Giulia Mazzini, University of Zurich, Biomedicine PhD student, giulia.mazzini@uzh.ch

Society for the Study of Ingestive Behavior (SSIB) 32nd Annual Meeting

28th July – 1st August 2025, Oxford, UK

The SSIB, established in 1987, is a leading scientific organization focusing on ingestive behavior, merging physiological and psychological aspects of food intake. Currently, it has over 350 members from 30 countries. The society's annual meetings have become crucial for sharing cutting-edge research in ingestive behavior, reflecting the growth and evolution of this scientific discipline over time. **Attending the SSIB conference in Oxford was an enriching experience** that offered invaluable professional development, networking, and most importantly a huge personal growth opportunity, which left me truly inspired and motivated for my future research path.

At this conference, I had the honor of **presenting my research findings in a oral presentation**. Having the opportunity to share my work with leading experts in ingestive behavior was crucial for me, as the feedback I received was constructive and encouraging, providing new perspectives and ideas for future research directions. The questions I got and the discussions that bloomed after my talk have been intense, lively and insightful, demonstrating the community's deep interest and engagement with my research. Indeed, one of the most rewarding aspects of the conference was the **opportunity to interact with renowned researchers and professionals**.

Additionally, I **connected with fellow Ph.D. students from universities worldwide**. It was comforting to realize that we share similar challenges and experiences in our graduate programs, building a sense of community and support, and highlighting the universal aspects of the academic journey. As part of the New Investigator Advisory Committee (NIAC), I helped organize a social event night with a pub crawl that fostered great interactions between researchers in a relaxed setting.

Exploring the small cute city of Oxford was delightful. The medieval gothic architecture creates a unique atmosphere where centuries of scholarly tradition meet modern research. Despite its prestigious reputation, there's a welcoming collaborative spirit among students and researchers that makes the city feel alive with intellectual curiosity.

In conclusion, **attending the SSIB annual meeting in Oxford has been an invaluable experience that has contributed significantly to my professional development and personal growth,** which will have a life-lasting impact on my academic journey. I am genuinely **grateful to Life Science Switzerland for this opportunity** and I look forward to applying the knowledge and connections gained to my future work.

The opening of my talk at SSIB, and Prof. Thomas Lutz and I with the award that I got for my talk! ☺

Anja Helmer (Department of Cardiac Surgery, Inselspital, Bern University Hospital & Department for BioMedical Research, University of Bern, Switzerland)

International Society of Heart and Lung Transplantation (ISHLT) 45th Annual Meeting and Scientific Sessions, Boston, Massachusetts, USA, 27.04.2025 – 30.04.2025

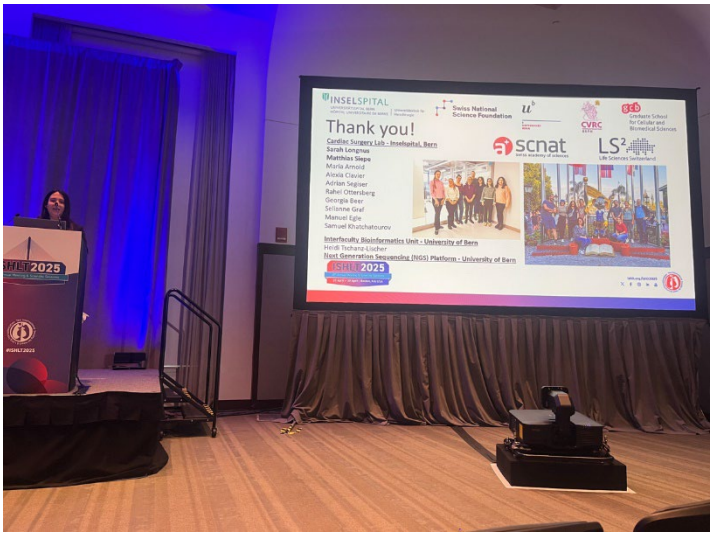
I am very grateful to Life Sciences Switzerland (LS2) and the Swiss Academy of Sciences (SCNAT) for awarding me the LS2 Travel Grant, which enabled me to present my work at the 45th Annual Meeting of the International Society for Heart and Lung Transplantation (ISHLT) in Boston, USA.

The ISHLT meeting is a leading international forum for exchanging cutting-edge research and clinical advances in heart and lung transplantation, advanced heart and lung failure, mechanical circulatory support, and vascular diseases. The 2025 conference brought together leading scientists, clinicians, and industry partners from across the globe, offering an outstanding platform for networking and collaboration.

During the meeting, I had the opportunity to attend a wide range of sessions, including symposia on novel cardiac preservation strategies, biomarkers for early detection of graft dysfunction, and advances in donation after circulatory death (DCD) heart transplantation. The session about streamlining metabolic recovery in DCD hearts was particularly relevant for my work, as it highlighted emerging insights into the role of metabolic adaptations and the potential impact on graft dysfunction.

My abstract, "Sex- specific alterations in metabolic gene expression of cardiac grafts in a rat model of donation after circulatory death," was selected for an oral presentation. I was particularly grateful to present our research, which resulted in valuable discussions with colleagues afterwards. These exchanges provided insightful feedback and opened new perspectives on our findings, contributing meaningfully to the ongoing development of our work. In addition to the wide range of oral sessions, I had the opportunity to attend multiple poster sessions, which provided the perfect environment to exchange with colleagues with different expertise in the field. Furthermore, I had the pleasure of serving as a poster moderator during one of the poster sessions on the first day of the meeting. It was the first time I was allowed to moderate posters, which was both an engaging and intellectually stimulating experience, leading to in-depth conversations and critical reflections on ongoing research in the field.

Overall, attending the 45th Annual ISHLT meeting was an extremely rewarding experience, both scientifically and personally. It provided a unique opportunity to engage with the international transplant community, share our work, and gain valuable insight into the latest research and clinical advancements. Once again, I would like to sincerely thank the LS2 and SCANT for their generous support, which enabled me to attend this amazing meeting in Boston.



Guillaume Bogaerts,
BioMed PhD student,
Group Lutz

Vetsuisse-Fakultät,
Zurich,
06.08.2025

I am writing to express my sincere gratitude for the opportunity to attend the 32nd Annual Meeting of the Society for the Study of Ingestive Behavior (SSIB), held from July 28th to August 1st, 2025 in Oxford (UK). The generous support provided by the LS2 Travel Grant made my participation in this prestigious international conference possible and enabled me to engage in an invaluable professional and academic experience as a young researcher.

Each year, SSIB brings together over 400 researchers from around the world, representing a broad spectrum of scientific disciplines focused on ingestive behavior, spanning from neural and physiological mechanisms to psychological and behavioral influences on food and fluid intake. The society plays a vital role in advancing research related to nutrition, obesity, metabolic disorders, and eating behaviors, addressing some of the most pressing global health challenges.

As a Ph.D. candidate, attending such a multidisciplinary conference is essential for expanding scientific perspectives and gaining insights into the professional research landscape. At this year's meeting in Oxford, I had the opportunity to attend a wide range of lectures and poster sessions that showcased the latest advances in neuroscience, behavioral studies, and translational research. These sessions deepened my understanding of current developments in the field and broadened the context for my own research.

