



# INTERNATIONAL TRANSMEMBRANE TRANSPORTER SOCIETY

## Newsletter

### A Word from the President

Dear Fellow ITTS members,

Our last international meeting in 2022 in Copenhagen was successful under the stewardship of Prof. Claus Løland (University of Copenhagen). Because the ITTS is dedicated to fostering and promoting transporter-biologists and transporter-related research, the executive committee has been intent on using our next meeting in 2024 as an opportunity to reinvigorate our society by expanding the cohort of attending scientist.



To accomplish this, we were fortunate in forming a partnership for our next meeting with two prominent transporter scientist from the US National Institutes of Health, Drs. Susan Amara and Michael Gottesman. Our next meeting in 2024 will be at the NIH in Washington DC in the United States. We encourage ITTS members to submit proposals with the dates and guidelines for symposia being revealed in our upcoming announcement. With the return to in-person meetings, we solicited meeting reports and were fortunate to receive commentary reports and photos from attendees and organizers of both the final Resolute symposium and ABC transporter meeting. With respect to the FEBS-ABC meeting, I'd like to give a shout out to Kark Kuchler (Medical University of Vienna) in recognition of his drive as the main organizer of this biannual meeting since 1997. Importantly, he had a succession plan and turned over the reins of the meeting to Gergeley Szakacs (Medical University of Vienna) and Ute Helmich (Friedrich-Schuller-University).

The ABC transporter community is deeply indebted to Karl for being such a driving force and we wish equal success to his successors. Lastly, if you have attended a meeting and wish to provide a synopsis or perspective, please do. The reports can be submitted to: [Elena.Bossi@uninsubria.it](mailto:Elena.Bossi@uninsubria.it)

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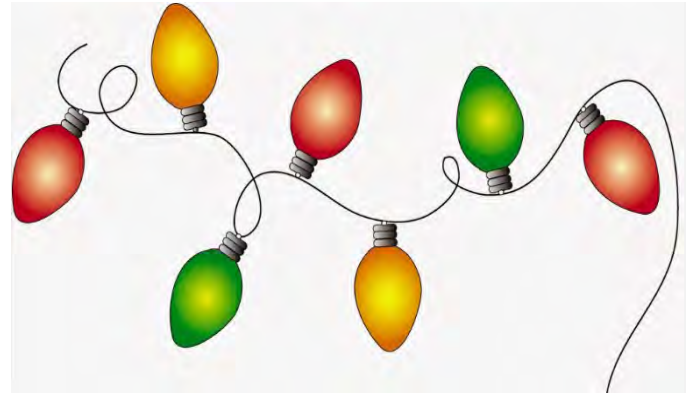
We all reeled in shock in the aftermath of the surprise Hamas invasion of Israel on October 7. Hamas, a terrorist organization is/was the overlord of the Palestinians in Gaza. Unfortunately, this terrorist organization's wanton action catalyzed a war between Israel and Hamas that is rocking not just the scientific communities there, but all regions around the world.

Almost as a consequence of the war it is surprising that the Anti-Defamation League has reported a four-fold increase in anti-Semitic incidents from Oct. 7-23 compared with the same period in the previous year. We are not immune: My daughter and son-in-law experienced it simply for showing support of fallen Israelis by displaying Israel's flag. I don't recall such hateful actions toward those supporting Ukraine by flying its flag. This surging illiberalism and rising Jew hatred aren't only a domestic problem, it is happening worldwide. These visceral actions threaten democracies. Society cannot turn a blind eye to intolerance and we must muster the will to defend our Jewish neighbors and fellow citizens against such tyranny.

After World War II ended it was believed that the peoples of the world could work together to build a peaceful and prosperous world. Advancing this vision is threatened and cannot be accomplished if we stop believing in such ideals at home.

*The previous three paragraphs are the thoughts of the writer and are not intended to represent ITTS.*

John Schuetz  
ITTS President



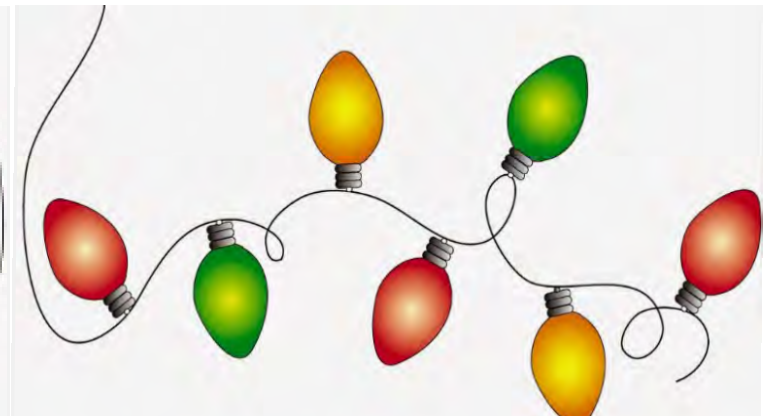
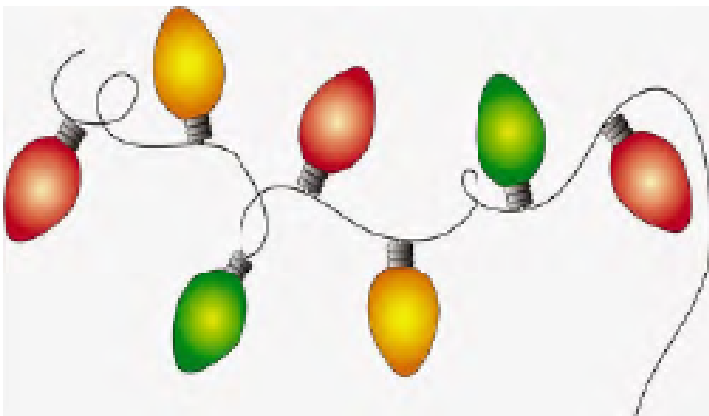
**It is time to renew your membership!**



**International Transmembrane  
Transporter Society**

**Not Sure of Your  
Membership Status?**

Go to our secure website to check  
whether your membership is current:  
<http://www.ittsociety.org/member-login>



