



Society of General Physiologists

eNewsletter Spring, 2020

NEW! Pilot Program Discounted JGP Publication Fees for SGP Members

JGP

The Society of General Physiologists and *Journal of General Physiology* announce a new partnership to offer a 25% discount on the \$2,000 *JGP* publication fee to all SGP members -- a savings of \$500! The program will start this summer. Promotional codes will be made available to SGP members that can be used during invoicing. Watch your email for details. There's no better time to renew your membership or [become an SGP member](#).

JOIN OR RENEW!

Mark your Calendar! Upcoming SGP Events

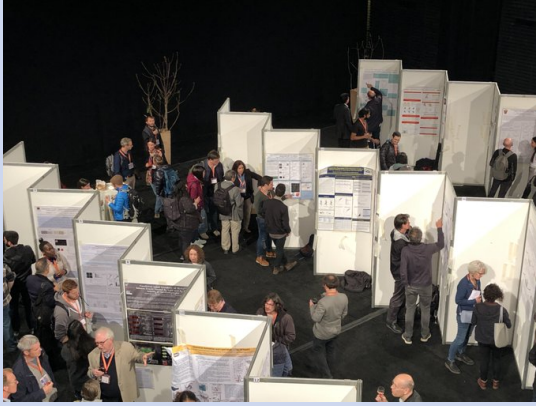
74th Annual SGP Symposium

***Ion channels and Transporters
in Immunity, Inflammation, and
Antitumor Immunity***

September, 2021

Marine Biological Laboratory,
Woods Hole, MA

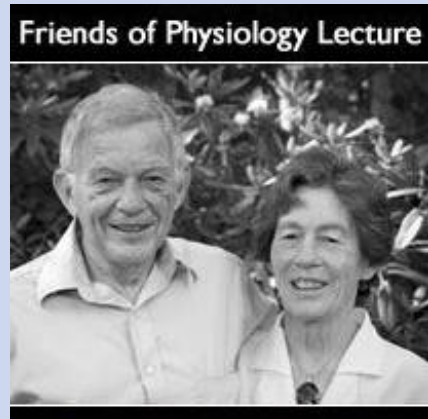
Organizers:



Due to COVID-19, the Fall 2020 SGP Meeting has been postponed for one year, until Fall 2021. Check the meeting website for up-to-date information <https://www.sgp2020.com/>

75th Annual SGP Symposium
***Membrane Proteins in Context:
Structure and function in native cells
and macromolecular complexes***

September, 2022
Marine Biological Laboratory, Woods Hole, MA
Organizers:
Matt Trudeau, PhD; Cathy Proenza, PhD



2020 SGP-JGP Mixer

"All the people who matter and free beer!"



In addition to our annual meeting, the other major event sponsored by the SGP is our annual SGP-JGP mixer. The purposes of the mixer are to strengthen bonds between members, to present awards given by the SGP and *JGP*, to foster our connections with *JGP*, and to recruit fresh blood. Holding to our now established tradition, the event was held on the Sunday of the Biophysical Society Annual Meeting, which is regularly attended by many SGP members. This year several hundred guests gathered on the ninth floor of the beautiful San Diego Central Library. It was a high-spirited event where old friends met, and new acquaintances were made. The spirit of camaraderie was accompanied by a live jazz band, drinks, and hors d'oeuvres. At the mixer we honored the 2019 Crane field



awardees: Dr. Stephan A. Pless, Dr. Sara J. Coddington, and Dr. Aaron Bozzi; as well as the first Sharona Gordon Awardee, Dr. Karen G. Fleming. See below for more about each of these awards and awardees!"



2019 Cranefield Awards

The Paul F. Cranefield Award was created by the Council of the Society of General Physiologists to honor Paul F. Cranefield, M.D., Ph.D., who for 30 years served as Editor of *Journal of General Physiology*. The Awards are meant to recognize young investigators who in the preceding calendar year have published outstanding articles in the Journal.

Stephan A. Pless



Stephan Pless is a Professor at the University of Copenhagen, Denmark. He was recognized as the 2019 Cranefield Awardee in recognition of the outstanding paper from his laboratory, **"Molecular determinants for agonist recognition and discrimination in P2X2 receptors"**

1) What are your current research interests?

Understanding the function of acid-sensing ion channels and the sodium leak channel NALCN using a combination of electrophysiology, non-canonical amino acids, fluorometry and semi-synthesis.