A highlight of the conference was presenting my research during a live poster session, which provided me with direct feedback from experts and peers. This interactive experience not only helped refine the direction of my research but also boosted my confidence as a scientific communicator. The open and collegial atmosphere of the SSIB meeting encourages dynamic exchanges and constructive dialogue.

Additionally, I had the privilege of meeting with Dr. Amber L. Alhadeff, a distinguished leader in the field of hindbrain neuroendocrine signaling and a member of my doctoral committee. Our discussions reinforced the potential for collaborative efforts in exploring neural circuits involved in satiation, and we outlined promising directions for potential joint research initiatives.

Equally valuable was the opportunity to connect with fellow early-career scientists through the "New Investigator" program, which organized a series of social events, including pub nights and a walking tour of Oxford. These informal gatherings not only made the experience extremely enjoyable but also cultivated a strong sense of community. Sharing this experience with colleagues from my research group (Lutz Group, UZH) greatly enhanced our team's cohesion, which is essential for both morale and productivity in collaborative research.

Attending the 2025 SSIB meeting in Oxford was for the second time a woderful experience that significantly contributed to my scientific development. I am deeply grateful for the financial support that made this possible and look forward to applying the knowledge, connections, and inspiration gained toward the advancement of my research and academic career.

From left to right. Highly motivated student before the start of a 1.5 hours of arduous and enriching poster session. The Lutz group (and friends) after an awesome dinner with a beautiful view on Oxford. The motivated Lutz PhD team ready to rock all week.

Report on the 4th European Stress Conference

Sian N. Duss, ETH Zürich

First, I would like to express my gratitude for the Life Sciences Switzerland (LS2) and the Swiss Academy of Sciences (SCNAT) for the travel grant that supported my attendance of the 4th European Stress Conference. This generous subsidy enabled my participation in this enriching event and helped me to share my research with the scientific community.

Conference summary

The 4th European Stress Conference held in Innsbruck, Austria brought together a remarkable selection of speakers presenting their cutting-edge research and state-of-the-art technologies. The intimate setting of the conference with comparably few attendees and no parallel sessions allowed for an open dialogue among all participants. This friendly and collaborative setting fostered an environment for open discussions about our research and data, including unpublished findings. This was further exemplified by the stimulating poster sessions running overtime every day. To balance out the lengthy scientific sessions there was a break midday to enjoy the mountains. Being able to network during this less formal setting was extremely valuable to get to know the people behind the papers everyone in the stress research field knows.

Summary of my research

In my PhD I'm investigating how acute stress impacts physiological and psychological responses. I'm specifically focusing on the neuromodulator noradrenaline (NA) and dissect its role in mediating the acute stress response. To record the responses, I'm using advanced techniques such as fiber photometry, 2-photon imaging and state-of-the-art behavioral analysis using unsupervised clustering. To elucidate the underlying responses and cascades more comprehensibly, I have conducted all analyses for excitatory neurons, inhibitory neurons, and astrocytes. At the conference, I had the opportunity to present my data in the session "Neurobiology and Behavior". My talk titled "Stress and noradrenaline trigger distinct response profiles in neurons and astrocytes" was complementary to the presentations of other speakers, resulting in stimulating discussions during the open debate that followed the session.

With my research spanning across multiple topics of the stress research field, this conference was the ideal ground for an enriching exchange of ideas, discussions, and perspectives. As I'm in the final year of my PhD, this was a great networking opportunity to meet other PIs and learn more about exciting and unpublished work currently being conducted in the leading stress labs around the world.

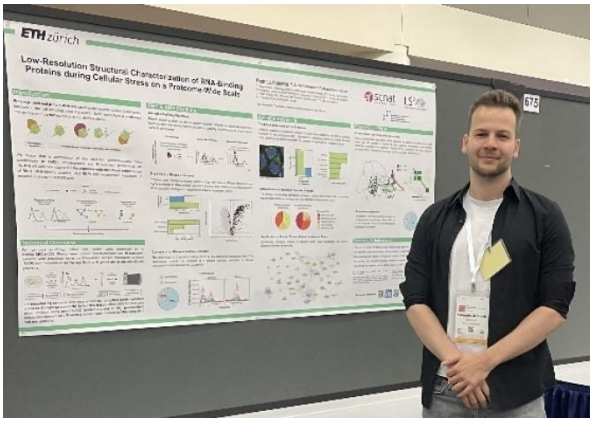
LS2 Travel Grant Meeting Report

Benjamin Steinmetz (ETH Zürich, D-BIOL, Institute of Molecular Systems Biology)

73rd Conference on Mass Spectrometry and Allied Topics (ASMS)

31st May – 6th June 2025, Baltimore, Maryland, USA

I would like to thank Life Sciences Switzerland (LS²) and the Swiss Academy of Sciences (SCNAT) for their financial support, which allowed me to participate in the 73rd Conference on Mass Spectrometry and Allied Topics (short: ASMS-2025) held by the American Society for Mass Spectrometry in Baltimore, Maryland. With over 6000 participants from both academia and industry it is the biggest technical conference of its kind, attracting scientists from a variety of areas including environmental science, food science, forensics, drug discovery, different fields of biology and more. Additionally, every year, ASMS marks the commercial release of the newest technological advances for chromatography and mass spectrometry-related instrumentation.



At the conference I was given the opportunity to present my work in form of a scientific poster (see picture) titled “Low-Resolution Structural Characterization of RNA-Binding Proteins during Cellular Stress on a Proteome-Wide Scale”. In this project, we investigate the effect of the heavy metal compound sodium arsenite on human cells. More specifically, we try to understand how the interactions of proteins with other proteins and with RNA change and how such changes might be reflected in the three-dimensional protein structure.

The poster session, featuring around 700 posters every day, was scientifically one of the most engaging experiences in my PhD. It did not only allow me to get feedback and ideas for my own work but also to informally chat about scientific developments in areas that will hopefully improve other projects in our lab at ETH, including best practices for data analysis, sample preparation, sample measurement and new and exciting hardware and software tools.

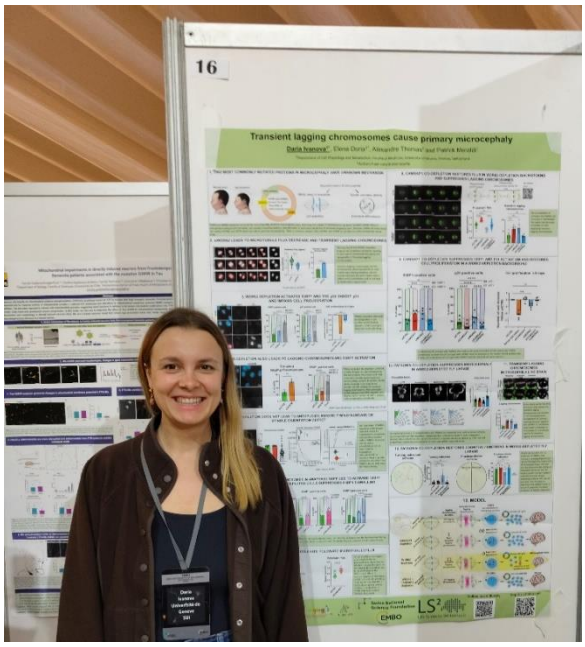
I want to highlight the award lecture from Livia Eberlin who presented key steps of her career that led to the development of the “MasSpec Pen”, a portable mass spectrometer attached to a pen-shaped device that allows surgeons to non-destructively distinguish cancerous from healthy tissue during surgery. This talk was a good reminder of the dedication and time it takes to turn a concept or scientific finding into a “product”.