## Open Positions & Job Announcements

# JOIN OUR TEAM



# OPEN POSITIONS

The *Jobs Corner* on our *News* page of the ITTS website serves as a convenient platform for group leaders to announce open positions in their labs and institutions, for researchers at various stages of their career (PhD, Postdoc and beyond). Should you like to post a job opening, please send an email to Elena Bossi ([Elena.Bossi@uninsubria.it](mailto:Elena.Bossi@uninsubria.it)).  
<http://www.ittsociety.org/new-page>

## Member News

### PUBLICATIONS FROM Blakely LAB

Haque T, Taruselli M, Kee S, Dailey J, Pondicherry N, Gajewski-Kurdziel P, Zellner M, Stephenson D, MacKnight H, Straus D. [Fluoxetine restrains allergic inflammation by targeting an FcγεR1-ATP positive feedback loop in mast cells.](#) *Sci Signal* (2023)

Luis T, Barkas N, Carrelha J, Glustacchini A, Mazzi S, Norfo R, Wu B, Aliouat A, Guerrero J, Rodriguez-Meira A. [Perivascular niche cells sense thrombocytopenia and active hematopoietic stem cells in an IL-1 dependent manner.](#) *Nature communications* (2023)14, 6062

Ren J, Liu K, Wu B, Lu X, Sun L, Privratsky J, Xing, C, Robson M, Mao H, Blakely, R. [Divergent Actions of Renal Tubular and Endothelial Type 1 IL-1 Receptor Signaling in Toxin-Induced AKI.](#) *Journal of the American Society of Nephrology* (2023) 34, 1629-1646

Rodriguez P, Blakely R. Sink or swim: [Does a worm paralysis phenotype hold clues to neurodegenerative disease?](#) *J Cell Physiol* (2023)

### PUBLICATION FROM Bossi Lab

Vacca F, Gomes A, DeGennaro M, Ronnestad I, Bossi E, Verri T. [The teleost fish PepT1-type peptide transporters and their relationship with neutral and charged substrates.](#) *Frontiers in physiology* (2023) 14, 1186475

### PUBLICATION FROM Daws Lab

Clauss N, Mayer F, Owens W, Vitela M, Clarke K, Bowman M, Horton R, Grundemann D, Schmid D, Holy M. [Ethanol inhibits dopamine uptake via organic cation transporter 3: Implications for ethanol and cocaine co-abuse.](#) *Mol Psychiatry* (2023)

## Member News

### PUBLICATIONS FROM Bazzone Lab

Bazzone A, Barthmes M, George C, Brinkwirth N, Zerlotti R, Prinz V, Cole K, Friis S, Dickson A, Rice S. [A Comparative Study on the Lysosomal Cation Channel TMEM175 Using Automated Whole-Cell Patch-Clamp, and Solid Supported Membrane-Based Electrophysiology: Functional Characterization and High-Throughput Screening Assay Development.](#) *Int J Mol Sci* (2023) 24

Korner A, Bassone A, Wichert M, Barthmes M, Dondapati S, Fertig N, Kubick S. [Unraveling the kinetics and pharmacology of human PepT1 using solid supported membrane-based electrophysiology.](#) *Bioelectrochemistry* (2023) 155, 108573

### Publications From Schuetz Lab

Lynch J, Wang Y, Yuxin L, Kavida K, Fukuda Y, Ranjit S, Robinson C, Grace C, Xia Y, Peng J, Schuetz J. [A PPIX-binding probe facilitates discovery of PPIX-induced cell death modulation by peroxiredoxin.](#) *Communications Biology* (2023)

Baril S, Gose A, Schuetz J. [How Cryo-EM Has Expanded Our Understanding of Membrane Transporters.](#) *Drug Metab Dispos.* (2023) 51, 904-922

Gose T, Aitken H, Wang M, Wang Y, Lynch J, Rampersaud E, Fukuda Y, Wills M, Baril S, Ford R, Anang S, O'Mara M, Schuetz J. [The net electrostatic potential and hydration of ABCG2 affect substrate transport.](#) *Nature Communications* (2023)

Ranjit S, Wang Y, Zhu J, Cheepala S, Schuetz E, Cho W, Xu B, Robinson C, Wu G, Naren A, Schuetz J. [ABCC4 impacts megakaryopoiesis and protect megakaryocytes against 6-mercaptopurine induced cytotoxicity.](#) *Drug Resistance Updates* (2023)

### PUBLICATIONS FROM Sitte Lab

Brugnoli F, Holy, M, Niello, M, Maier J, Hanreich M, Menzel M, Haberier M, Zulus N, Pickl T, Ivanova C. [Development and validation of an automated microfluidic perfusion platform for parallelized screening of compounds in vitro.](#) *Basic Clin Pharmacol Toxicol* (2023) 133, 535-547

Mayer F, Niello M, Bulling S, Zhang Y, Li Y, Kudlacek O, Holy M, Kooti F, Sandtner W, Rudnick G. [Mephedrone induces partial release at human dopamine transporters but full release at human serotonin transporters.](#) *Neuropharmacology* (2023) 240, 109704

Mayer F, Niello M, Cintulova D, Sideromenos S, Maier J, Li Y, Bulling S, Kudlacek O, Schicker K, Iwamoto H. [Serotonin-releasing agents with reduced off-target effects.](#) *Mol Psychiatry* (2023) 28,722-732



# Conference Highlights

## RESOLUTE

RESOLUTE final conference: Unlocking Transporters for Drug Discovery From 27 to 29 September 2023, the 'Unlocking Transporters for Drug Discovery' Conference took place at the historic Palais Niederösterreich in Vienna, Austria. The event, open for the first time to the entire scientific community, marked the conclusion of the RESOLUTE and REsolution projects, which are set to conclude by the end of 2023.

