



INTERNATIONAL TRANSMEMBRANE TRANSPORTER SOCIETY

Newsletter

A Word from the President

Dear Colleagues,

This is my second letter as president of ITTS for 2021-2022. Due to the still ongoing COVID-19 pandemic, we only hope that by the Spring of 2022 travel and meeting restrictions will be lifted and we can continue our normal society life. The second ITTS Symposium in Copenhagen, Denmark, with the title "Catching Transport in Motion", is scheduled for June 7-10, 2022, at the Maersk Tower, the University of Copenhagen, and hopefully, this will be an in person meeting, having already an excellent program. This meeting should also provide an opportunity for the 2022 ITTS council meeting.



The Experimental Biology (EB) Meeting is scheduled for April 2-5, 2022, in Philadelphia, and I took the courage to register for this (hopefully) in person meeting. Another large meeting, potentially interesting for membrane transportologists, the AACR Congress, is scheduled for April 8-13, 2022, in New Orleans. If travel restrictions in the USA will be lifted by the Spring of 2022, these will be excellent opportunities for scientific discussions.

In my last letter I emphasized the role of biological sciences in fighting the COVID-19 pandemic, and by now it is crystal clear that the mRNA- and virus vector-based technologies rapidly generated safe and effective vaccines against this new virus, and these vaccines are used all over the world. I also suggested to make a collection of research papers dealing with the role of membrane transporters in COVID-19 biology, diagnostics or treatment. In this newsletter is a collection of such papers from PUBMED, and I ask our colleagues to send me any further relevant notes or papers in this area. It may be worth searching

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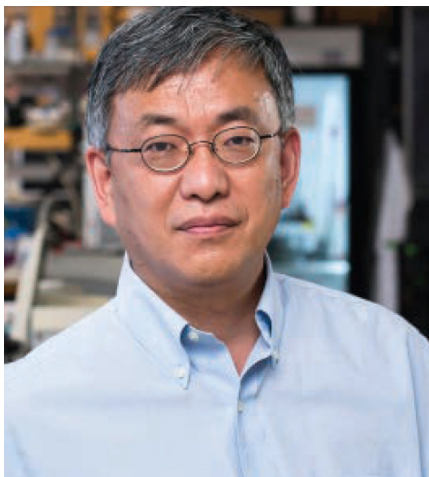
for your favorite transporter in this collection, potentially affecting cellular interactions with the SARS CoV-2 virus, thus giving motivation for your own research projects.

I look forward to the 2022 ITTS activities and to seeing many of you in person as soon as the pandemic permits. Please stay safe and healthy.

Balázs Sarkadi

ITTS President

Meet Our New Councilors



DA-NENG WANG, PH.D.
COUNCILLOR (2022-2025)

NEW YORK UNIVERSITY SCHOOL OF MEDICINE, USA

Da-Neng Wang studied metal physics in China and obtained a Master's degree from the Chinese Academy of Science. Following his Ph.D. in structural chemistry from the University of Stockholm, he joined the European Molecular Biology Laboratory, Heidelberg for postdoc training. He worked on the cryo-EM structure of membrane proteins, including the anion exchanger 1 from the human erythrocyte.

After starting his own group at New York University School of Medicine in 1995, Wang and his colleagues have focused on the mechanistic understanding of membrane transporters

using structural biology approaches. In 2003, they solved the high-resolution structure of the glycerol-3-phosphate transporter. Since then, they have determined structures of various membrane transporters for amino acids, carboxylate and antibiotics. Their lab also collaborates with other labs in single-molecule spectroscopy and molecular dynamics simulations to understand membrane transporter dynamics in real-time.