2) Please share a little known personal fact about yourself. Doesn't have to be science related! I went to a Waldorf school. So I grew up without a TV, was taught basket weaving and book binding instead of science - in a classroom without right angles. I loved every day of it. And I could dance my

name.

3) What does receiving this award mean to you?Very humbled to be added to this distinguish recipient list. And very grateful to the lab members, past and present, that work(ed) so hard to turn ideas into science.

4) Could you give some words of encouragement for younger people who want to pursue a career in science?

Look for inspiring and supportive mentors and follow your interests. Go to meetings, talk to people and learn to present your work. Don't be blinded by big names, papers or institutions.

Sara J. Coddling

Sara Coddling is a postdoc in Matt Trudeau's lab at the University of Maryland School of Medicine. Sara was recognized as the 2019 postdoctoral Cranefield awardee in recognition of her paper "[The hERG potassium channel intrinsic ligand regulates N- and C-terminal interactions and channel closure.](#)"



1) What are your current research interests?

I am interested in understanding ion channel dynamics. I use combined techniques simultaneously to measure channel structural movements while also under voltage clamp: short range dipole independent (10-20 Å) transition metal FRET and patch clamp fluorometry. This allows the opportunity to record currents and tmFRET simultaneously to measure absolute distances of channel movement. I am also excited by the current expansion of membrane protein structures in the PDB and for new probes to study ion channel behavior/ion diffusion.

2) Please share a little known personal fact about yourself. Doesn't have to be science related! Academically, I started as a chemist. I originally intended on becoming a winemaker (but my path led to Rx development before grad school). That said, my chemistry knowledge has directly aided my skills in one of my hobbies: canning/preserving. I also grew up in redwood tree habitat, a redwood forest is one of my favorite places to be.

3) What does receiving this award mean to you?This award is such an honor for me, it makes me reflect on how much support I currently have and have had in my career. It is a brilliant reflection of the mentorship I have in my lab, my department, and within SGP and JGP. I am so pleased to contribute to the field with this last paper.

4) Could you give some words of encouragement for younger people who want to pursue a career in science?

Keep pushing the boundary between what we know (and why we know it) and what we don't know -- keep questioning. For me it's a type of 'gut feeling' curiosity that propels my science, my suggestion is to listen to it. Surround yourself with supportive people that like to share their science too. Finally, know that a degree in a STEM field is a tool -- use it however it fits best.



Aaron Bozzi is a research scientist at Alexion Pharmaceuticals. He was previously a graduate student in the laboratory of Rachelle Gaudet at Harvard University. He was recognized as the 2019 graduate student Cranefield awardee for his outstanding paper "**Unique structural features in an Nramp metal transporter impart substrate-specific proton cotransport and a kinetic bias to favor import.**"

1) What are your current research interests?

In general, my research passion is understanding how proteins function at the molecular-to-atomic level using the tools of biochemistry and structural biology. In graduate school I became fascinated with the question of how secondary transporters' structures have evolved to enable them to harness electrochemical energy and power the cellular uptake of key nutrients. Currently, as a scientist at Alexion Pharmaceuticals I am leveraging my interests and experience in studying protein evolution, structure, and function to design and develop.

2) Please share a little known personal fact about yourself. Doesn't have to be science related!

I love the outdoors, especially hiking in rural New England. During grad school my wife Sarah and I got married at a lodge at the top of Mt. Greylock in western Massachusetts, so I hiked a segment of the Appalachian Trail up the mountain with some of my friends a few hours before the ceremony.

3) What does receiving this award mean to you?

I'm incredibly proud of the work for which I'm being recognized with this award. I had two great colleagues in Lukas and Christina who helped inspire and lay the groundwork for this study and a wonderful mentor in Rachelle Gaudet to guide me through many exciting rounds of hypotheses and experiments and new interpretations of the data. If this recognition means more scientists read our paper and start thinking about the many exciting questions that remain to be answered in the secondary-transporter field, I'll be grateful.

4) Could you give some words of encouragement for people who want to pursue a career in science?

Don't be afraid to jump into a new field if that's where your passions and interests are drawing you. I started out as a physical chemist studying small molecule gas complexes as an undergrad, but I realized that in the long term I was more interested in how chemistry is applied in a biological context. So I joined a molecular and cellular biology graduate program despite having taken almost no biology coursework in college, which was a little intimidating at first. But I've found that most people in science are willing to give you a chance if you express a genuine curiosity and enthusiasm for a new area of study.