Approximately 200 participants attended the scientific conference, which featured an engaging program including 45 top international scientists, with 20 external speakers from outside the consortia. The program also included two poster sessions with 60 abstract presenters. During the event, the RESOLUTE and REsolution consortia presented the results and lessons learned over the past five years to the broader scientific community. The talks covered various topics related to molecular transporters, their role in cell metabolism and regulation, structural biology, drug discovery, data integration, systems biology, as well as human physiology and disease. Some pictures from the conference can be found here: <https://re-solute.eu/communications>. We thank all participants for joining the event and engaging in meaningful scientific exchanges with other scientists and partners. We invite the ITTS members to check our latest releases of data sets and resources at <https://re-solute.eu/>.



## Conference Highlights

**ABC2023**

For decades, ABC transporter aficionados have come together for biannual meetings in Austria, which forged collaborations, friendships and created a community. Through many exciting developments, the rationale for these meetings has always remained strong and, in the spirit of a vibrant field, the number of new questions greatly outnumber those being answered. As the cellular or pathophysiological contexts in which ABCs operate have expanded, so too has the challenge of understanding the diverse roles these transporters play in homeostasis, signaling, protection or disease. In 2020, the 8th FEBS ABC meeting narrowly escaped cancellation, with the first confirmed COVID cases identified just a few days before the meeting, in the immediate vicinity of the venue in Innsbruck. Little did we know that a pandemic would ensue, curtailing scientific meetings for years... Fortunately, we were able to return to pre-pandemic life in 2023, with some important changes. Since 1997, the main organizer of the FEBS-ABC meetings has been Karl Kuchler from the Medical University Vienna. In 2023, he decided to pass the baton to us, following our collaboration as co-guest editors of two FEBS Letters Special Issues on the "Diversity of Structure and Function of ABC Transporters" (Volume 594, Issue 23; Volume 595, Issue 6). With the support of the renewed scientific advisory board, the organizing committee has followed Karl's footsteps to bridge numerous scientific fields, ranging from cancer to plant biology, microbial ecology and structural biology. The ABC2023 meeting boasted three outstanding keynote speakers. The Opening Lecture was delivered by Youngsook Lee (Pohang University of Science and Technology, South Korea) with an excellent introduction to plant ABC transporters and their role in an evolutionary arms race between pathogens and plants. In recognition of their lifetime achievements, Douglas C. Rees (Caltech) presented the ABC2023 Keynote Plenary Lecture on the "Ins, Outs, Ups, and Downs of an ABC Transporter Structural Biologist", and Kazumitsu Ueda (Institute for Integrated Cell-Material Sciences) gave the "Summary and Perspective" Lecture on the "How and Why of ABC Proteins". The morning sessions were filled with talks given by the invited speakers (see <https://abc2023.febsevents.org/speakers> for the full list), the afternoon sessions were dedicated to selected abstracts submitted by PhD students, postdocs, as well as both junior and senior investigators. An important mission was to promote interactions during the poster sessions and of course in the afternoons reserved for "informal discussions on the slope". In the age of the "resolution revolution" in cryoelectron microscopy and AlphaFold, ABC protein structures were prominently featured in many talks, including those covering physiology and ecology, indicating that this aspect of ABC research is here to stay. A similar conclusion was reached in our round table discussion entitled "Do we need more structure(al biologist)s?" but excitingly, this time a need for a more dynamic view of these fascinating proteins also brought many spectroscopists to the stage. Of course, the role of ABC proteins in (human) physiology, and their pharmacological role were discussed passionately in sessions dedicated to human diseases, physiology and drug disposition. A second roundtable discussion, featuring researchers from academia and industry as well as a spokesperson of the Cystic Fibrosis Foundation shed light on the present and future and the trials and tribulations of ABC transporters in drug research. Many exciting and intense discussions in the lecture and the poster hall, on and off the slopes and an epic party on the last night testified that the spirit of the ABC meetings is alive and kicking. Keep an eye on our Twitter feed ([https://twitter.com/FEBS\\_ABC2023](https://twitter.com/FEBS_ABC2023))! For ABC2025, Ute will step down and Bert Poolman (University of Groningen) will join the organizer team. So mark your calendars! ABC2025 is around the corner and we are looking forward to seeing you in Innsbruck from March 2-7, 2025! Ute Helmich (Friedrich-Schiller-University)

Gergely Szakacs (Medical University of Vienna)

## Conference Highlights

### The Brain in Flux – MSCA NeuroTrans Joint Satellite Meeting



<b><u>Invited Speakers</u></b>	<b><u>Keynote Speakers</u></b>	<b><u>Speakers Selected from Abstracts</u></b>
<p>Andre Bazzone, DE                      Salah El-Mestikawy Zachary Freyberg, US                      Elena Bossi, IT                      Cristina Fenollar-Ferrer, US                      Freja Herborg, DK                      Erin Calipari, US                      Michael Freissmuth, AT                      Yulong Li, CN                      Claus Løland, DK                      Fraser MacMillan, UK                      Pablo Moya, CL                      Robert Vandenberg, AU                      Beatriz López-Corcuera, ES                      Felix Mayer, DK                      Poul Nissen, DK                      Christine Ziegler, DE                      Nanna MacAulay, DK                      Haley Melikian, US                      Gaia Novarino, AT</p>	<p>Habibeh Khoshbouei, University of Florida, Gainesville, USA                      Rajini Rao, The Johns Hopkins University, Baltimore, USA                      Christoph Fahlke, Forschungszentrum Jülich, Jülich, Germany                      Jonathan Javitch, Columbia University, New York, USA</p>	<p>Ana Sofia Alberto e Silva, AT                      Manan Bhatt, IT                      Nikki Clauss, US                      Cesar Hernandez, DK                      Ameya Kasture, AT                      Pia Lavriha, CH                      Marco Niello, IT                      Anton Turaev, DE                      Leticia Alves da Silva, AT                      Anna Campana, DK                      Alberto Daminato, PT                      Lauren Honan, US                      Basavraj Khanppnavar, CH                      Erika Lazzarin, AT                      Marco Prado, CA                      Rocco Zerlotti, DE                      Zaid R. Anshari, NL                      Lucia Carvelli, US                      Adithya Gopinath, US                      Iris Kalenderoglou, DK                      George Khelashvili, US                      Carina Meinke, US                      David Sauer, UK</p>



[Scientific program – please click or scan!](#)

[Highlights of the meeting](#)

The remote preparation of the meeting in Portugal were eased by having Eurico Cabrita on board of the organizing committee – a local Portuguese who devoted quite a bit of his time to the local organization of this meeting. He was aided by a professional conference organizing company called Anglesquare – who came up with the Hotel Hilton Gaia, hosted in the city of Gaia, close to the historic center of Porto. Being close to the main meeting venue of the ISN Biannual meeting, which was held in Porto itself, provided an opportunity to some attendees to simply change location to attend the Brain in Flux – MSCA NeuroTrans Joint Satellite Meeting – without having a lot of travel in between. The venue was terrific, especially the lecture hall had good acoustics and two professional technicians were taking care of us in terms of managing audio and visual systems – everything worked out very well.