MARTINA ČEČKOVÁ, PH.D.
COUNCILLOR (2022-2025)
CHARLES UNIVERSITY, FACULTY OF PHARMACY,
CZECH REPUBLIC

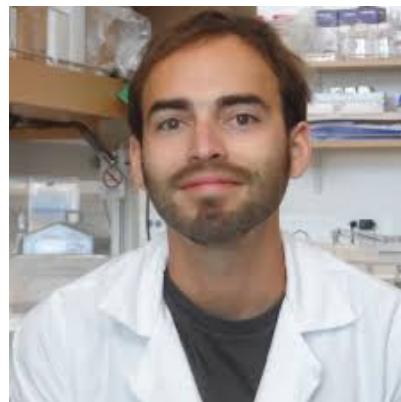
Martina is an Associate Professor in Pharmacology at the Charles University, Faculty of Pharmacy in Hradec Kralove, Czech Republic. She has several years experience in the field of human placenta-related pharmacology, evaluating the role of ABC and SLC transporters in transplacental pharmacokinetics and drug-drug interactions. Currently she leads the Research Group of Cellular Pharmacology and Oncology that aims to investigate transporters in the context of their role in pathological, mainly premalignant changes and in the process of cell survival and drug resistance. In particular, the current scientific effort is put in characterizing the membrane transporter profile of acute leukemia stem cells and in understanding the role of L-carnitine transporting SLC transporters on cell differentiation and survival.



SIMON NEWSTEAD FRSB, PH.D.
COUNCILLOR (2022-2025)

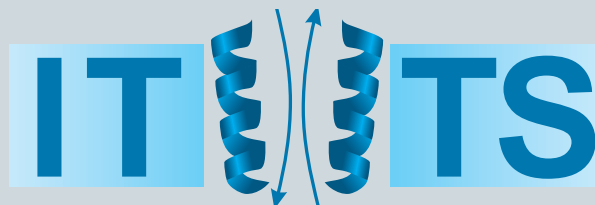
UNIVERSITY OF OXFORD, UNITED KINGDOM
WELLCOME TRUST INVESTICATOR

Simon Newstead is the Professor of Molecular Membrane Biology in the Department of Biochemistry at the University of Oxford, the Biochemistry tutor at Christ Church and a member of the Kavli Institute for Nanoscience Discovery in Oxford. Simon received his first degree from the University of Bath in 2001 and his PhD in structural biology at St Andrews in 2004 before joining the membrane protein laboratory of Professor So Iwata, at Imperial College London as a post-doctoral research fellow. In 2009, he was awarded a career development award to establish a research group in the Department of Biochemistry at the University of Oxford focused on structural studies on proton coupled SLC transporters in health and disease. In 2015 he was promoted to Professor and in 2019 elected to the Royal Society of Biology. Simon's group studies the relationship between structure and function in a range of pharmaceutically important SLC transporters and trafficking receptors. Key questions the group addresses surround the role of pH gradients in driving and regulating transport across the plasma membrane, the regulation of transport function in the cell and role of SLC proteins in drug and nutrient uptake in the GI tract. Since 2014 Simon has been a Wellcome Investigator and is currently the Theme lead for structural biology in the Department of Biochemistry.



THOMAS STEINKELLNER, PH.D.
ASSOCIATE COUNCILLOR (2022-2025)
MEDICAL UNIVERSITY OF VIENNA, AUSTRIA

Thomas Steinkellner is a tenure-track assistant professor in molecular pharmacology at the Institute of Pharmacology, Medical University of Vienna. Thomas studied molecular biology and obtained a MSc degree at the University of Vienna. Following his PhD in pharmacology under the supervision of Harald Sitte at the Medical University of Vienna, Thomas joined the lab of Tom Hnasko in the Department of Neurosciences at the University of California, San Diego before starting his own lab in Vienna in October 2020. The main research focus of Thomas' group is to elucidate the contribution of neurotransmitter transporters to selective vulnerability of neurodegenerative diseases with an emphasis on Parkinson's disease.



**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>

Thanks to Renae Ryan



RENAE RYAN, PH.D.
DIVERSITY & INCLUSION OFFICER
(2018-2021, 2022-2025)
THE UNIVERSITY OF SYDNEY, AUSTRALIA

We are most thankful to Renae Ryan for agreeing to serve an additional 4 year term as ITTS Diversity and Inclusion Officer. Thanks a million, Renae!

Open Positions & Job Announcements



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 Dr. Sonja Sucic (sonja.sucic@meduniwien.ac.at). <http://www.ittsociety.org/new-page>

ITTS 2022 Update



7-10 June in Copenhagen

We are happy to inform you the new dates for our ITTS conference of **June 7-10, 2022**. The venue remains the same: The Maersk Tower, University of Copenhagen.

We do recognize the work and engagement you already have put into the meeting and we

are working to keep the program as is as much as possible.