SGP announces the new Sharona Gordon Award to promote diversity and inclusion in science

The Sharona Gordon Award was established to recognize Professor Gordon's contributions towards changing the scientific environment to promote equity and diversity. The Award will be given annually to honor an individual who has shown extraordinary commitment to promoting equity and inclusivity in the physiology and biophysics community. The award is funded by a new endowment. **[Click here to donate to the Equity in Physiology Fund!](#)**



Professor Karen G. Fleming of Johns Hopkins University was named the first recipient of the Sharona Gordon Award. Professor Fleming has been a leader in identifying and communicating problems that affect scientific environments such as unintended bias and lack of diversity.

Interview with Karen Fleming



1) What are your current research interests?

We are interested in the forces that stabilize membrane proteins, membrane protein-protein interactions, and how unfolded membrane proteins are managed by the chaperone network.

2) Please share a little known personal fact about yourself. Doesn't have to be science related!

I was a French major in college.

3) What does receiving this award mean to you?

I was thrilled when the Society created an award to honor Sharona Gordon. Her activism to create more equity in science is so inspiring to me. I am so honored to be receiving this award named after her. For me, I continue to be amazed at the impact that one person can make by simply using their agency to speak up for a better community.

4) In your opinion, which key changes, if any, are needed to create a more inclusive scientific community/environment?

We all need to take responsibility for this effort and nurture a more inclusive community through our day-to-day actions with each and every person. We need to check our biases on a regular basis, and we need to normalize conversations around equity and what we value.

5) Could you give some words of inspiration for scientists who want to improve the scientific environment?

Wake up each day and ask yourself: How will I be an ally today? Many little acts of allyship will add up to create a better climate for all of us.

Interview with Sharona Gordon

1) What are your current research interests?

My lab has two areas of interest: The molecular and cellular basis of increased pain sensitivity during inflammation and methods for measuring conformational energetics of multi-modal ion channels.

2) Please share a little known personal fact about yourself. Doesn't have to be science related!

My mother had polio as a baby and raised her five children from a wheelchair.

3) What does it mean to have this award named after you?

It is gratifying that people think the work I do makes a difference. That's the whole goal: making a difference. This award is such an honor because it comes from my peers. I am grateful and humbled.

4) What is the impact that you hope this award achieves in the long run?

I hope this award will help catalyze improvements in the culture of academic science. Culture change work is hard. Having any encouragement is a big help.

5) In your opinion, which key changes, if any, are needed to create a more inclusive scientific community/environment?

We need to shift from a competition-based model to a cooperation-based model. All the social science data tell us that cooperation is the best route to progress. Yes even the grants process is a competition. We are driving out needed talent, hurting the people who remain in science, and undermining scientific advancement.

6) Could you give some words of inspiration for scientists who want to improve the scientific environment?

Individuals have enormous power to change their environments. Every single interaction between any two people is an opportunity to demonstrate respect and show you value someone. Take advantage of the many opportunities you have each day and the change you see will amaze you.



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SGP Mission Statement

The SGP Council recently updated the mission statement to better reflect what we see as the core mission of our Society. Dynamic discourse about what our Mission is, and could be, is important to keep us functioning at our fullest capacity and engaging with the next generations of general physiologists. Feedback from membership is welcomed and appreciated. Please send comments to admin@sgpweb.org.

The Society of General Physiologists is an inclusive, international scientific society whose goal is to advance the understanding of the fundamental physiological mechanisms and physical principles that govern the functioning of biological systems. In addition to promoting pioneering and innovative research, the Society advocates for education and training, and it is committed to increasing diversity in the scientific workforce.

What is General Physiology?

General Physiology is a conceptual approach that recognizes the physico-chemical bases of biological processes. It uses quantitative experimental techniques to probe the mechanisms underlying physiological processes.

A firsthand account of the origins of the SGP: food for thought as we approach our 75th anniversary.

A Brief History of the Society of General Physiologists. Prosser CL and Buck J, 1997 J Gen Physiol 109(4):vii <https://doi.org/10.1085/jgp.109.4.vii>

SGP Newsletter Committee: Cathy Proenza, Jon Sack, Valeria Vasquez

SGP Social Media Committee: Antoniya Aleksandrova and Anabel Fernandez-Mariño

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