After some opening remarks by two of the four main organizers, Harald Sitte and Thomas Stockner, they thanked the supporting partners and sponsors including the International Society for Neurochemistry, the European Union's Horizon 2020 research and innovation program (in particular the Marie-Sklodowska-Curie grant No. 860954), the Medical University of Vienna and the Stiles-Nicholson Brain Institute at Florida Atlantic University. Subsequently, the meeting started with a fresh look into vesicular transport mechanisms – with a keynote lecture by Christoph Fahlke and a subsequent session entirely devoted to the very same theme. The first (half) day closed with a scientific session showcasing some new additions to the technical repertoire of nowadays neuroscientists and neurotransmitter transporter researchers. Everyone was finally gladly embarking on a boat to cruise on the river Douro and have a glass of Portuguese aperitif together with some regional snacks – and enjoy the beautiful view on Porto's old town from the riverside.

The second day featured a different aspect of neurotransmitter transporter research, namely how membrane transporters may be implicated in neuronal diseases and disorders, again featured by a session and subsequent keynote lecture. After the lunch break, the first poster session took place, with lively discussions at the poster boards – over a cup of coffee. After the business meeting where the participants discussed the options for the next meeting and volunteers (Lucia Carvelli and Haley Melikian, and others including George, Habibeh, Jonathan, Randy and Zach) took the baton from the current organizing team. Also, the information for the special issue devoted to the scientific contents of the meeting, to appear in the Journal of Neurochemistry, were highlighted again. The scientific day was afterwards ended with a session on GABA transporters – obviously chaired by Baruch Kanner.

The third day of the meeting offered initially a closer look into structural and functional studies, followed by the third keynote lecture by Jonathan Javitch. During the lunch break, participants were invited to visit Cockburn's port wine cellar, located close by of the meeting venue, an interesting view into history and present activities of one of the most well-known export articles in Portugal (obviously also including a small sip to taste a real port wine...). The second poster session was immediately following, before the final session closed the day with a view on the impact of membrane transporters on metabolism.

On the fourth day, the first session was devoted to only one neurotransmitter transporter, the dopamine transporter: From structure over functional insights to regulation – the speakers covered a broad range of important aspects of this transporter, preparing the audience for the fourth and last keynote lecture by Habibeh Khoshbouie on the very same topic. However, after the lunch break, the serotonin transporter community was striking back with an extended session – that even needed a break with coffee. In their concluding remarks, Ulrik Gether and Eurico Cabrita, the other two of the four main organizers, gave a brief overview on the meeting. They also shared their view on the inspiring atmosphere and shared a quick look on the very successful integration of young investigators – there were actually more short talks selected from abstracts than invited speakers (23:20). Also, the organizers were thriving to establish a good gender balance which was fairly well achieved (in total 40M/37F attendees, 26 male speaker:21 female speakers in total, poster presenters: 20M:19F). The evening and meeting was finally concluded with a farewell dinner at a venue again close to the shores of the Douro river. All sessions were very well attended, with vivid discussions. In addition, the plenary lectures were highlights and giving the overview about different areas of the transporter field. All social events, be it the welcome cocktail, the port wine cellar visit or the concluding dinner – atmosphere and spirit of the participating scientists and guests was outstanding, and provided additional opportunities for networking. We are looking forward to the next meeting in New York City, in August 2025.



## BECOME A MEMBER

### Renew Your Membership or Join ITTS Now

Payment can be made by credit card (via PayPal) or by check.  
Details on how to pay can be found at <http://www.ittsociety.org/join-itts>.



### Student and Post-Doctoral ITTS Chapters Welcome

ITTS welcomes applications for local Chapters of ITTS, comprised of students and post-doctoral fellows. To form a Chapter, have your mentor nominate you as leader of that Chapter, and provide assurance of your rank, good academic standing, and commitment to the ITTS. Please also provide a name for your Chapter. Annual dues for Chapter members is only \$10, and paid by your mentor (with their blessing, of course). Chapter members will receive a member card, and have this as a valuable addition to their curriculum vitae. ITTS Chapters will be evaluated annually for their contributions to the society. The role of Chapters is to encourage active involvement with the ITTS through local outreach events, and attracting new members. Inactive Chapters, as deemed by the ITTS Executive Committee and Council, will be disbanded.

Please send applications to ITTS secretary, Elena Bossi at [Elena.Bossi@uninsubria.it](mailto:Elena.Bossi@uninsubria.it)

# Conference & Seminar



Grand Summit Hotel at Sunday River  
 97 Summit Road  
 Newry, ME, United States

## Gordon Research Conference

**New Insights into Structure, Function, and Regulation of Critical Membrane Transport Proteins in Health and Disease**

July 21-26, 2024

Chairs: Renae M. Ryan and Susan L. Ingram

Vice Chairs: Habibeh Khoshbouei and Hanne Poulsen

## Gordon Research Seminar

July 20-21, 2024

Chairs: Marco Niello and Alexandra C. Schwartz

# Transporter Fun Corner

## Aminoacid Sudoku

	E	C	M	K	N		T	A	P		H	Q	R	S	Y		L	I	W	
A	F	G		I	Q	R	S	Y		L			E	K	N		C		V	
L		P	Q	R	G		I	C	M		Y	W		V	F		D	E	K	
S	T	Y		W	F		D	E	K		I	N	P	C	A	H	M		R	
C	A	V		E	H	T			F	M		Y				I	K	S	G	
			N	L	C	A				S	G		Q		V	F		H		
F	G	H	I				V	K	R	C	A	E		L		Y	Q	W	N	
T		S					M			I		V	H	W		A	E		P	
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	P		C	D	T		H		N	R		G	L		I	W	Y	K	S	
	V				A	K	C	G	D			I		Q				M	E	
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H	W		G	T	R	M	L		S		N		K	E	Q	V		C	D	
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**International Transmembrane Transporter Society (ITTS)**  
**A scientific society dedicated to promoting transporter biologists  
and transporter-related research**