Again, we are sorry for this change and thank you so much for your help and contribution in this turbulent time. If you have any questions, please do not hesitate to contact us at any time.

All the best and a wish for you to stay healthy,

The Organizing Committee,

Stine F. Pedersen
Petrine Wellendorph
Ulrik Gether
Claus J. Løland



2nd International Transmembrane Transporter Society Meeting
CATCHING TRANSPORT IN MOTION

Gordon Research Seminar & Conference 2022



A Gordon Research [Seminar](#) on *Membrane Transport Proteins* (11-12 June 2022) will be followed by a Gordon Research [Conference](#) on *Biomedical Transporters: Physiology, Dysfunction, and Targets of Pharmacotherapy* (12-17 June 2022).

Both events will be held at the [Rey Don Jaime Grand Hotel](#) in Spain.

2nd COMPPÅ Symposium



The 2nd COMPPÅ Symposium on Membrane Protein Production and Analysis is scheduled for June 22-24, 2022.

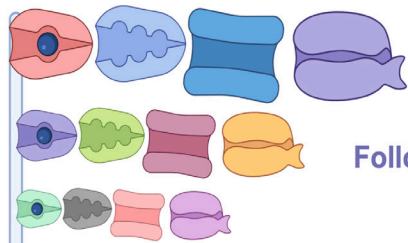
Located in New York City, US. For more information, see <https://www.comppaa.org>.

Dopamine 2022 Meeting



For more information, go to <https://dopaminesociety.org>.

Brain in Flux 2022



Follow us on  @BiF2022

The Brain in Flux: Genetic, Physiological and Therapeutic Perspectives on Transporters in the Nervous System



August 24th – 27th 2022 Imazu Sunbridge Hotel – Lake Biwa, Japan

With great pleasure, the organizing committee present the tentative details for the next Brain in Flux meeting. We propose a 3-day meeting preceding the August ISN meeting in Kyoto focused on transporters. Tentative dates are 24th-27th August 2022 at a hotel on Lake Biwa, the largest lake in Japan, a beautiful and popular holiday spot and around an hour's journey from Kyoto. The meeting will include two plenary lectures. Individual sessions will include both senior and junior investigators. Ample time for discussion, and evening posters sessions will encourage rich exchange of ideas. We plan on providing support and training for trainees.

Lake Biwa has a variety of activities (hiking, swimming, biking) and there many historical landmarks and natural sites of beauty nearby. We will plan a rich schedule of social activities, including karaoke and a dinner cruise to allow participants to maximally network. We would love to see you there, please reach out with any questions/ideas for topics/symposia/training sessions and fundraising.



Topics:

- Transporter Structure and Dynamics
- Transporter Trafficking and Imaging
- Transporter Human Genetic Disorders
- Modeling Transporter Dysfunction in Worms, Flies and Mice
- Emerging opportunities for pharmacological targeting of transporters
- Co-transmission and transporters
- Transporter function in pathology

Parry Hashemi, Ph.D.

Imperial College London, United Kingdom

Hidenori Aizawa, M.D., Ph.D.

Hiroshima University, Japan

Michael Robinson, Ph.D.

University of Pennsylvania, US

Check [Twitter](#) for latest updates

New Editor of Pharmacological Reviews



From the [ASPET website](#), 13 Sep 2021: Dr. Lyn Daws has been named as the next editor of Pharmacological Reviews. Dr. Daws succeeds Dr. Eric Barker. Her three-year term begins January 1, 2022, and runs through December 31, 2024, after which time Dr. Daws will become eligible for a second three-year term.

Dr. Daws is a Frost Bank Distinguished Professor in Biomedical Research and Director of the Physiology and Pharmacology Discipline of the Integrated Biomedical Sciences Graduate Program at the University of Texas Health Science Center at San Antonio.

Dr. Daws has served as Associate Editor for Pharmacological Reviews since 2010. She has also served as guest editor for four other journals and edited a volume of the Handbook of Experimental Pharmacology.

Over the years she has served as an ad hoc reviewer for almost 40 journals.

As of this writing, she has published 73 research articles and she has also written 29 editorials, reviews, and book chapters.

