Introducing our AUTHORS

acs chemical biology

Aitziber L. Cortajarena

Image courtesy of Aitziber L. Cortajarena.

Current position: Yale University, Department of Molecular Biophysics and Biochemistry, Associate Research Scientist with Prof. Lynne Regan
Education: Universidad del País Vasco/Euskal Herriko Unibertsitatea, Bilbao, Spain, M.S. in biochemistry, 1997; Ph.D. in biochemistry with Dr. Helena Ostolaza, 2002
Nonscientific interests: Traveling, scuba diving, cooking

My research focuses on understanding the principles that underlie protein structure, stability and function, and the application of these principles to protein design. In this work we present an exciting example of functional protein design with real-life applications. We have engineered a small protein, which inhibits heat shock protein 90 (Hsp90) by preventing its interaction with an essential co-chaperone. Because Hsp90 is required for the folding and maturation of many oncogenic proteins, inhibiting Hsp90 by this novel strategy suggests a new approach to cancer therapeutics. Encouragingly, treating HER2 positive breast cancer cells with the designed protein decreases HER2 levels and inhibits cell growth. (Read Cortajarena's article on p 161 and Point of View on p 140.)

Luke D. Lavis

Image courtesy of Kristina K. Lavis.

Current position: Howard Hughes Medical Institute, Janelia Farm Fellow.
Education: Oregon State University, B.S. in chemistry, 2000; University of Wisconsin–Madison, Ph.D. in chemistry with Prof. Ronald T. Raines, 2008
Nonscientific interests: Hiking, biking, cross-country skiing, kayaking, cooking, and reading classic science fiction

Prior to my graduate studies, I worked in the private sector at two companies: Molecular Probes and Molecular Devices. These invaluable research experiences awakened an enduring zeal to explore small-molecule fluorescent probes—a *bona fide* example of research at the interface of chemistry and biology. In many instances, fluorescent probes are assembled using a modular approach. Attachment of disparate chemical moieties to established "core" fluorophores furnishes molecules with the particular properties needed to interrogate different biological systems. Thus, an understanding of the characteristics and common uses of fluorescent dyes could prove helpful for practicing chemical biologists and prompt further "bright ideas" for bioresearch. (Read Lavis's article on p 142.)

Olivia George

Image courtesy of Seth Dixon, St. Jude Children's Research Hospital.

Current position: St. Jude Children's Research Hospital, Postdoctoral Researcher with Dr. Janet Partridge
Education: New Mexico State University, B.S. in microbiology, 2000; New Mexico State University, M.S. in molecular biology with Dr. James Strickland, 2003; New Mexico State University, Ph.D. in molecular biology with Dr. Charles B. Shuster, 2007
Nonscientific interests: Reading, traveling, movies, music, sports, relearning my Navajo language and traditions

As a student at New Mexico State University, my interest in biomedical research has been through my involvement in several toxicological and chemical biology projects studying the effects of natural and man-made small molecules on eukaryotic cell organization and function. While working on the project involving bisphenol A (BPA), I was fascinated by the effects of this ubiquitous compound on mitotic microtubule organization. It was our collaboration with organic chemists that allowed us to take a more interdisciplinary approach to identify the cellular targets of BPA. I think that our results demonstrate how bridging different disciplines can increase our understanding of a complex biological problem in a manner that cannot be achieved using chemical or cell biological approaches individually. (Read George's article on p 167.)

Alen Piljić

Image courtesy of Oliver Wichmann.

Current position: EMBL, Heidelberg, Germany, Structural and Computational Biology Unit, Postdoctoral Fellow with Dr. Rob Russell
Education: University of Zagreb, Croatia, B.S. in molecular biology, 2002; EMBL, Heidelberg, Germany, Gene Expression Unit, Ph.D. with Dr. Carsten Schultz, 2006
Postdoctoral work: EMBL, Heidelberg, Germany, Gene Expression Unit, Postdoctoral Fellow with Dr. Carsten Schultz, 2006–2007
Nonscientific interests: Movies, sports

Fluorescent proteins and microscopy were major tools I used in my graduate and postdoctoral studies. At first my goal was to study annexin A4, a protein believed to regulate ion conductance in epithelial cells. As I developed novel sensors to study annexins, my interests eventually shifted in a more technical direction. I began doing multiparameter imaging experiments. I was coexpressing diverse sensors together in order to visualize as many different processes (translocations, enzyme activations) in a single cell as possible. In this paper, we demonstrate how up to four events can be visualized in one cell. Through the use of similar approaches, imaging of entire signaling cascades may be possible in the future. (Read Piljić's article on p 156.)

Carsten B. Andersen

Image courtesy of Brenda Wallach.

Current position: Research Scientist, ACADIA Pharmaceuticals, San Diego, working on early drug discovery
Education: Technical University of Denmark, M.S. in chemical engineering, 1995; Stanford University School of Medicine, Ph.D. in cancer biology with Prof. Marco Conti, 2001; Postdoctoral Researcher, Genomics Institute of the Novartis Research Foundation, with Nathanael Gray, 2005
Nonscientific interests: Climbing, running

From my graduate work studying the resumption of meiosis in *Xenopus laevis*, I got interested in working on some of the protein kinases involved in cell cycle regulation, and the role of these kinases in mitotic spindle function and tumorgenisis. This led me to focus part of my postdoctoral work on Aurora kinases. Particularly, I wanted to find an inhibitor of these kinases to use as a tool to study Aurora kinase function. I also wanted to develop this inhibitor as a potential cancer therapeutic. In our paper we describe the finding and characterization of such an inhibitor. (Read Andersen's article on p 180.)

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