Finally, I want to thank LS² and SCNAT again for their financial support that made this trip possible.

LS2 travel grant report

7-11 of April 2025 in Maitenchillo, Chile

From 7th to 11th of April I had a great privilege of participating in the EMBO conference "Emerging concepts of neuronal cytoskeleton" thanks to generous support of Life Sciences Switzerland (LS2). I would like to express my sincerest gratitude for allowing me to participate in this meeting, as it was a truly rewarding experience.



In my lab, I am working at the interphase between neurobiology and cell division, as I am studying fundamental mechanisms of a neurodevelopmental disorder primary microcephaly. As my lab's expertise lies in biology of mitosis and cell division, I found this congress extremely informative, allowing me to learn new concepts about cytoskeletal regulation in neurons as well as engage with different leading figures of cytoskeletal research in neurobiology.

At this meeting, I have presented a poster about the preprint of my first author PhD paper "Transient lagging chromosomes cause primary microcephaly", which I have co-authored with my colleague Elena Doria. My poster was visited by a lot of scientists. PhD students, postdocs and principal investigators have engaged with me in the conversation about primary microcephaly and its mechanisms. Many of them came up with interesting suggestions and experiments for my future research, which I definitely will try. I have presented my poster for nearly three hours and stayed after the end of the poster presentation, as I had a lot of people to discuss my poster with.

During the other poster session, I have listened to presentations of other scientists and learned a lot of new concepts about the involvement of senescence in astrocytes, chromatin organization in diseased neurons, mitochondria nucleoid trafficking in axons, involvement of tubulin posttranslational modifications in axonal cytoskeleton and other interesting subjects. The conference included in total 41 poster presentations divided in two sessions and 39 scientific talks over 4 days. From the scientific talks I found particularly interesting a talk about repurposing the mitotic chromosome-microtubule coupling machinery to regulate axon termination by Vasileios Ouzounidis from University of Edinburgh and the talk of Nara Muraro from University of Buenos Aires about Drosophila clock neurons as a genetically tractable model for investigating neuronal physiology.

I would like to underline particularly the importance of attending this meeting in Chile, as it allows one to learn about amazing science which is done in South America and get to know scientists from all around the world.

I would like to thank once again the sponsors for allowing me to participate in this meeting and would like to encourage everyone to participate in this meeting in the future.

LS² Travel Grant Report

Dear LS² Committee members,

Firstly, I would like to thank you for the approval of my application to the LS² Travel Grant. This grant allowed my participation in the ENDO 2025 meeting, organized by the Endocrine Society and taking place in San Francisco, USA, from 12th to 15th of July 2025.

The conference was eventful, with four days filled with dozens of parallel symposia, daily poster sessions and oral abstract and rapid-fire talks sessions. I presented my poster in the poster session that took place on the second day of the conference, acknowledging LS² and SCNAT's support. The remaining two poster sessions were a great opportunity to interact with other early career researchers and learn about their research. The ENDOExpo provided a great environment for interacting with pharmaceutical companies, worldwide societies and publishers to learn more about career development opportunities and services they can offer. I also took the opportunity to take part in the professional development workshop "Maximizing LinkedIn: Strategies to Achieve Your Professional Goals".

I learned a lot from the symposiums, particularly on themes regarding steroid hormone receptor interaction and hormone synthesis regulatory mechanisms. I also found extremely highlighting two sessions focusing on the sex differences in research. These sessions underlined how the use of animal models of only one sex may yield sex-biased results, and the limitations of animal models to study metabolic diseases such as PCOS and MASLD. A symposium that I found extremely interesting given my research background was on the sex-specific actions of estradiol and dihydrotestosterone.

Please find below a photo of me at my poster and attached the filled refund form with the original bills and receipts. If any clarification is needed, please do not hesitate to contact me.

Kindest regards,

Isabel Sousa Barata (MSc)
Ph.D. Student

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University Children's Hospital Bern
Freiburgstrasse 15, 3010 Bern
Switzerland

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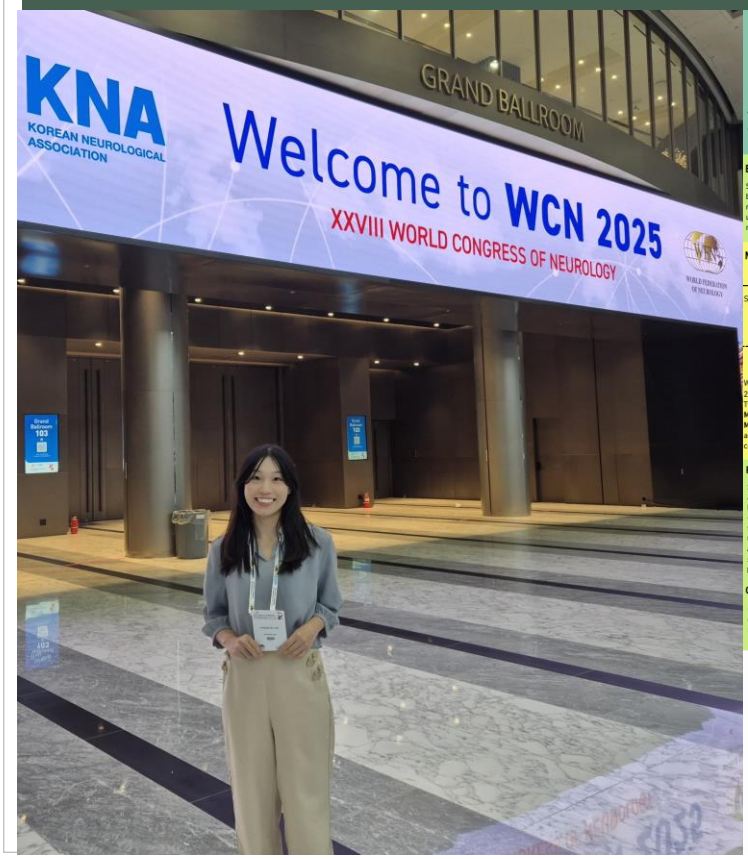
LS2 Travel Grant Report

I would like to express my sincere gratitude for supporting my attendance at the XXVII World Congress of Neurology (WCN 2025) in Seoul. Thanks to the generous travel grant from LS2 and SCNAT, I was able to present my research project entitled *"Non-Linear, Sex-Specific Associations of SIRT1 with Brain Structure and Cognitive Decline in Atrial Fibrillation Patients"*.

The congress provided an outstanding platform to share my findings and engage with an international community of neurologists and neuroscientists. Attending plenary sessions, workshops, and poster presentations enriched my scientific perspective and sparked valuable discussion around sex differences, vascular cognitive decline, and molecular biomarkers in neurology. Presenting my work in this setting allowed me to receive feedback from leading experts, which will inform the next steps of my research.

Your support not only enabled my participation in a world-class scientific meeting but also enhanced my professional development and networking opportunities. I am confident that the insights gained and connections made will positively influence my ongoing work and future collaborations.

Once again, thank you very much for your belief in my research and your investment in my scientific journey. I look forward to sharing the outcomes of this experience and to contributing further to the field of neurology.