**2024 Conference**

**Dates: Oct. 30<sup>th</sup> – Nov. 1<sup>st</sup>**

**Location: NIH (National Institutes of Health) campus in Bethesda, Maryland**

**Check our website for Registration details  
coming soon**

**<http://www.ittsociety.org/>**



## CALL FOR SYMPOSIUM PROPOSALS

The International Transmembrane Transporter Society (ITTS) is pleased to announce that we are now accepting symposium proposals as part of our upcoming 10th Anniversary Meeting, taking place October 29-November 1, 2024 in Washington DC, USA. Symposia will focus on novel and exciting transmembrane transporter research and related processes.

**Please send proposals for consideration by January 26, 2024 to [ittsociety@ittsociety.org](mailto:ittsociety@ittsociety.org)**

Proposals can be related to any class of membrane transporters and is inclusive of multiple scientific disciplines (e.g. molecular pharmacology, structure, cell biology, neurochemistry, animal models, disease mechanisms, and clinical studies).

### Key criteria considered during the selection process include:

- Scientific excellence.
- Balanced with respect to diversity including gender, seniority (a mix of junior and senior investigators), geographic location (i.e. not all speakers coming from the same country and or institution), and underrepresented minorities.
- Must not have spoken at the 2022 ITTS meeting in Copenhagen (see attached program).

Scoring of symposia will be as follows:

- Scientific excellence (40%).
- Diversity of topic/speakers (30%) – i.e., not same topics/speakers as last meeting.
- Diversity of speakers within the session (30%) (gender, geographical, career stage).

Symposia selected for the program will be allotted ~90-100 min and should be composed of three-four speakers (~20-25 min talk, +5 min discussion).

For consideration, please submit your proposal (Word format) including the following information:

1. Symposium Title.
2. Brief description of subject area and the topics of each speaker (~250 words).
3. Name of Chair (and co-Chair, if applicable), email, and affiliation. *The Chair or Co-Chair must be an ITTS member and at least one of the speakers must be an ITTS member.*
4. Name, email, affiliation and tentative talk title for each speaker; *verification of participation is required, and an individual may speak in only one symposium.*

We look forward to your submissions.

Susan Amara and Michael Gottesman, co-chairs, National Institute of Health (NIH) local organizing committee

John Schuetz, ITTS president

# Awards and Honors



Renaë Ryan, the ITTS diversity officer, current vice-president and president-elect, was awarded different prizes this year: the Member of the Order of Australia on the King's Birthday, Honours List for significant service to biomedical science as a researcher and to diversity and inclusion. The Order of Australia is an honor system that recognizes and rewards outstanding achievements and contributions by Australian citizens. It was established in 1975 and is the pre-eminent means by which the Australian government recognizes its citizens for excellence and service (<https://twitter.com/renaemryan1/status/1704258677329522988>).



She is also the Winner of 2023 Eureka Prize for Outstanding Mentor of Young Researchers (<https://www.youtube.com/watch?v=q08ZNov3ry0>)

(<https://www.royalsoc.org.au/blog/four-society-fellows-amongst-winners-of-2023-eureka-prizes#:~:text=Professor%20Renaë%20Ryan%20has%20won,mentorship%2C%20networking%2C%20and%20advocacy>) and Nancy Millis Medal for Women in Science for her research excellence (annual awards of the Australian Academy of Science) she will receive the awards at the prize ceremony at Science at the Shine Dome in November (<https://www.sydney.edu.au/news-opinion/news/2023/03/14/sydney-researchers-honoured-australian-academy-of-science-honoric-awards-2023.html>).



Congratulations Lynette Daws, 2023 ASPET Fellows. The FASPET designation is a prestigious honor granted to the Society's most distinguished members.

Lynette C. Daws, from the University of Texas Health Science Center at San Antonio, is a past ITTS president (2018-2020). The FASPET designation is reserved for individuals who have devoted their career to the field of pharmacology and have made exceptional contributions to its advancement. We extend our congratulations to Lynette Daws for this remarkable achievement and her impact on this field.




**Announcing the 2023 ASPET Fellows (FASPET)**



ASPET is proud to introduce the 2023 ASPET Fellows (FASPET). These recipients have dedicated their careers to the field of pharmacology and have made exceptional contributions to its advancement. The FASPET designation is a prestigious honor bestowed on the Society's most distinguished members. We congratulate the 2023 fellows' class, not only for their work in pharmacology, but also for their commitment to ASPET. Click the button below to meet the 2023 ASPET Fellows.

**Marco Niello** - won a best paper prize from the Austrian Pharmacological Society (APHAR) - on his recent PNAS paper (<https://www.pnas.org/doi/10.1073/pnas.2114204120>)

27.10.2022

**Hans Horst Meyer Award**  
donated by 

The awardee for **2023** is:

- 
**Marco NIELLO** (Department of Pharmacology, Centre for Physiology and Pharmacology of the Medical University of Vienna) for his paper: **"Persistent binding at dopamine transporters determines sustained psychostimulant effect"** (*PNAS*, 2023; 120(6): e2114204120)



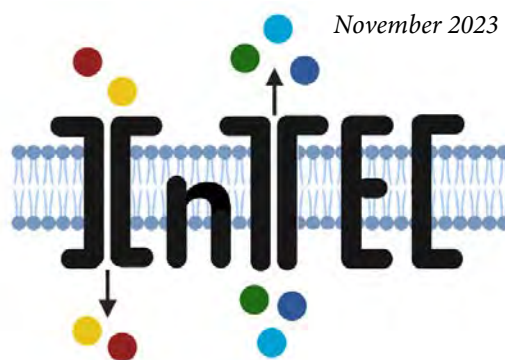
The Hans Horst Meyer Award is awarded annually by the Austrian Pharmacological Society (APHAR) in order to honour outstanding achievements of young scientists in basic research in the field of experimental pharmacology and toxicology as well as clinical pharmacology and to support their further career (<https://www.aphar.at/index-en.html>).

