JGP Journal of General Physiology

EDITORIAL

First steps

David Eisner

At the time of writing, I have been Editor-in-Chief of *JGP* for a very busy eight weeks. We have begun to assemble a team of Associate Editors, and I am delighted that Chris Lingle, Joe Mindell, Jeanne Nerbonne, and Crina Nimigean have agreed to join this group. They have many years' experience of reviewing for *JGP* as well as other journals and are highly respected for their science. More details about them can be found below. With the continuing presence of Henk Granzier and Eduardo Rios, this is a formidable and committed group of Associate Editors. We are in the process of adding one more, so watch this space. It is also a pleasure to announce that Bob French, Valeria Vasquez, and Jose Eltit have joined the Editorial Advisory Board. Bob is the mentor for this year's cohort of *JGP*'s Junior Faculty Network.

It has been instructive to take part in the weekly Editorial Meeting. One aspect, about which not everyone is aware, and which distinguishes *JGP* from most other journals, is that every manuscript awaiting a decision is discussed by the Associate Editors and myself in this teleconference. The Editor handling the paper has read the manuscript and can therefore add his or her own thoughts to those of the outside reviewers. The ethos is very much that of wanting to publish papers. While it is inevitable that some manuscripts have to be rejected for scientific reasons, whenever possible the group looks to make constructive suggestions as to how the work can be improved.

This editorial process depends, of course, on the hard work and commitment of the reviewers, many of whom are members of *JGP*'s Editorial Advisory Board. It was therefore a pleasure to meet many of the Editorial Advisory Board members at the board meeting held last month in San Diego. We discussed the aim to make the next three years a period of consolidation and evolution. Importantly, *JGP* will remain a community journal: when you submit your work, the entire decision process will be performed by active scientists. Published work will continue to center on the traditional core areas, emphasizing mechanistic studies of cellular physiology. While much of this has focused on ionic channels and transporters, other strengths have developed in recent years. This is exemplified by work on myofilaments, with two special issues published (Moss et al., 2019; Granzier and Moss, 2019) and another in preparation. The aim is that *JGP* will attract an increasing number of manuscripts; these will be provided by more submissions from outside, as well as within, North America. I hope that *JGP* will also be seen increasingly as a natural place to publish work that studies the effects of this cellular physiology on organ physiology and pathophysiology.

JGP's publisher, Rockefeller University Press (RUP), has also been busy helping to increase the attractiveness of *JGP*, as shown by two recent examples. First, we have introduced "Split-Screen View" which allows the reader to view an article while simultaneously viewing figures and tables, supplements, references, and related links and metrics, making it much easier to read (https://rupress.org/pages/split-screen). Another area relates to the current pressure to move to Open Access publication. In the UK, RUP has signed an agreement with the organization representing UK universities (Jisc) to allow authors from participating institutions to have their work published in *JGP* as immediate Open Access at no cost to the author under a "read and publish" license.

One of my recent pleasant tasks was to join the selection committee (chaired by Jon Sack) for the Cranefield Awards. These awards remember the career of Paul Cranefield, a distinguished cardiac electrophysiologist and past Editor of *JGP*. The papers published by the winners attest to the quality of work in *JGP*. The awards were presented in San Diego by the Society of General Physiology (SGP) President, Crina Nimigean, to Stephan Pless (Cranefield Awardee) for his work on P2X receptors (Gasparri et al., 2019), Sarah Codding (Postdoc Award) for her study of hERG channels (Codding and Trudeau, 2019), and Aaron Bozzi (Student Award) for his work on metal transporters (Bozzi et al., 2019).

The awards were decided by a group comprising representatives of *JGP* and SGP. This interaction with SGP is important to the journal, and another example of the collaboration is provided by the SGP Annual Meeting, which is published in *JGP*. This year's meeting is on the subject of Ion Channels & Transporters in Immunity, Inflammation & Antitumor Immunity, and is organized by Stefan Feske and Bimal Desai (https://www.sgp2020.com). The topic of the meeting is an excellent example of an area into which *JGP* can expand and, in furtherance of this, we will publish papers on this topic in a Special Issue.

Finally, please continue to email me with suggestions and comments.

Editor-in-Chief, Journal of General Physiology.