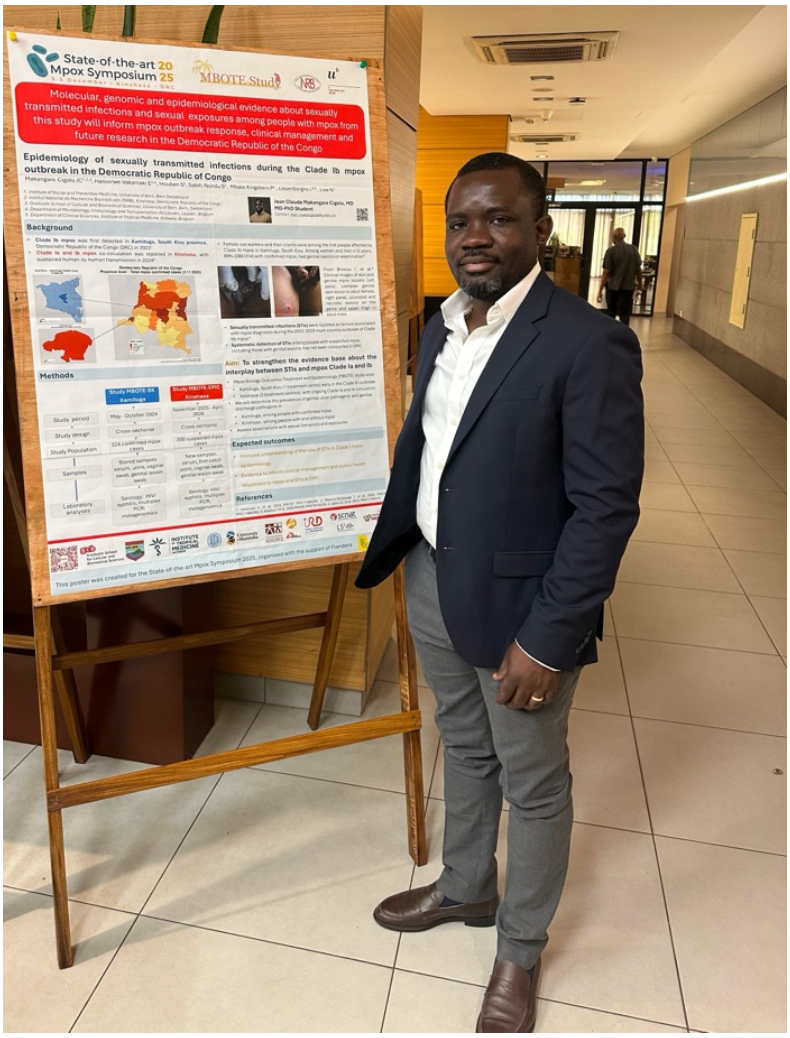


LS2 Travel grant report

By Jean Claude Makangara-Cigolo, MD, MD-PhD Student, Institute of Social and Preventive Medicine, ISPM, University of Bern, Bern, Switzerland Email: jean.makangara@unibe.ch

The LS2 travel grant allowed me to participate in the State-of-the-art Mpox Symposium 2025 held in Kinshasa, Democratic Republic of Congo (DRC), from 3 to 5 December 2025. The DRC is a central setting for mpox research, reflecting its long history with the disease since the identification of the first human case of mpox in 1970. During the 3 days, international researchers, clinicians, public health stakeholders and funders met to address key scientific, clinical, and public health aspects of mpox. Two years after cases began rising in the DRC, prompting the WHO to declare the mpox a public health emergency of international concern (PHEIC) for the second time, and Africa CDC to declare a public health emergency of continental security in 2024, mpox remains a global health concern. Mpox continues to require coordinated international collaboration to address ongoing and future surges, despite declining numbers of reported cases and the subsequent end of the PHEIC in September 2025. During the symposium, scientific activities covered six central themes reflecting key pillars of mpox research and outbreak response: vaccines, diagnostics and treatments, surveillance and monitoring, disease control, and communication and perception. Sessions addressed the current epidemiological situation, and global health priorities, highlighting both regional challenges and their global relevance about mpox.

I attended the symposium as part of my PhD program at the University of Bern. I presented a poster entitled, **"Epidemiology of sexually transmitted infections during the Clade Ib mpox outbreak in the Democratic Republic of Congo."** This poster summarizes a study we are conducting in the consortium Mpox Biology, Outcome, Transmission and Epidemiology in South Kivu Province (MBOTE-SK). We will conduct analyses of molecular, genomic, and epidemiological evidence about sexually transmitted infections and sexual exposures among people with mpox during the clade I outbreak from 2024 to 2025. This integrated approach is essential to inform mpox outbreak response, clinical management, and future research in the DRC. MBOTE-SK is funded by the Horizon Europe Global Health program EDCTP3 - MBOTE-SK and led by the Institut National de Recherche Biomédicale (DRC) and Institute for Tropical Medicine (Belgium), in collaboration with academic institutions in France, Canada, Switzerland and the United States. The poster session facilitated valuable scientific exchange. I was able to speak to many experts across disciplines, who gave positive and constructive feedback. Beyond the formal sessions, the symposium offered multiple opportunities for peer-to-peer exchange and networking. These interactions strengthened my professional connections for future collaboration. Overall, participation in this symposium was highly beneficial for my scientific development. The knowledge gained and interactions established are directly relevant to my current and future research activities. I gratefully acknowledge the financial support provided by LS2, which made my participation in this symposium possible.


State-of-the-art 20
Mpox Symposium 25
MBOTE Study
Molecular, genomic and epidemiological evidence about sexually transmitted infections and sexual exposures among people with mpox from this study will inform mpox outbreak response, clinical management and future research in the Democratic Republic of the Congo
Epidemiology of sexually transmitted infections during the Clade Ib mpox outbreak in the Democratic Republic of Congo
Jean Claude Makangara Cigolo, MD
MD-PhD Student
Background
Methods
Study MBOTE-SK
Kamituga
Study MBOTE-EPC
Kinshasa
Study period
Study design
Study Population
Samples
Laboratory analyses
May - October 2024
Cross-sectional
324 confirmed mpox cases
Stored samples: serum, urine, vaginal swab, genital lesion swab
Serology: HIV, syphilis, Hepatitis PCR, metagenomics
November 2025 - April 2026
Cross-sectional
200 suspected mpox cases
New samples: serum, first-catch urine, vaginal swab, genital lesion swab
Serology: HIV, syphilis, Hepatitis PCR, metagenomics
Expected outcomes
References
This poster was created for the State-of-the-art Mpox Symposium 2025, organised with the support of Flanders

LS2 Travel Grant Conference Report - 2nd Symposium on the Immunobiology of PRRs 2025

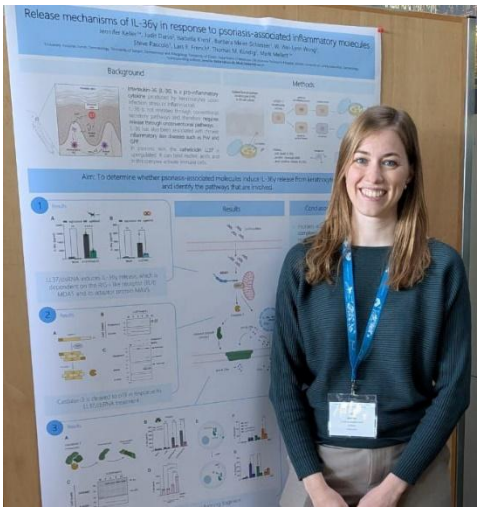
Jennifer Keller, Department of Dermatology, University Hospital Zurich

Pattern recognition receptors (PRRs) are crucial elements of innate immunity, mediating inflammatory cues, but are also involved in the development of autoinflammatory diseases. The 2nd Symposium on the Immunobiology of PRRs in Lausanne brought together researchers from various fields to discuss the latest advances in the biology of PRRs during two inspiring conference days (October 1st to 2nd, 2025).