**Julian Meier** won the [Rudolf Buchheim Prize 2022](#) from the German Society for Experimental and Clinical Pharmacology and Toxicology (DGPT). Julian Maier from MedUni Vienna's Institute of Pharmacology has been awarded the prestigious Rudolf Buchheim Prize 2022 by the German Society for Experimental and



Clinical Pharmacology and Toxicology (DGPT). In a study the research team around Julian Maier led by Harald Site from MedUni Vienna's Institute of Pharmacology in cooperation with Volodymyr Korkhov from ETH Zurich, resolved the structure of a cation transporter that has been little researched to date and also investigated mutations that occurred in patients. Organic cation transporters have a great influence on the monoamine balance and play an important role in the physical absorption and excretion of drugs. The study enables targeted research on substances that selectively interact with the transporter and was published in the journal *Nature Communications*. (from <https://www.meduniwien.ac.at/web/en/about-us/news/2023/news-in-march-2023/julian-maier-erhaelt-rudolf-buchheim-preis-2022/>)

# Integrated Transporter Elucidation Center (InTEC)



## ***Call for Postdoctoral Fellows Interested in the Placenta***

InTEC is a consortium between multiple universities to advance our understanding of how placental transporters impact the disposition of endobiotics, xenobiotics, and overall pregnancy health. Funded by NICHD, InTEC utilizes novel technologies to profile the SLC and ABC transporter proteome, predict and validate novel substrates and regulators of placental transport, and simulate maternal-fetal disposition using a vascularized placenta-on-a-chip. Each site within InTEC is hiring postdoctoral fellows to participate in this consortium.



Rutgers University is looking for a postdoctoral fellow to perform transport assays using an array of in vitro cellular models as well as work with unique datasets from a US-based birth cohort to identify regulators of the placental transporter proteome. Doctoral degrees in pharmacology, toxicology, biochemistry, molecular biology, or epidemiology are welcome. For more information, email Dr. Lauren Aleksunes at [aleksunes@eohsi.rutgers.edu](mailto:aleksunes@eohsi.rutgers.edu).



The University of Pennsylvania is hiring a postdoctoral fellow to develop bioengineering technologies for in vitro modeling and in-depth analysis of placental transport in human pregnancy. The proposed work will use a novel vascularized placenta-on-a-chip model to emulate and investigate transport of nutrients, dietary supplements, drugs, and environmental toxicants across the maternal-fetal interface in the human placenta. Doctoral degrees and research background in bioengineering or related areas are welcome. For more information, email Dr. Dan Huh at [huhd@seas.upenn.edu](mailto:huhd@seas.upenn.edu).



Tulane University is recruiting a postdoctoral fellow to advance machine learning models that evaluate novel substrate and inhibitor interactions with SLC and ABC transporters in the placenta. The fellow will capitalize on big data sets curated across multiple sources to ensure rich data for model development and validation. Doctoral degrees in computer science, bioinformatics and other related areas are welcome. For more information, email Dr. Hao Zhu at [hzhul0@tulane.edu](mailto:hzhul0@tulane.edu).



The University of North Carolina at Chapel Hill is recruiting postdoctoral fellows to their adult and pediatric T32 Clinical Pharmacology training programs to prepare MD or PharmD clinician-scientists, or PhD scientists with relevant training (e.g., pharmacology, toxicology, biochemistry, molecular biology) for research careers in clinical pharmacology. The fellow will focus on advancing novel transporter proteomics that profile SLC and ABC proteins in healthy and diseased placentas as well as extracellular vesicles across trimesters. For more information, email Dr. Jacqueline Tiley at [jackiebe@email.unc.edu](mailto:jackiebe@email.unc.edu).



**JOB OFFER**

**PRINCIPAL INVESTIGATOR:** Beatriz López

Corcuera **SCIENTIFIC PROGRAM:**

Molecular Neuropathology **JOB OFFER:**

Postdoctoral Research CBMSO Call

**PROJECT TITLE:**

**Structure, function and regulation of GlyT2 variants associated to hyperekplexia.**

**PROJECT DESCRIPTION:**

Hyperekplexia (OMIM 149400) is a rare sensorimotor syndrome potentially lethal in newborns. It is caused by defects in the inhibitory glycinergic neurotransmission due to mutations in some human genes such as the neuronal glycine transporter GlyT2 (SLC6A5), responsible for supplying glycine to the presynaptic terminal. In this project, the pathogenic mechanisms of GlyT2 mutations found in hyperekplexia patients will be analyzed in terms of the structure of the transporter, its function, intracellular trafficking, interactome, regulation, as well as its consequences in embryonic or adult life. This study can guide future therapeutic approaches we wish to develop. <http://www.cbm.uam.es/blopez>

**LOCATION:**

The team is located in Madrid and is part of the Centro de Biología Molecular Severo Ochoa (CBMSO), an international excellence research center offering a dynamic and collaborative environment and multidisciplinary training that brings together high-profile teams with complementary areas of expertise and with a common interest in translating basic research into knowledge for the clinic.

**ACADEMIC QUALIFICATION AND EXPERIENCE:**

We are seeking highly motivated young candidates holding a PhD in Life Sciences obtained after 01/01/2020. Applicants must have a strong international training, not have worked in Spain for the last three years. Preference will be given to applicants with a background in neuroscience, neurotransmitter transport, cellular and molecular biology, confocal imaging and electrophysiological approaches. Fluency in English is mandatory.