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New Associate Editors

Chris Lingle

Chris received a BS in Biology from University of Oregon. After a brief foray in graduate school (University of Oregon) in plant physiology and an interim year of "independent research" spent in part on the Oregon coast, he returned to graduate school in Neurobiology, focusing on transmitter-gated responses and neurohormone modulation of neuromuscular transmission in Crustacea. During a postdoc at Brandeis University with Eve Marder, he became engaged in mechanisms of channel block, taking advantage of Chris Miller's state of the art MINC-11 "microcomputer" to analyze synaptic current decays. After joining the Department. of Biological Sciences at Florida State University, he began patch-clamp studies of nAChR's in *Xenopus* myocytes, collaborated with Tony Auerbach, then in Puerto Rico, attempting noise analysis on glutamate and AChR channels in crustacean muscle (work that somehow made its way to *JGP*), and, with Alan Neely, began initial work with adrenal chromaffin cells. In 1978, he moved his laboratory to the Basic Research Unit in the Department of Anesthesiology at Washington University School of Medicine, headed by Joe Henry Steinbach. The work on chromaffin cells led to identification of inactivating variants of BK channels, setting the stage for many years of molecular, biophysical, and physiological studies of the role of BK channels and their regulatory subunits. Occasional forays into Ca^{2+} channels, Slo3 K+ channels, and Slo2 channels have failed to diminish the lure offered by the abundant intrinsic merits of BK channels. Chris has served stints on what is now the BPNS NIH study section, the Biophysical Journal editorial board, and as a *Journal of Neuroscience* associate editor. He was unbelievably fortunate to have ended up on this particular career path, being stimulated by a series of outstanding members of his laboratory, working in a field with creative, rigorous, and mutually supportive scientists, and experiencing an enormous number of wonderful international friendships and experiences. Photo courtesy of Chris Lingle.

Joe Mindell

Joe Mindell was an undergraduate in the Molecular Biophysics and Biochemistry department at Yale University, where he was first exposed to transporter proteins during a summer internship in Carolyn Slayman's laboratory. He completed the MD/PhD program at Albert Einstein College of Medicine working on single-channel recordings of diphtheria toxin channels under the tutelage of Alan Finkelstein. After a residency in internal medicine, Joe tumbled into Chris Miller's laboratory at Brandeis University, where he renewed his love for really basic science. Joe joined the faculty at the intramural program in the National Institute of Neurological Disorders and Stroke at NIH in 2002, where he currently remains as Senior Investigator. Mindell's scientific interests focus on the mechanism and physiology of secondary active transporters. His laboratory uses a combination of biophysical and cell-biological methods to probe these proteins, with particular emphasis on bacterial secondary transporter as model systems and on the role of ClC-7 in lysosomal function in mammalian cells. Photo courtesy of Joe Mindell.

Jeanne Nerbonne

Jeanne Nerbonne received a BS in Chemistry from Framingham State College and a PhD in Physical Organic Chemistry from Georgetown University. After completing postdoctoral training at the California Institute of Technology, she joined the Department of Pharmacology at Washington University. She is presently the Alumni Endowed Professor of Molecular Biology and Pharmacology in the Departments of Medicine, Developmental Biology, and Biomedical Engineering at Washington University. She is also the Director of the Center for Cardiovascular Research, Co-Director of the Center for the Investigation of Membrane Excitability Diseases, and Director of an National Heart, Lung, and Blood Institute-sponsored Training Program in Integrative and Systems Biology of Cardiovascular Disease. Research in the Nerbonne laboratory explores the molecular, cellular, and systemic mechanisms involved in the regulation of voltage-gated K+ (Kv) and Na^+ (Nav) channels that shape cardiac and neuronal action potentials, the critical determinants of signaling and cell-cell communication in the cardiovascular and nervous systems. She and her colleagues have provided critical insights into the mechanisms contributing to the diversity of native cardiac and neuronal Kv and Nav channels, the roles of these channels in controlling normal physiology and behavior, and the functional impact of derangements in channel expression/properties associated with inherited and acquired disease. Photo courtesy of Bob Boston.

Crina Nimegean

Crina Nimigean has a BS/MS degree in Physics from Bucharest University, Romania, after which she moved to the USA and obtained a PhD in Physiology and Biophysics from the University of Miami, under the mentorship of Karl Magleby. After postdoctoral training in Chris Miller's laboratory at Brandeis University, Crina's first faculty position as Assistant Professor was in the Department of Physiology and Membrane Biology at the University of California at Davis. She moved her laboratory in 2008 to New York City at the Weill Cornell Medical College, where she is currently an Associate Professor jointly in the departments of Anesthesiology, and Physiology of Biophysics. Crina's research is geared toward understanding how ion channel protein structure and mechanism interrelate at the molecular level to allow channels to elaborate various biological properties. The main focus of the laboratory is to elucidate gating, selectivity, ligand modulation, and lipid/membrane modulation in ion channels using a wide range of biological and biophysical techniques including molecular biology, biochemistry, electrophysiology, x-ray crystallography, stopped-flow fluorescence assays, and single-particle cryo-EM. In addition, established collaborations with expertise in NMR spectroscopy, AFM, native mass spectrometry, and MD simulations complement our toolbox. Over the years, Crina and her colleagues have identified an alternative mechanism for selectivity for potassium against sodium in potassium channels, proposed specific mechanisms for calcium-gating and pH-gating in potassium channels, provided a framework for understanding how ligands modulate cyclic nucleotide-gated channels, and for how potassium channels inactivate. Photo courtesy of Simon Scheuring.