Thanks to the travel grant from Swiss Academy of Sciences (SCNAT) and Life Sciences Switzerland (LS2), I could present my poster on “Release mechanisms of IL-36γ in response to psoriasis-associated inflammatory molecules” and attend a variety of talks as well as lectures from global leaders in PRR research. For example, Manolis Pasparakis from the University of Cologne showed impressive work on the function of caspases and Gasdermins in knockout mouse models.

This was of particular interest to us, since we found that human keratinocytes activate different sets of caspases and Gasdermins depending on the type of double-stranded RNA that is sensed by PRRs: upon sensing of double-stranded RNA bound to LL37, a psoriasis-associated antimicrobial peptide, keratinocytes activate caspase 3, followed by sublytic release of IL-36γ through Gasdermin E pores. This is particularly relevant, since Interleukin-36 levels are upregulated in psoriatic skin disease. In the context of a viral infection, IL-36 cytokines can aid the clearance of the pathogen by effective recruitment of immune cells to the skin. When keratinocytes are stimulated with intracellular double-stranded RNA (viral-like), inflammasome activation would mainly activate caspase 1, followed by lytic release of IL-36 through Gasdermin D pores. Many other groups attending the conference were focused on inflammasome research, studying inflammasomes in the skin, immune cells, or across evolution, resulting in interesting conversations in the poster sessions, at the conference dinner, or over a coffee in the break.

It was an insightful conference and a great opportunity to expand my network within the scientific community. Furthermore, it was inspiring to learn about the trajectory of leaders in the field and the variety of topics and possibilities in an academic career. Thus, I’d like to express my gratitude for the support by LS2 and SCNAT to attend the 2nd Symposium on the Immunobiology of PRRs.



International Federation of Placenta Associations (IFPA 2025) Conference Travel Grant Report

Title: Report on Participation in IFPA 2025 – Crossings Barriers

Date of Travel: September 17–20, 2025

Recipient Name & Affiliation: Sofia Jarrin, PhD Candidate, Institute of Biochemistry and Molecular Medicine, University of Bern

Conference Highlights

- Presented a poster titled "CRAC channels in the human placenta: expression patterns and functional implications".
- Connected with leading researchers in the field of placental research.
- Networked for potential future collaborations.
- Received actionable feedback to improve my ongoing PhD project.

Background

Attending the International Federation of Placenta Associations Conference was a valuable opportunity to showcase my research, engage with experts in the field, and expand my professional network. The event attracted participants from over 30 countries and featured several keynote speakers, along with multiple interactive sessions. The travel grant provided funding for my conference fees, accommodation, and travel expenses, making my participation possible.

Findings

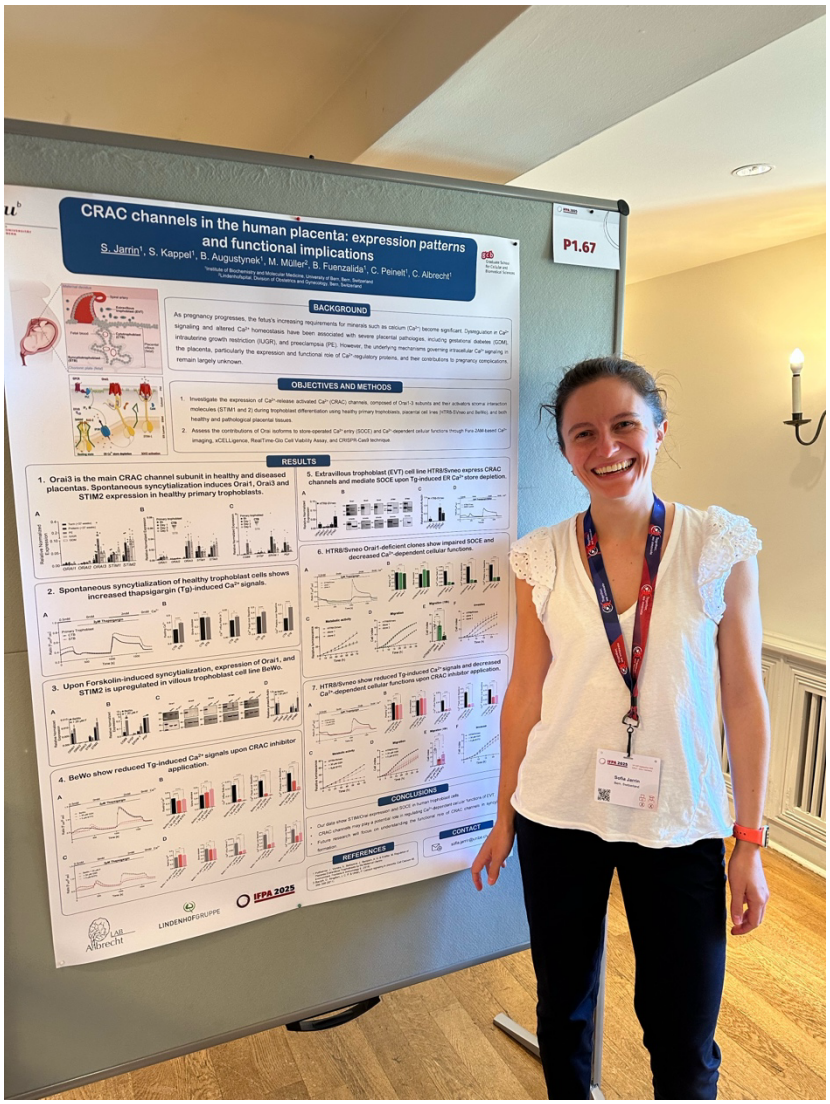
During the conference, I presented my poster in a dedicated session and received insightful questions and feedback from international peers and senior scientists. The symposia on in vitro models of pregnancy deepened my understanding of new techniques and revealed promising opportunities in the field. Networking events enabled me to connect with potential collaborators, one of whom invited me to conduct electrophysiological experiments at their facilities. I also attended several presentations relevant to my thesis, gaining updates that I plan to incorporate into my upcoming experiments.

Personal Impact

Attending the conference greatly enhanced my confidence, broadened my knowledge, and inspired me to develop new research ideas. The chance to network with other professionals and experts resulted in invitations for future collaborations and participation in upcoming research initiatives, which has expanded my professional opportunities beyond my current institution.

Acknowledgements

I sincerely thank the Travel Grant Committee for supporting my attendance at the IFPA conference. Their commitment to fostering academic development is crucial for advancing research and collaboration.