Call for Papers - Special Issue



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Neurotransmitter Transporters in Health and Disease

Guest Editors

Dr. Sonja Sucic, Dr. Lynette C. Daws

Co-Guest Editors

Dr. Ameya Sanjay Kasture, Dr. Shreyas Bhat

Deadline

31 May 2022

Special Issue

[mdpi.com/si/76790](https://www.mdpi.com/si/76790)

Invitation to submit

To submit to this special issue, see

https://www.mdpi.com/journal/cells/special_issues/neuro_trans#info

NCCR TransCure Final Conference



From Prof. Hugues Abriel: Our NCCR network TransCure will end in 2022 and we are currently organizing the [final conference](#) that will be held from 17-19 August 2022 in Bern, Switzerland.

Updates from RESOLUTE

Dvorak V, Wiedmer T, Ingles-Prieto A, Altermatt P, Batoulis H, Bender E, Digles D, Dürrenberger F, Heitman L, IJzerman A, Kell D, Kicking S, Körzö D, Leippe P, Licher T, Manolova, V, Rizzetto R, Sassone F, Scarabottolo L, Schlessinger A, Schneider V, Sijben H, Steck A, Sundström H, Tremolada S, Wilhelm M, Muelas M, Zindel D, Steppan C, Superti-Furga G. [An overview of cell-based assay platforms for the solute carrier family of transporters](#). *Front Pharmacol* (2021) 12:1968

Watch video from RESOLUTE on SLC plasmids and cell lines: <https://www.youtube.com/watch?v=tOn15eE3d9U>

Update from Paulino and Slotboom Lab

Thangaratnarajah C, Rheinberger J, Paulino C, Slotboom D. [Insights into the bilayer-mediated toppling mechanism of a folate-specific ECF transporter by cryo-EM](#). *PNAS* (2021) 118(34): e2105014118

Update from Kell Lab

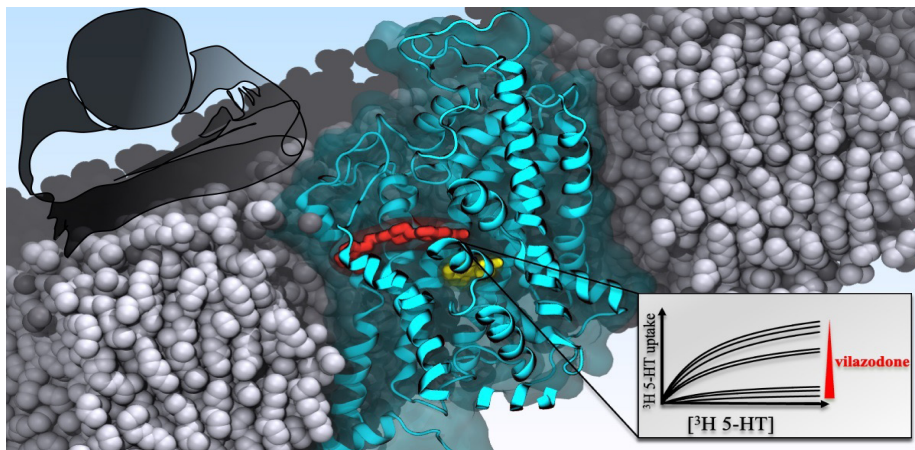
Kell D. [The transporter-mediated cellular uptake and efflux of pharmaceutical drugs and biotechnology products: How and why phospholipid bilayer transport is negligible in real biomembranes](#). *Molecules* (2021) 26(18):5629

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, Dr. Sonja Sucic at sonja.sucic@meduniwien.ac.at

Update from Løland Lab



Plenge P, Yang D, Salomon K, Laursen L, Kalenderoglou I, Newman A, Gouaux E, Coleman J, Løland C. **The antidepressant drug vilazodone is an allosteric inhibitor of the serotonin transporter.** *Nature Commun* (2021) 12:5063