New JGP Editorial Advisory Board members

Jose M. Eltit

Jose M. Eltit is an Assistant Professor at the Department of Physiology and Biophysics, Virginia Commonwealth University (VCU). He received his PhD in Biochemistry from the University of Chile. His initial studies focused in signaling mechanisms triggered by depolarization in muscle cells, under the supervision of Enrique Jaimovich. Then, as a postdoctoral fellow in Paul Allen's laboratory at Harvard Medical School, he studied the mechanisms that control resting homeostasis of calcium in skeletal muscle, and later at VCU he was introduced to the physiology of monoamine transporters by Lou De Felice. His interest is the interplay between electrical activity and calcium signaling in excitable cells. His work explored mechanisms of calcium dysregulation in animal models of malignant hyperthermia and cardiomyopathy. His more recent research has identified L-type calcium channels as indirect sensors for monoamine transporters' activity. Using this principle, he has developed efficient techniques to study the effect of psychostimulants and other ligands at monoamine transporters. Photo courtesy of Montserrat Samso.

Robert J. (Bob) French

Writing his undergraduate honors thesis in Adelaide, South Australia, Dr. Robert J. (Bob) French learned that wombats conserve water essentially as well as camels; that sparked his interest in combining field and laboratory studies with quantitative analyses. During studies for his PhD (Washington State University, 1973), this fascination led him to scrutinize the strengths and limitations of applying the Nernst-Planck-Poisson electrodiffusion equations to membrane transport problems. Subsequently, he joined the Biophysics Laboratory, National Institute of Neurological and Communicative Disorders and Stroke, formerly directed by Kenneth Cole, at the National Institutes of Health (NIH). He spent six years in the NIH Visiting Program as a Visiting Fellow and a Visiting Scientist, working in Bethesda and at the Marine Biological Laboratory, Woods Hole, MA. During this time, Dr. French was initiated into studies of voltage-gated ion channels using voltage clamp of the squid giant axon. After a brief period at Duke University, he accepted a faculty appointment in the Department of Biophysics, Faculty of Medicine, University of Maryland at Baltimore (1980–86). There, with colleague Bruce Krueger, he established single-channel recording from voltage-gated ion channels from native membranes, incorporated into planar lipid bilayers, to explore their biophysical properties and pharmacological interactions. Dr. French moved to the University of Calgary in 1986, where he is now a Professor in the Department of Physiology and Pharmacology. Work in his laboratory has included extensive studies on the mechanisms and potential application of μ-conotoxins, which cause a potent, isoform-specific block of voltage-gated sodium channels from various tissues. The μ-conotoxins have also acted as versatile probes of sodium channel structures and mechanisms, as well as providing templates for potential analgesic drug designs. Other studies examined roles of ATP-sensitive, and voltage-gated, potassium channels in regulation of insulin secretion from the pancreas, and activity of the heart. Regulation of responses to metabolic stress by polyphosphate and putative, nonprotein channels in mitochondria and bacteria were also explored. Much of Dr. French's recent research has involved the efforts to interpret the detailed actions of a variety of molecular probes on both eukaryotic and prokaryotic voltage-gated sodium channels, in terms of emerging high-resolution structural data. Photo courtesy of AV Services, Cumming School of Medicine.

Valeria Vásquez

Valeria Vásquez obtained her licentiate degree in Biology at the Universidad Central de Venezuela. She obtained her PhD in Molecular Physiology and Biological Physics from the University of Virginia while working in the laboratory of Dr. Eduardo Perozo. She depicted the conformational changes that the mechanosensitive channel MscS, from *Escherichia coli*, undergoes under membrane tension. Her research contributed to our understanding of how prokaryotic membrane proteins detect mechanical forces, a universal mechanism common to all cells. For her postdoctoral training, she joined the laboratory of Dr. Miriam B. Goodman at Stanford University. There, she found that arachidonic acid–containing phospholipids are essential for normal touch sensation in *Caenorhabditis elegans* touch receptor neurons. In November of 2016, she started her own group at the University of Tennessee Health Science Center, as an Assistant Professor in the Department of Physiology. In her laboratory, Valeria and her group study the mechanism by which dietary fatty acids modulate mechanosensitive channels Piezo1 and Piezo2. Valeria is a recipient of the "Young Investigator Award" from the Eicosanoid Research Foundation (2015) and the "Margaret Oakley Dayhoff Award" from the Biophysical Society (2020) for her work toward understanding how the function of sensory ion channels are modulated by bioactive lipids. Photo courtesy of Digital Content team at UTHSC.

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