P1.67
CRAC channels in the human placenta: expression patterns and functional implications
S. Jarrin[1], S. Kappel[1], B. Augustynek[1], M. Müller[2], B. Fuenzalida[1], C. Peinelt[1], C. Albrecht[1]
[1]Institute of Biochemistry and Medical Molecular Medicine, University of Bern, Bern, Switzerland
[2]Lindenhofspital, Division of Obstetrics and Gynecology, Bern, Switzerland
BACKGROUND
As pregnancy progresses, the fetus's increasing requirements for minerals such as calcium (Ca^{2+}) become significant. Dysregulation of Ca^{2+} signaling and altered Ca^{2+} homeostasis have been associated with severe placental pathologies, including gestational diabetes (GDM), intrauterine growth restriction (IUGR), and preeclampsia (PE). However, the underlying mechanisms governing intracellular Ca^{2+} signaling in the placenta, particularly the expression and functional role of Ca^{2+}-regulatory proteins, and their contributions to pregnancy complications, remain largely unknown.
OBJECTIVES AND METHODS
1. Investigate the expression of Ca^{2+}-release activated Ca^{2+} (CRAC) channels, composed of Orai1-3 subunits and their activators stroma interaction molecules (STIM1 and 2) during trophoblast differentiation using healthy primary trophoblasts, placental cell lines (HTR8/SVneo and BeWo), and both healthy and pathological placental tissues.
2. Assess the contributions of Orai isoforms to store-operated Ca^{2+} entry (SOCE) and Ca^{2+}-dependent cellular functions through Fura-2AM-based Ca^{2+} imaging, xCELLigence, RealTime-Glo Cell Viability Assay, and CRISPR-Cas9 technique.
RESULTS
1. Orai3 is the main CRAC channel subunit in healthy and diseased placentas. Spontaneous syncytialization induces Orai1, Orai3 and STIM2 expression in healthy primary trophoblasts.
2. Spontaneous syncytialization of healthy trophoblast cells shows increased thapsigargin (Tg)-induced Ca^{2+} signals.
3. Upon Forskolin-induced syncytialization, expression of Orai1, and STIM2 is upregulated in villous trophoblast cell line BeWo.
4. BeWo show reduced Tg-induced Ca^{2+} signals upon CRAC inhibitor application.
5. Extravillous trophoblast (EVT) cell line HTR8/Svneo express CRAC channels and mediate SOCE upon Tg-induced ER Ca^{2+} store depletion.
6. HTR8/Svneo Orai1-deficient clones show impaired SOCE and decreased Ca^{2+}-dependent cellular functions.
7. HTR8/Svneo show reduced Tg-induced Ca^{2+} signals and decreased Ca^{2+}-dependent cellular functions upon CRAC inhibitor application.
CONCLUSIONS
REFERENCES
CONTACT
IFPA 2025
LINDENHOFGRUPPE
Sadia Jarrin
Bern, Switzerland

LS2 Travel Grant Report
Spatial Biology: The Melting Pot
EMBL | Heidelberg, Germany
October 14-17 2025

Thanks to the generous support of Life Sciences Switzerland (LS2) and the Swiss Academy of Sciences (SCNAT), I was able to attend **Spatial Biology: The Melting Pot** in Heidelberg, Germany.

This short course was an opportunity for me to throw myself into the deep end of spatial biology. I haven't worked directly with any spatial data in my PhD yet, but I knew that we would be performing some spatial transcriptomics experiments in the near future. Thus, attending this conference was a great way to learn about the latest analysis pipelines, technologies and problems that people are using in the spatial realm.

The conference itself was very efficiently run, thanks to the organisational skills of the EMBL and the Advanced Training Centre. Talks were divided into distinct topics, such as Data Analysis and Spatial Immunology, and thus it was easy to already come into sessions with an idea of what was going to be presented. I learnt lots about the pressing issues of spatial transcriptomics, such as cell segmentation, and harmonising layers from consecutive slides. I also learnt about the interesting applications to different research questions, such as studying immune cell infiltration, cell-to-cell communication in tumour microenvironments, and characterising difficult tissue types like muscles. Additionally, as a bioinformatician, it was impressive to see the many, many packages that were being developed to address these aforementioned problems.

On the ground, I also appreciated talking with the sponsors at the booths, as well as researchers at poster sessions, at the speaker tables, and just in general during the breaks. It was great to hear people's thoughts on talks, as well as their opinions of different sequencing technologies and packages. I found it a bit overwhelming to absorb all this information in one week, but bouncing ideas and talking about them critically with fellow researchers helped me gain clarity and consolidate what I've learnt. I'm very thankful for the connections that I made, and I will surely contact them once I start working on my spatial data. I am looking forward to continuing the interesting discussions post-conference.

Thank you again to LS2 and SCNAT for supporting my attendance. It was a highly relevant and interesting conference!

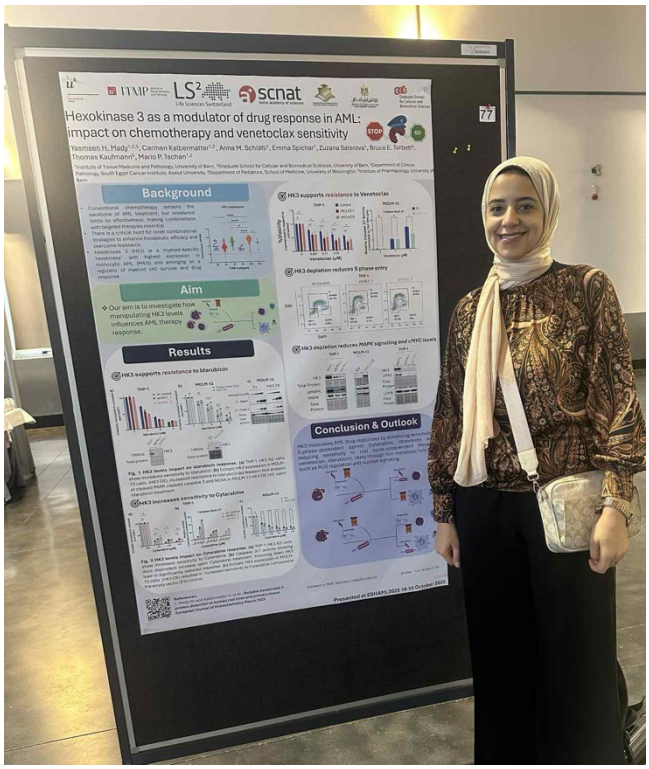
Travel Grant Report

Name: Yasmeen Mady
Affiliation: Institute of Tissue Medicine and Pathology, University of Bern, Switzerland
Conference: European Society of Hematology - 7th International Conference Acute Myeloid Leukemia "Molecular and Translational":Advances in Biology and Treatment 16-18 October 2025, Estoril, Portugal.

I am sincerely grateful to Life Sciences Switzerland (LS^2) and the Swiss Academy of Sciences (SCNAT) for supporting my participation in the ESH International Conference on Acute Myeloid Leukemia (AML), held in Estoril, Portugal. Attending this prestigious meeting was a truly enriching and inspiring experience that allowed me to engage with leaders in the field and to gain a comprehensive overview of the most recent advances in AML research and treatment.

The conference provided a unique platform to explore the AML landscape across basic, translational, and clinical research. The program included high-level presentations on molecular mechanisms of leukemogenesis, novel therapeutic strategies, and the challenges of translating scientific discoveries into clinical benefit. I particularly appreciated the balanced integration of scientific rigor with clinical relevance, from discussions on metabolic dependencies and epigenetic regulation to updates on the latest clinical trials involving targeted therapies and immunotherapies. These sessions deepened my understanding of AML heterogeneity and inspired new ideas for my own work on the role of HK3 in AML cell survival and treatment response.