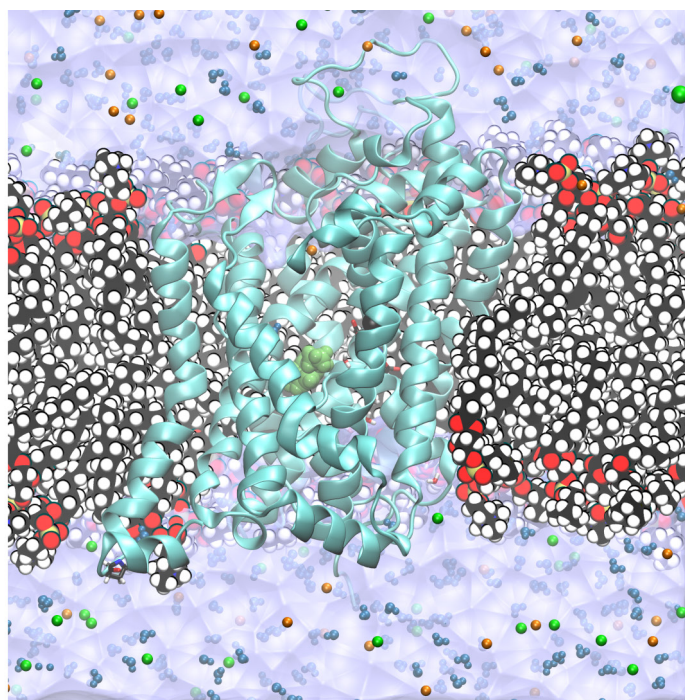
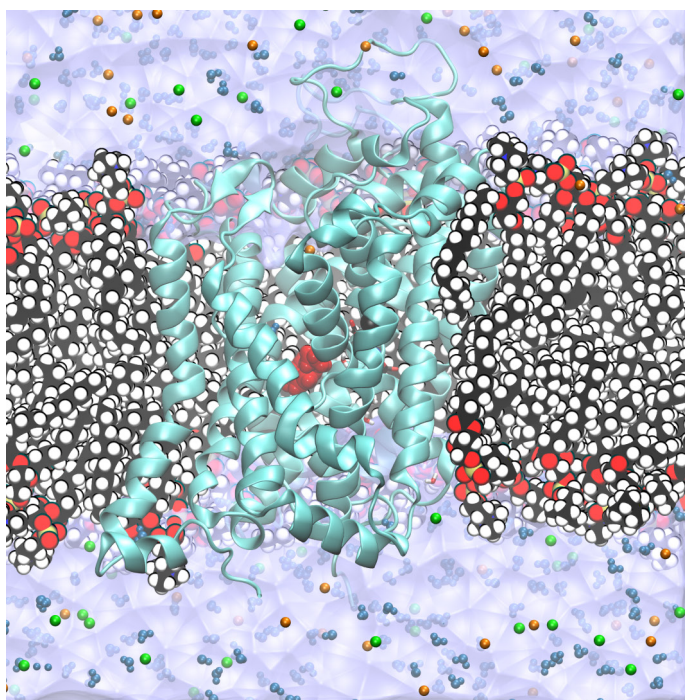
Image credit: Iris Kalenderoglou

Update from Sitte Lab

Rudin D, McCorvy J, Glatfelter G, Luethi D, Szöllősi D, Ljubišić T, Kavanagh P, Dowling G, Holy M, Jaentsch K, Walther D, Brandt S, Stockner T, Baumann M, Halberstadt A, Sitte H. **(2-Aminopropyl)benzo[β]thiophenes (APBTs) are novel monoamine transporter ligands that lack stimulant effects but display psychedelic-like activity in mice.** *Neuropsychopharmacol* (2021) <https://doi.org/10.1038/s41386-021-01221-0>

Transporter Fun Corner

Find the 6 differences!



Answer & artist information on page 12

Biophysics Colab

biophysics COLAB

BIOPHYSICS COLAB IS A NON-PROFIT ORGANISATION WORKING IN PARTNERSHIP WITH eLIFE WHICH AIMS TO IMPROVE THE WAY ORIGINAL SCIENCE IS EVALUATED AND DISSEMINATED. **RENAE RYAN** SPOKE WITH THE CURATOR-IN-CHIEF, **KENTON SWARTZ** AND THE EXECUTIVE DIRECTOR OF SCIENCE COLAB, **LESLEY ANSON** ABOUT THIS NEW CONCEPT IN SCIENTIFIC PUBLISHING AND HOW ITTS MEMBERS CAN GET INVOLVED.