**CONTACT:**

[blopez@cbm.csic.es](mailto:blopez@cbm.csic.es)

**DEADLINE:**

12/01/2023

**OTHER INFORMATION:**

We are offering a postdoctoral position, with a duration of 3 years and an estimated gross salary of 40.500 €/year. Applications must be endorsed by a CBMSO principal investigator before submitting. Candidates must send CV, academic record, and motivation letter to Dr. Beatriz López Corcuera ([blopez@cbm.csic.es](mailto:blopez@cbm.csic.es)). To apply, candidates must submit a full application package via our website: <https://www.cbm.uam.es/en/home/jobs-at-the-cbmso>

## Laboratories of Thomas Stockner

<https://www.meduniwien.ac.at/web/en/studies-further-education/phd-doctoral-programmes/phd-programme-un094/phd-opportunities/>



In this project you will use a broad spectrum of computational approaches to investigate the function of the Organic Cation Transporter 3 (OCT3) to understand how the transporter works, how it recognizes and transports substrates across cellular membranes as well as how OCT3 is regulated by phosphorylation and by lipids. OCT3 belongs to the solute carrier 22 (SLC22) family of membrane transporters. We recently solved its structure (doi: 10.1038/s41467-022-34284-8). In addition, very recently several structures of the related transporters OCT1 and OCT2 became available. This is therefore the perfect moment for using high resolution methods to investigate transporter dynamics to understand its function at the molecular level. OCT3 is a polyspecific transporter for small organic cations, including monoamines, drugs, toxins and chemicals. OCT3 has a broad tissue distribution and plays an important role in the central nervous system. In the brain, OCT3 is associated with clearance of the neurotransmitters dopamine, serotonin and noradrenaline from the synaptic cleft that separates neurons by serving as a low-affinity, high-capacity transporter. As a polyspecific transporter, OCT3 also plays an important role in absorption, tissue distribution and excretion of medication. Interested? You will uncover, at the atomic resolution, transporter function as well as the crucial interactions that are the basis of the structure-function relationship of ligands. You will be using several computational approaches, including modelling, docking, MD simulations and free energy calculations to characterize dynamics, forces and free energy profiles.

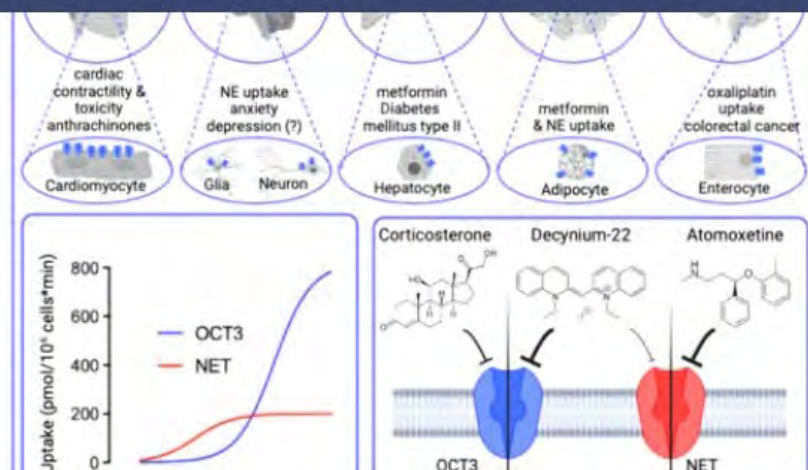
### Requirements

- Requirements: Master in life science, preferentially in the molecular structural biology or computational chemistry field.
- Advantage: Experience with computational approaches including the drug discovery field, computational pharmacological approaches, MD simulations or programming are of advantage.

## Laboratories of Harald Sitte & Jae-Won Yang

<https://www.meduniwien.ac.at/web/en/studies-further-education/phd-doctoral-programmes/phd-programme-un094/phd-opportunities/>

### The role of phosphorylation in organic cation transporter 3



Monoaminergic neurotransmitters act at their cognate receptors and mediate synaptic transmission. Organic cation transporter 3 (OCT3) is part of neurotransmitter-removing transporters that actively end synaptic transmission by removing the neurotransmitters from the synapse. Knowledge about phosphorylation of OCT3 is scarce, direct phosphorylation has not been shown and evidence for the importance of its regulatory function is enigmatic. The aim of the PhD project is to establish knowledge about the structure-function relationship in OCT3 wild type in relation to its phosphorylation status. Overall, we attempt to improve our understanding of the function of OCT3 and how it is controlled by phosphorylation, we aim to i) identify kinase/phosphatase-specific phosphorylation sites in OCT3 and their implication in regulating OCT3 transport function, ii) study the effects of phosphorylation on the pharmacodynamics and pharmacokinetics of OCT3 from human genetic variants and TKIs, respectively, and iii) to establish a plausible hypothesis of the observed effects in relationship to the structural context.

The methods build on a combination of experimental in vitro, microscopical and computational approaches, which are iteratively used for hypothesis generation, refinement and testing. Experimental in vitro approaches will mainly employ biochemical tracer flux experiments and mass spectrometry. Several microscopical methods (confocal, total internal reflection (TIRF) and fluorescence resonance energy transfer (FRET) microscopy) will be applied: TIRF microscopy will be used to assess the distribution of the transporters within the cells as well as on the cell surface; FRET microscopy will ascertain OCT3's quaternary arrangement at the cell surface.

#### Requirements:

The successful candidate should hold a Master's degree in biology, Biotechnology, Molecular Biology, Pharmacy or a related subject. Successful applicants are expected to be highly motivated, proactive, self-organized and reliable. Excellent English skills are required as well as passion for research. Desired would be experience with microscopy, molecular biology and biochemical approaches to examine membrane proteins.

# Journal Special Issues



## Frontiers in Pharmacology

JCR  
Impact Factor  
2022  
**5.6**

### Network Polypharmacology of ABC and SLC Transporters

Special Issue Editors

**Dr. Muhammad Rafehi**

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**Dr. Sven Marcel Stefan**

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**Prof. Dr. Łukasz Pułaski**

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[lukasz.pulaski@uni.lodz.pl](mailto:lukasz.pulaski@uni.lodz.pl)



Manuscript Submission **OPEN**

Dear ITTS Community,

We are happy to announce a Special Issue in Frontiers in Pharmacology dedicated to every transporter enthusiast.