Presenting my poster at the meeting was a highlight of the experience. It gave me the opportunity to share my findings with an international audience, and engage in thought-provoking discussions that will help refine future directions of my research. Beyond the scientific content, the meeting fostered a warm and collaborative atmosphere that encouraged networking and future collaborations. I had the chance to connect with fellow researchers, clinicians, and industry scientists working on complementary aspects of AML biology and therapeutics. These interactions were invaluable both professionally and personally, as they broadened my perspective and strengthened my sense of belonging to the AML research community.



Overall, attending the ESH AML Conference in Estoril was an exceptional experience that will have a lasting impact on my scientific development. I returned with renewed motivation, new collaborations in sight, and a

deeper appreciation for the translational continuum between bench and bedside in leukemia research. I am deeply thankful to LS^2 and SCNAT support of young scientists in the life sciences.

Travel Grant Report

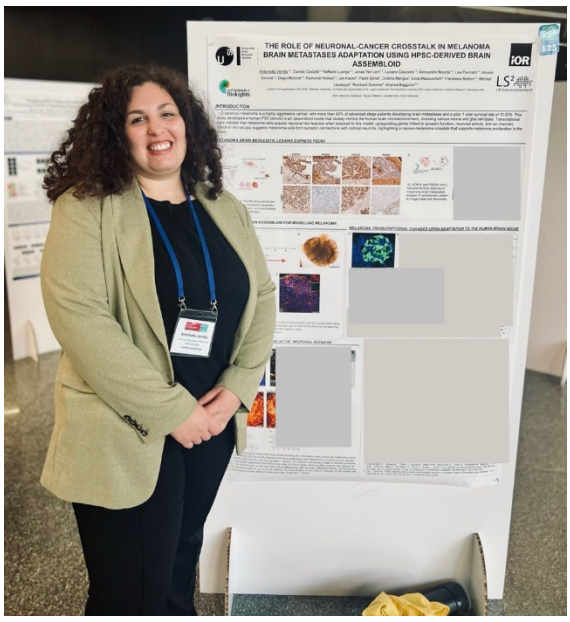
On **October 13th,** I attended the **Cancer Neuroscience Conference** held in **Bilbao, Spain**. I am deeply grateful for the travel support provided by **Life Sciences Switzerland (LS2)** and the **Swiss Academy of Sciences (SCNAT)**, which enabled me to take part in this inspiring event.

This first edition of the conference featured a diverse scientific program that included keynote lectures, poster presentations, and interactive sessions dedicated to discussing the future perspectives of the field. The meeting focused on the emerging area of Cancer Neuroscience, particularly on how cancer cells interact with neuronal cells to form active synapses—connections that have been shown to promote cancer progression.

The scientific sessions were highly inspiring, covering topics ranging from the role of neuroinflammation in tumor progression to neuronal signaling pathways as potential therapeutic targets. I was especially impressed by talks exploring how neural circuits can influence tumor growth and how targeting these interactions might open new avenues for cancer therapy.

During the conference, I had the opportunity to present a poster entitled *"Understanding the Role of the Neuronal-Cancer Crosstalk in Melanoma Brain Metastases Adaptation Using hPSC-Derived Brain Assembloids"*, which summarized findings from my PhD project. My research focuses on investigating how the brain microenvironment, particularly neuronal cells, influences melanoma progression in the brain metastatic disease. The poster session led to enriching discussions with other researchers, providing constructive feedback and new perspectives that I intend to integrate into the next steps of my work.

Overall, attending the **Cancer Neuroscience Conference 2025** was an **inspiring and formative experience**. It allowed me to present my research to a specialized audience, learn from leading scientists in this emerging interdisciplinary field, and establish valuable professional connections. I am sincerely grateful to **LS2** and **SCNAT** for their support.



LS2 Travel Grant Report

Name: Mina Hanna

Email address: mina.hanna@unil.ch

Affiliation: Department of Biomedical Sciences, University of Lausanne,
ASIC 2025 – 29 September to 1 October 2025, Tutzing, Germany

Thanks to the generous support of Life Sciences Switzerland (LS2) and the Swiss Academy of Sciences (SCNAT), I had the opportunity to attend **ASIC 2025 in Tutzing, Germany the first scientific meeting dedicated exclusively to Acid-Sensing Ion Channels**. This historic event brought together researchers from **Europe, the United States, Asia, and Australia**, creating a truly global environment for scientific exchange around ASIC biology.

The three day program featured six symposia and two keynote lectures covering a broad spectrum of themes, including ASIC structure, function relationships, pharmacology, roles in the central and peripheral nervous systems, and involvement in pain and ischemic injury. This rich program offered an exceptional learning opportunity, especially given the direct relevance of ASIC1a to my PhD research.

I presented my poster titled **"Optimization of human acid-sensing ion channel 1a (hASIC1a) for ion channel-based biosensor development."** My project focuses on engineering ASIC1a mutants suited for long-term pH sensing in biodegradable implantable biosensors. The poster session allowed me to engage with experts from multiple continents, who provided valuable feedback on our electrophysiological screening results and on the promising mutants we identified. Several discussions were particularly insightful and led to new ideas, one of which I have already begun integrating into my current work.

The scientific talks were both inspiring and highly relevant. Presentations on ASIC1a conformational dynamics, toxin-stabilized states, deep learning guided design of modulators, and the molecular basis of pH sensing all enriched my understanding of ASIC biology. Sessions exploring ASIC functions in pain pathways, ischemic injury, and neurological disorders broadened my appreciation of their physiological and translational significance. The keynote lectures further emphasized the growing impact of ion channels as therapeutic targets.

Attending the first ASIC-focused meeting was a unique experience that significantly strengthened my scientific knowledge, expanded my international network, and renewed my motivation for my project. I am sincerely grateful to LS2 and SCNAT for supporting my participation. I strongly encourage other students to apply for this travel grant, as it provides an outstanding opportunity for learning, communication, and scientific growth.

ASIC 2025

Organizer of the Conference:
Universitätsklinikum Aachen AöR
Institute of Physiology
Univ.-Prof. Dr. rer. nat. Stefan Gründer
Pauwelsstraße 30
52074 Aachen

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university of Lausanne
Biomedical sciences
Mina Hanna
Rue du bugnon, 27
1011 Lausanne
Switzerland