1. Can you describe the concept of Biophysics Colab and what inspired you to establish this initiative?

Kenton: Many of us are becoming increasingly disillusioned with our current system for scientific publishing. Peer review is typically anonymous, adversarial, and at most high-profile journals, decisions are made by professional editors without the expertise to evaluate the significance, quality or rigor of the work. Many journals promote 'fire-hose' science where so many different techniques are employed that it becomes nearly impossible to adequately peer review. The publishing process is also too slow, preventing rapid dissemination of new information. Our goal is to help advance a new model of 'publish, review, curate' to rapidly share new information and then to establish new peer review communities that can assist authors, as a service, to curate their work through a collegial and non-adversarial process.

Lesley: I'm no longer a practising scientist like Kenton, but having experienced the best and

worst sides of publishing in my time as an editor, I became motivated to launch a service that offers the very best of peer review and curation in a way that is equitable, inclusive and beneficial to the scientific community. It has been a privilege to work with the biophysics community to develop these ideas and take the first steps towards launching this service.

2. How does the process work now and how do you see it evolving over time?

Kenton: Authors post their original manuscript on a preprint server (e.g., bioRxiv) and, with the authors permission, we identify a curator that will oversee the peer review process, identify appropriate reviewers, lead discussions between the reviewers and assemble a consolidated peer review report that helps authors prepare a revised manuscript. If authors respond to our report and revise their manuscript appropriately, or for studies that are rigorous and robust from the outset, we provide an endorsement statement that outlines what the study contributes and what communities might be interested in the work.

Lesley: In the near future, we will launch a journal that will allow us to more formally curate the preprints that we endorse. We've discussed different ways in which we might curate studies, beyond providing an endorsement statement, so that their relevance to different readers can be clearly signposted. We'd like that curation to be an ongoing process, recognising how the value of studies can increase over time as scientific understanding progresses. Currently, we are providing our service without charge, and are seeking additional funding so that we can continue to do so until we develop an equitable business model.

3. What kind of research will be curated by Biophysics Colab?

Kenton: Thus far the expertise of our curators

is in functional and structural studies on ion channels and transporters, and we are interested in curating studies in this broad area. We are looking for rigorous and robust studies that will be of interest to other scientists in the field, and where the key conclusions are supported by the data presented. Recognizing that the ultimate significance of a study may not be readily apparent when it is first published, we will focus less on the perceived impact of the work and more on its quality.

Lesley: We're in the process of broadening our group of curators to include other membrane proteins, so that we have the expertise to cover the breadth of membrane biophysics, and will eventually expand to cover the entirety of biophysics.

4. How does Biophysics Colab interface with eLife?

Kenton: eLife has been working to advance the 'publish, then review' model and now requires that all submission be posted on a preprint server. Several of the individuals working to launch Biophysics Colab are also editors at eLife, and have therefore brought their experience of reviewing preprints to our organization. As a new peer review community, we have more freedom to innovate with the peer-review process and to begin endorsing studies. We believe that envisioning peer review as a service to authors should make the process of publishing more collegial, transparent, equitable and less judgemental or adversarial.

Lesley: eLife were instrumental in helping us to refine our initial ideas and are now providing the infrastructure and financial support to launch our project. Together, we are developing a manuscript tracking system to manage the peer review of preprints, and we are already using their Scity platform (scity.org) to showcase the studies that we've reviewed. Very soon, our collective effort will turn to developing a journal platform so that we can curate preprints in the form of a formal 'ver-

sion of record'.

5. How can the ITTS community get involved?

Kenton: First, we're actively looking for preprints to curate, so consider posting your next manuscript on a preprint server such as bioRxiv and let us know that you'd be happy for us to review your work. When we launch our journal, we will be able to curate studies as a version of record. However, we're currently providing a peer review-only service that we hope will improve the speed with which you publish your work in other more traditional journals. Second, let us know if you're interested in contributing to our innovative peer review experiment by acting as a reviewer for the preprints that we're curating. Our goal is to provide a diverse team of reviewers for each preprint, so we aim to recruit scientists from around the globe, from postdocs to senior investigators.

Lesley: I'd encourage anyone who has an interest in the project to drop me a line at (lesley@biophysicscolab.org) so that I can arrange for them to receive information and announcements. In addition, look out for the launch of our new website, where you'll be able to become a member of the global Colab community and submit your ideas and feedback. And finally, please do follow our progress on Twitter ([@BiophysicsColab](https://twitter.com/BiophysicsColab)).



