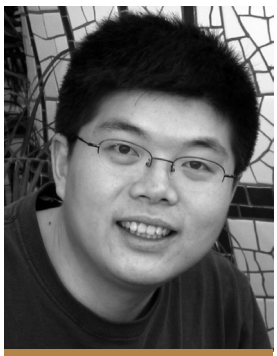
Introducing our AUTHORS



Jianming Xie

Current position: Stanford University School of Medicine, Department of Microbiology and Immunology, Postdoctoral Fellow with Prof. Mark M. Davis
Education: Fudan University, China, B.S. in chemistry, 1997; Shanghai Institute of Organic Chemistry (SIOC), China, M.S. in chemistry with Prof. Yongzheng Hui and Biao Yu, 2000; The Scripps Research Institute (TSRI), Ph.D. in chemistry with Prof. Peter G. Schultz, 2006
Nonscientific interests: Photography, movies, Chinese chess, ping-pong, spending time with my son

I initially studied the synthesis of triterpenoid glycosides at SIOC, and I later switched my interests to proteins while working in the laboratory of Prof. Schultz at TSRI. I made this transition with the goal of developing tools to manipulate proteins with the same ease with which small molecules are modified. In this paper, we describe a method that enables the site-specific incorporation of a metabolically stable mimetic of phosphotyrosine into proteins in *Escherichia coli*. This will allow the preparation of constitutively active analogues of phosphoproteins involved in signal transduction pathways or cellularly expressed peptide-based inhibitors of phosphotyrosine-binding proteins. Recently, I moved to Prof. Davis' group at Stanford University to use chemical techniques to study protein–protein interactions on the T cell surface. (Read Xie's article on p 474 and Point of View on p 454.)

Aron M. Levin

Current position: Catalyst Biosciences, South San Francisco, CA, Staff Scientist
Education: University of Kansas, B.A. in biochemistry, 2001; University of California, Irvine, Ph.D. in chemistry with Prof. Gregory Weiss, 2005
Postdoctoral work: Stanford University with Prof. Jennifer Cochran, 2005–2007
Nonscientific interests: Hiking, sports, traveling, languages, architecture, art, music

My general research interest is learning the details of receptor–ligand interactions. For example, in my current research, I am interested in controlling the specificity of proteases. Knowing which amino acids in a protease are most important for substrate specificity will lead to the development of enzymes that can cleave and disable therapeutically relevant targets and save many lives. In the current paper, however, our desire to learn more about the caveolin scaffolding domain (CSD)–protein kinase A and –endothelial nitric oxide synthase interactions led to the interesting discovery that CSD binding to these two, and likely other, proteins is strengthened through CSD oligomerization. This sort of serendipitous discovery is particularly exciting and rewarding. (Read Levin's article on p 493.)

Katsuyuki Murase

Current position: Abbott Vascular, Cardiac Therapies, R&D, Senior Scientist
Education: Gifu Pharmaceutical University, Japan, B.S. in pharmacy, 1992, M.S. in pharmacy, 1994; University of California, Irvine (UCI), Ph.D. in chemistry with Prof. Gregory Weiss, 2005
Nonscientific interests: Reading, running, traveling, enjoying California with my two daughters and wife

As a board-certified pharmacist and pharmacy graduate student in Japan, early in my career I became interested in new drug development, pharmacology, and drug delivery systems. My first work in industry in Japan focused my interest in atherosclerosis and inflammation, specifically in pharmacokinetics and the development of assay systems. I then came to the U.S. to perform research at UCI in peptide/protein engineering and phage display. I have now returned to industry in a unique position to use my knowledge of pharmaceutical science, molecular targeting, and drug delivery to develop new technologies in cardiovascular research. (Read Murase's article on p 493.)

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Trevor J. Morin

Current position: University of Massachusetts Medical School, Worcester, Department of Biochemistry and Molecular Pharmacology, Ph.D. candidate with Prof. William R. Kobertz
Education: Mt. Ida College, B.S. in animal science, 2000; University of Massachusetts, Boston, B.S. in biology, 2002, research with Prof. Adan Colon-Carmona
Nonscientific interests: One of my true passions is thoroughbred horse racing, an industry in which I have been professionally employed for the last 15 years. I also enjoy tennis, skiing, camping, and travel.

KCNE peptides are a family of transmembrane β-subunits that assemble with and fine-tune the electrical output of voltage-gated K^+ channels. Until now, it was not known whether two different KCNE peptides could assemble with the same K^+ channel. This work describes the derivatization of a scorpion toxin and its use to measure the currents from KCNQ1 K^+ channels partnered with two different KCNE peptides. Our results suggest that KCNE4, and an accessory peptide with no defined physiological role, may be involved in the repolarization phase of the cardiac action potential. This work is an excellent example of how chemical biology allows one to address questions not readily answered by traditional methodology. (Read Morin's article on p 469 and Point of View on p 451.)

Andrew S. Felts

Current position: Vanderbilt University, Department of Chemistry and Vanderbilt Institute of Chemical Biology, Ph.D. candidate with Prof. Lawrence J. Marnett
Education: University of Tennessee, Knoxville, B.A. in psychology, 2000; Florida State University, research project with Prof. Marie E. Krafft, B.S. in chemistry, 2002
Nonscientific interests: My son, music, movies, soccer, Frisbee golf, darts

My graduate research has focused on the exploitation and modification of subtle features of traditional nonsteroidal anti-inflammatory drugs (NSAIDs) in an effort to probe their binding to cyclooxygenase (COX) and to explore their activities at other targets. It has been demonstrated that a variety of NSAIDs show antitumor and antiproliferative activity against a variety of cancer cell lines as well as the ability to activate other molecular targets such as the peroxisome proliferator-activated receptors. The strategies involved have centered on making minimal modifications to the core structure of the NSAID to eliminate their COX activity while retaining activities at other targets. Once a suitable lead compound was developed, a structure–activity relationship was performed in an effort to maximize potency. Finally, I have developed a variety of strategies involving further modification of the lead compound in an effort to identify the molecular target and pathway responsible for their antitumorigenic properties. (Read Felts' article on p 479.)

Sung Bae Kim

Current position: National Institute of Advanced Industrial Science and Technology, Research Institute for Environmental Management Technology, Postdoctoral Research Fellow with Dr. Hiroaki Tao
Education: The University of Tokyo, Department of Chemistry, Ph.D. in analytical chemistry with Prof. Yoshio Umezawa, 2004
Nonscientific interests: Traveling without special plans, bike riding on forest roads, playing computer games

Since I joined Prof. Umezawa's laboratory, my research has focused on developing new bioanalytical probes for visualizing intracellular signaling in response to small biomolecules. Molecular imaging with genetically engineered functional proteins is a main component of my research. Previously, coworkers and I presented a protein-splicing technique for imaging nuclear trafficking of target proteins. Since then, we engineered a single-molecule-format bioluminescent probe, in which all the components required for signal sensing and visualization are integrated. I anticipate that the future advances in molecular imaging will include simultaneous sensing of multiple signals and the optimization of reporter proteins through genetic modification. (Read Kim's article on p 484.)