerely thank the LS2 Travel Grant for giving me the wonderful opportunity to attend the 11th annual meeting of the International Society for Extracellular Vesicles (ISEV) in France! It was so satisfying to be able to attend and present in person after almost two years of virtual meetings due to the pandemic.

The ISEV2022 meeting has provided me an unparalleled opportunity to learn and network with leading and emerging experts in extracellular vesicle (EV) research. With over thousands of participants, the scope and quality of scientific exchange made ISEV2022 the largest and most important meeting that I have ever attended. This conference has been designed to present the best of vesicle science, covering all aspects of basic, translational and clinical research, disseminating cutting-edge developments in EV research in the world. The ISEV2022 permitted me to meet in person scientists from academia, clinical research, and industry with the common objective of understanding EVs and applying that knowledge for societal and economic benefit. It was also the opportunity to meet the EV organizing community, of which I have been a member since 2019, and to discuss excellent and unpublished research, with young and experienced researchers presenting, interacting and networking with each other.

This EV-focused meeting EVs gave me the very unique chance to present my current work on EVs in the oral with poster session as well as in the poster session during these 4-days' of meeting, resulting in an engaging and stimulating panel of discussions and feedback. Eminent plenary speakers were also present and reported their past and actual work providing inspiring insight into possible novel perspective in this exciting field. Finally, I had many occasions to meet industry sponsors and learn about their products, technologies and solutions, as well as interact with collaborators and friends and maintain the connection alive.



**Elena Barletta, Swiss Institute of Allergy and Asthma Research (SIAF), University of Zurich.** 14th Advanced Proteomics European Summer School, 31st of July - 6th of August 2022, Kloster Neustift (Brixen/Bressanone, South Tirol, Italy)

In August 2022, I had the great opportunity to participate in the 14th Advanced Proteomics European Summer School in Bressanone, South Tirol, Italy. Thanks to the support of the Life Science Switzerland (LS2) and the Swiss Academy of Sciences (SCNAT) I could fully attend these seven days without personal costs. I was lucky to be one of the selected students to participate in this amazing experience. We stayed in a beautiful abbey, in the north of Italy, where all the activities took place without moving too much around the city, in compliance with COVID rules.

Each day was structured into two advanced lectures in the morning, lunch, a company talk (alternating with an outdoor activity), a workshop (WS), dinner and poster sessions followed by a social program. All courses from sample preparation, mass spectrometry technologies to data analysis were fundamental for my growth as PhD student in the field and to advance in my project work, opening my mind to new research possibilities. I participated in three WS on: Protein Quantification (DIA), MS Statistical Analysis (MSstats) and Protein Post-Translational Modifications (PTMs). These WS gave me the opportunity to work directly on new software for the analysis of proteomics data having not only a theoretical but also a practical view on how to best represent my results. Throughout the week, I was able to increase my understanding of state-of-the-art applications, get in contact with the scientific community as well as learn from top class scientists/researchers coming from all around the world.

On the second day, during the science slam and also the poster session, I presented my work titled “Mass spectrometry-based identification of allergen proteins involved in seafood-related allergic reactions” in a poster format and a 1 min talk. I challenged myself to share my work in such a limited time during the slam but also discuss my research with all participants during a full evening session where I receive very important and diverse feedback. There I showed a bottom-up proteomics approach, LC-MS/MS coupled with Parallel Reaction Monitoring (PRM) technique, I used to acquire high-resolution full MS/MS spectra for target allergen peptides. With this technique I was able to confirm the presence of tropomyosin allergens suggesting the reproducibility of this workflow, so as to be used not only in the identification of other important allergens in seafood-related allergic reactions but also of allergens involved in other types of allergic diseases.

I also very much enjoyed all the extra activities proposed by the organizers: hiking in the mountains, city tours and, social gatherings, where I could confront myself with young scientists, like me, facing similar scientific and personal challenges. We were able to share specific insights, different approaches, and best practices within the proteomics field.

To conclude, this school helped me understand why I decided to be a researcher in this amazing field of study. It made me realize what are the most important things I have to focus on and what are the next steps I'll have to take to improve my experiments. Therefore, I want to thank LS2 and SCNAT again for having awarded me with this travel grant, which is and will be a significant help for my research career and future work.