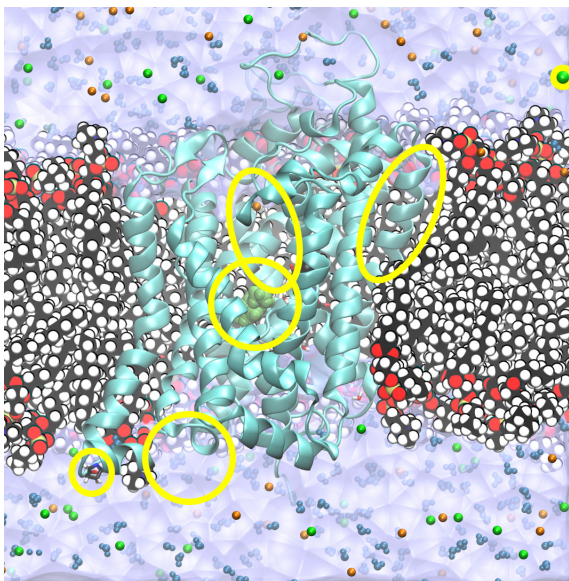
Kenton Swartz has been a Senior Investigator in the National Institute of Neurological Disorders and Stroke within the National Institutes of Health in Bethesda, Maryland since 2003. He obtained PhD in Neurobiology from Harvard Medical School in 1993 studying calcium channels with Bruce Bean and postdoctoral training with Roderick MacKinnon at Harvard Medical School isolating and studying toxins that interact with voltage-activated potassium channels. His lab-

oratory uses biochemical, molecular biological, biophysical and structural techniques to understand how ion channel proteins sense critical biological stimuli, including membrane voltage, temperature, and both chemical and mechanical signals. He received an NIH Directors Award for Scientific Achievement in 2008, an NIH Office of the Director Honor Award on behalf of the Diversity Task Force in 2011 and the Kenneth S. Cole Award from the Biophysical Society in 2017. He has also served as the president of the Society of General Physiologists, an associate editor at the Journal of General Physiology and as both reviewing and senior editor at eLife.



Lesley carried out biophysical and molecular research on ion channels and presynaptic membranes at the University of Bristol and University College London, before becoming a scientific editor at Nature in 1999. There, she handled molecular neurobiology manuscripts and oversaw the biology component of Nature's review program, before launching and leading Nature Communications through its inaugural five years. In 2015, Lesley launched her own editorial and publishing consultancy, Anson Scientific, where she works with a range of different clients in academia and industry. In the last two years, Lesley has been working with eLife and the membrane biophysics community to launch Biophysics Colab and is the Executive Director of the umbrella organization, Science Colab. She can be reached at lesley@biophysicscolab.org.

Transporter Fun Corner Artist & Answer



Our "Transporter Banksy" revealed:

Daniel Szöllősi, PhD

About me: I'm a transporter enthusiast and I love finding out the little tricks of nature that allow proteins to work as they do. My research revolves around elucidating the working mechanisms behind membrane transporters, including the conformational cycle and substrate transport. My key interests are primary active ABC transporters and secondary active neurotransmitter sodium symporters. I utilize in silico techniques, such as molecular modelling, equilibrium and enhanced sampling simulations, accompanied by free energy calculations.

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Transporters & COVID-19

Collection of Recent Papers on Membrane Transporters in COVID-19 Biology, Diagnostics or Treatment

Straus MR, Bidon MK, Tang T, Jaimes JA, Whitaker GR, Daniel S. [Inhibitors of L-type calcium channels show therapeutic potential for treating SARS-CoV-2 infections by preventing virus entry and spread.](#) *ACS Infect Dis* 2021 7(10):2807-2815. doi: 10.1021/acinfecdis.1c00023. PMID: 34498840; PMCID: PMC8442615.

García-Dorival I, Cuesta-Geijo MÁ, Barrado-Gil L, Galindo I, Garaigorta U, Urquiza J, Puerto AD, Campillo NE, Martínez A, Gastaminza P, Gil C, Alonso C. [Identification of Niemann-Pick C1 protein as a potential novel SARS-CoV-2 intracellular target.](#) *Antiviral Res* 2021 194:105167. doi: 10.1016/j.antiviral.2021.105167. PMID: 34450201; PMCID: PMC8382594.