24/Oct/2025

Certificate of Attendance

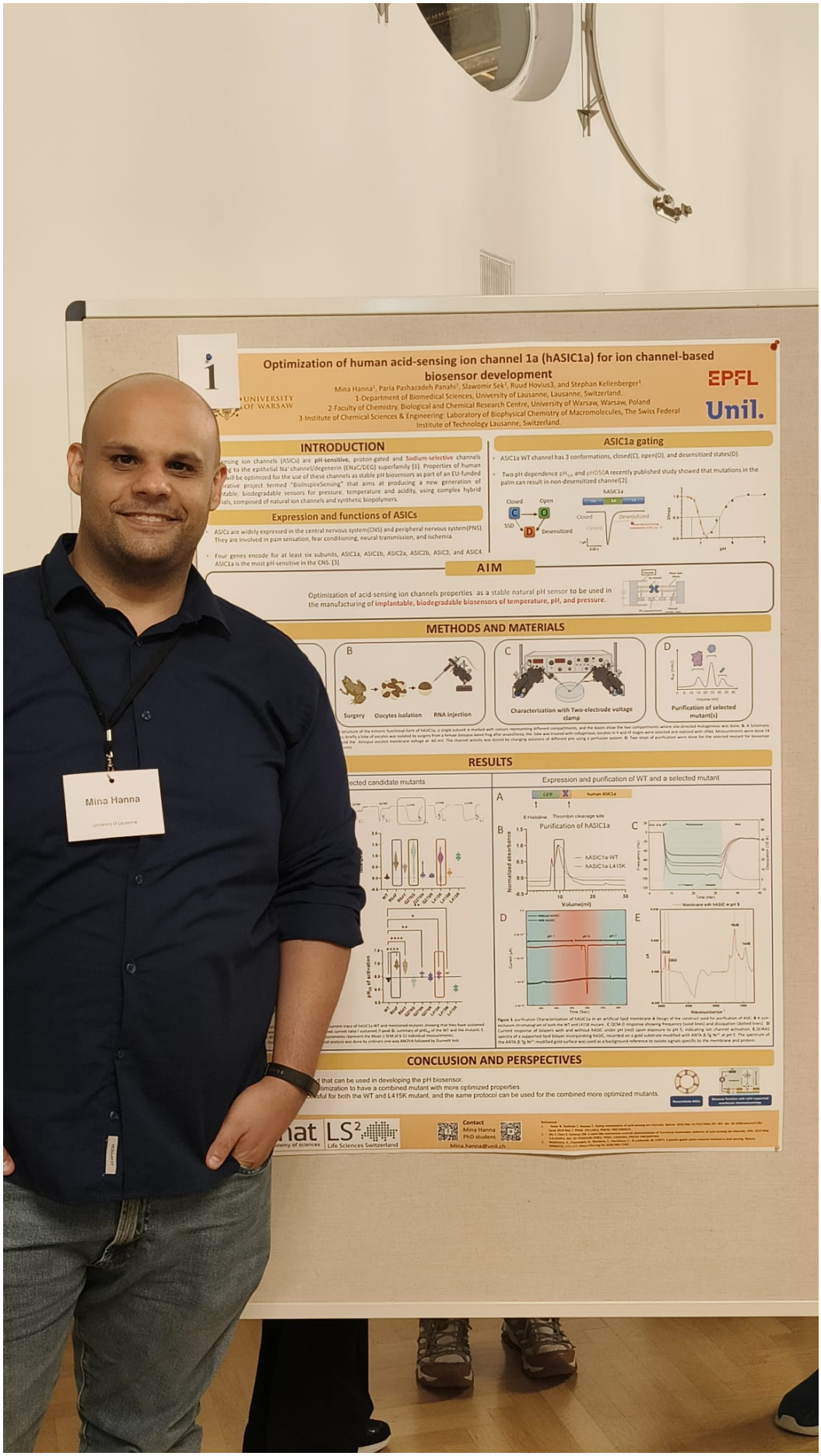
To whom it may concern,

We confirm that **Mina Hanna** participated at ASIC 2025 - Acid-Sensing Ion Channels 2025 from 29.09.2025 - 01.10.2025 in Tutzing (Germany).

With best regards,

UNIKLINIK RWTH AACHEN
Medizinische Fakultät der RWTH Aachen
Institut für Physiologie
Dir: Univ.-Prof. Dr. rer. nat. S. Gründer
Pauwelsstraße 30, 52074 Aachen

Univ.-Prof. Dr. rer. nat. Stefan Gründer
Chair of Physiology of Universitätsklinikum Aachen AöR


Optimization of human acid-sensing ion channel 1a (hASIC1a) for ion channel-based biosensor development
Mina Hanna[1], Paria Pashazadeh Panahi[2], Slawomir Sek[3], Ruud Hovius3, and Stephan Kellenberger[1]
1-Department of Biomedical Sciences, University of Lausanne, Lausanne, Switzerland.
2-Faculty of Chemistry, Biological and Chemical Research Centre, University of Warsaw, Warsaw, Poland
3-Institute of Chemical Sciences & Engineering: Laboratory of Biophysical Chemistry of Macromolecules, The Swiss Federal Institute of Technology Lausanne, Switzerland.
EPFL
Unil.
INTRODUCTION
ASIC1a gating
Expression and functions of ASICs
AIM
Optimization of acid-sensing ion channels properties as a stable natural pH sensor to be used in the manufacturing of implantable, biodegradable biosensors of temperature, pH, and pressure.
METHODS AND MATERIALS
Surgery
Oocytes isolation
RNA injection
Characterization with Two-electrode voltage clamp
Purification of selected mutant(s)
RESULTS
Expression and purification of WT and a selected mutant
Purification of hASIC1a
hASIC1a-WT
hASIC1a-L415K
CONCLUSION AND PERSPECTIVES
Contact
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Mina Hanna
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LS^2 Travel Grant Report

Greta Scherler, Department of Biomedical Sciences, University of Lausanne

8th International Meeting on Anchored cAMP Signaling Pathways
Houston, USA - February 27 to March 1, 2026

I would like to sincerely thank Life Sciences Switzerland (LS2) and the Swiss Academy of Sciences (SCNAT) for supporting my participation in the 8th International Meeting on Anchored cAMP Signaling Pathways held in Houston, USA. This specialized conference gathers researchers studying compartmentalized cAMP signaling and offers a unique opportunity to exchange ideas on the latest developments in anchored signaling networks.

During the meeting, I presented my PhD research in an oral presentation focused on the role of A-kinase anchoring proteins (AKAPs) in cardiac fibrosis. My project investigates how AKAP-mediated signaling may contribute to fibrotic remodeling of the heart. Presenting my work to experts in the field was a valuable opportunity to receive constructive feedback and discuss my results with researchers working on closely related mechanisms.

The conference featured a series of high-quality presentations, many of which included unpublished findings, providing insight into emerging concepts in spatially organized signaling and the regulation of intracellular signaling microdomains. Several talks were particularly relevant to my research, especially those addressing AKAP organization, PKA signaling specificity, and phosphatase-mediated regulation. These discussions helped me reflect on my current experimental strategies and suggested new perspectives for investigating signaling compartmentalization in fibrotic processes.
Due to its intentionally small format, the meeting promoted open discussions and close interactions between participants. This environment facilitated direct exchanges with both senior investigators and early-career researchers working on AKAP-related signaling pathways. These conversations were highly valuable for discussing experimental approaches, including imaging and biochemical methods to study signaling dynamics.

Beyond the scientific program, the conference provided an excellent opportunity to expand my professional network. As I progress in my PhD, engaging with researchers in this field and discussing future directions is particularly beneficial for shaping my research perspective.

Overall, participation in this meeting was both scientifically stimulating and beneficial for my development as a young researcher. I am very grateful to LS2 and SCNAT for their support, which made this experience possible and contributed meaningfully to the advancement of my project and my professional growth.


Acknowledgments
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Ivan Gautschi
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Yannick Krempp & CIF members
Patrice Waridel & PAF members
VOLTRON
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Department of Biomedical Sciences
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Universität Zürich
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