You are cordially invited to contribute original research and review reports that complement and advance the chart of chemical, target, and bioactivity space in network polypharmacology of ABC and SLC transporters.

Manuscripts from all disciplines are welcome, particularly from:

- bioinformatics
- computational chemistry
- medicinal chemistry
- molecular genomics
- molecular pharmacology
- structural biology
- other multidisciplinary concepts

More information can be found [here](#)



## Call for Papers

### **The Brain in Flux: Genetic, Physiologic, and Therapeutic Perspectives on Transporters in the Nervous System**

**Submission deadline: Sunday, 31 December 2023**

Neurotransmitter transporters regulate the amount of neurotransmitters in the synaptic cleft and surrounding extracellular fluid. These proteins are key players controlling synaptic neurotransmission. Understanding the activity of these transporter proteins is therefore essential to deciphering how they regulate neuronal activity. When Sir Henry Dale and Otto Loewi shared the Nobel Prize in Physiology or Medicine in 1936, they set the foundation for a comprehensive understanding of the chemical transmission of information, from cell to cell – and from neuron to neuron. In keeping with the spirit of their seminal findings, this Special issue is devoted to disseminating the most current knowledge of “the brain in flux” with a focus on the genetics, physiologic, and therapeutic perspectives of neurotransmitter transporters. This issue is edited by Harald H. Sitte and features articles on key findings and recent advances in the field.

#### **Topics for this call for papers include but not restricted to:**

- Insights into excitatory Neurotransmitter transporters
- Tools for studying membrane transport
- Neuronal diseases and disorders related to neurotransmitter transporters
- GABA transporters and the excitatory/inhibitory balance
- Impact of membrane transporters on metabolism
- Structural and functional studies of neurotransmitter transporters

#### **Guest Editors:**

[Prof. Dr. Harald H. Sitte](#)

Center for Physiology and Pharmacology  
Institute of Pharmacology  
Vienna  
Austria

[Prof. Dr. Thomas Stockner](#)

Center for Physiology and Pharmacology  
Institute of Pharmacology  
Vienna  
Austria

[Prof. Dr. Eurico Cabrita](#)

Chemistry Department  
Caparica  
Portugal

[Prof. Dr. Ulrik Gether](#)

Department of Neuroscience  
Copenhagen  
Denmark

**Keywords:** Neurotransmitter transporters, Vesicular Neurotransmitter transporters, Electrophysiology, Transporter-mediated efflux, EPR spectroscopy, Missense mutations, Psychostimulants, Computational pharmacology, Molecular dynamics simulations, transporter regulation

#### **Submission Guidelines/Instructions**

Please refer to the [Author Guidelines](#) to prepare your manuscript. When submitting your manuscript, please answer the question: "Is this submission for a special issue?" by selecting the special issue title from the drop-down list.

<https://onlinelibrary.wiley.com/page/journal/14714159/homepage/call-for-papers/si-2023-000687>





International Journal of  
*Molecular Sciences*



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## TransportDEMENTIA<sup>5</sup>—From Advanced Technologies to Applied Translational Medicine

Guest Editors:

**Prof. Dr. Dr. Jens Pahnke**

MD, PhD, EFN, Department of Pathology, Section of Neuropathology, Translational Neurodegeneration Research and Neuropathology Lab, University of Oslo and Oslo University Hospital, Sognsvannsveien 20, 0372 Oslo, Norway

[jens.pahnke@medisin.uio.no](mailto:jens.pahnke@medisin.uio.no)

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**Dr. Sven Marcel Stefan**

[s.m.stefan@medisin.uio.no](mailto:s.m.stefan@medisin.uio.no)

Deadline for manuscript submissions:

**31 December 2023**

### Message from the Guest Editors

Dear Colleagues,

It is our very pleasure to announce a Special Issue released by the *International Journal of Molecular Sciences (IJMS)* associated to the 5<sup>th</sup> meeting of our TransportDEMENTIA meeting series. The meeting will take place in the Capital of the Arctic, Tromsø, from August 28 until September 1, 2023. More information about the venue can be found on [www.pahnkelab.eu/TD5](http://www.pahnkelab.eu/TD5).

The TransportDEMENTIA meeting series has established itself as a premier platform for cutting-edge research outlet amongst leading researchers from multiple disciplines. This year's topic "*From Advanced Technologies to Applied Translational Medicine*" will strongly combine chemical biology, molecular mechanisms, and clinical implications of membrane-bound transporter systems in human health and disease.



[mdpi.com/si/162717](http://mdpi.com/si/162717)

# Special Issue

## Transporter Fun Corner - Answer

D	E	C	M	K	N	V	T	A	P	F	H	Q	R	S	Y	G	L	I	W
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C	A	V	D	E	H	T	Q	W	F	M	P	Y	N	R	L	I	K	S	G
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I	H	E	R	V	M	Y	F	L	T	K	D	A	S	P	W	Q	N	G	C

### Thank you to Lee Gilman



Our greatest appreciation and thanks to ITTS inaugural newsletter editor, Dr. T. Lee Gilman. Lee took on this role in May 2019, while a post-doctoral fellow. Lee stepped down following the May 2023 newsletter to focus on other aspects of their tenure track Assistant Professor career. In keeping with Lee's high standards, during their 4 years as ITTS newsletter editor Lee took our newsletter to a new level. Together with immediate past secretary, Dr. Sonja Sucic, who collect all items for the newsletter, this team made our newsletter professional, informative, and fun read for our members. We thank them both for their effort and commitment to ITTS. Your service is greatly appreciated.

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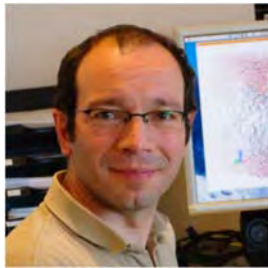
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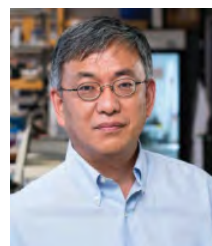
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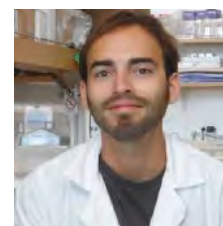
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