Ambrus C, Bakos É, Sarkadi B, Özvegy-Laczka C, Telbisz Á. [Interactions of anti-COVID-19 drug candidates with hepatic transporters may cause liver toxicity and affect pharmacokinetics.](#) *Sci Rep* 2021 11(1):17810. doi:10.1038/s41598-021-97160-3. PMID: 34497279; PMCID: PMC8426393.

Prasad H. [Protons to Patients: targeting endosomal Na⁺/H⁺ exchangers against COVID-19 and other viral diseases.](#) *FEBS J* 2021 288(17):5071-5088. doi:10.1111/febs.16163. PMID: 34490733.

Noori M, Nejadghaderi SA, Sullman MJM, Carson-Chahhoud K, Ardalan M, Kolahi AA, Safiri S. [How SARS-CoV-2 might affect potassium balance via impairing epithelial sodium channels?](#) *Mol Biol Rep* 2021 48(9):6655-6661. doi:10.1007/s11033-021-06642-0. PMID: 34392451; PMCID: PMC8364628.

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M, Focaia R, Sabbatini S, Rende M, Gioiello A, Cruciani G, Rossi R, Galli F. [SARS-CoV2 infection impairs the metabolism and redox function of cellular glutathione.](#) *Redox Biol* 2021 45:102041. doi: 10.1016/j.redox.2021.102041. PMID: 34146958; PMCID: PMC8190457.

Jaffal SM, Abbas MA. [TRP channels in COVID-19 disease: Potential targets for prevention and treatment.](#) *Chem Biol Interact* 2021 345:109567. doi: 10.1016/j.cbi.2021.109567. PMID: 34166652; PMCID: PMC8217345.

Zsidó BZ, Börzsei R, Szél V, Hetényi C. [Determination of ligand binding modes in hydrated viral ion channels to foster drug design and repositioning.](#) *J Chem Inf Model* 2021 61(8):4011-4022. doi: 10.1021/acs.jcim.1c00488. PMID: 34313421; PMCID: PMC8389532.

Provenzi L, Mambretti F, Villa M, Grumi S, Citterio A, Bertazzoli E, Biasucci G, Decembri L, Falcone R, Gardella B, Longo MR, Naciovich R, Pisoni C, Prefumo F, Orcesi S, Scelsa B, Giorda R, Borgatti R. [Hidden pandemic: COVID-19-related stress, SLC6A4 methylation, and infants' temperament at 3 months.](#) *Sci Rep* 2021 11(1):15658. doi: 10.1038/s41598-021-95053-z. PMID: 34341434; PMCID: PMC8329206.

Hutchison JM, Capone R, Luu DD, Shah KH, Hadziselimovic A, Van Horn WD, Sanders CR. [Recombinant SARS-CoV-2 envelope protein traffics to the trans-Golgi network following amphipol-mediated delivery into human cells.](#) *J Biol Chem* 2021 297(2):100940. doi: 10.1016/j.jbc.2021.100940. PMID: 34237302; PMCID: PMC8256659.

Kashyap T, Murray J, Walker CJ, Chang H, Tamir S, Hou B, Shacham S, Kauffman MG, Tripp RA, Landesman Y. [Selinexor, a novel selective inhibitor of nuclear export, reduces SARS-CoV-2 infection and protects the respiratory system in vivo.](#) *Antiviral Res* 2021 192:105115. doi: 10.1016/j.antiviral.2021.105115. PMID: 34157321; PMCID: PMC8213878.

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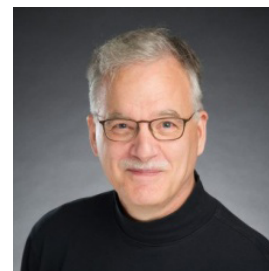
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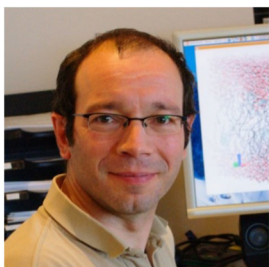
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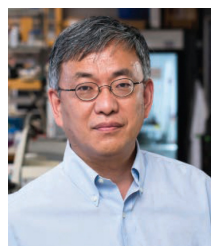
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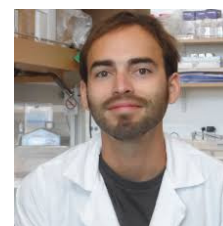
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