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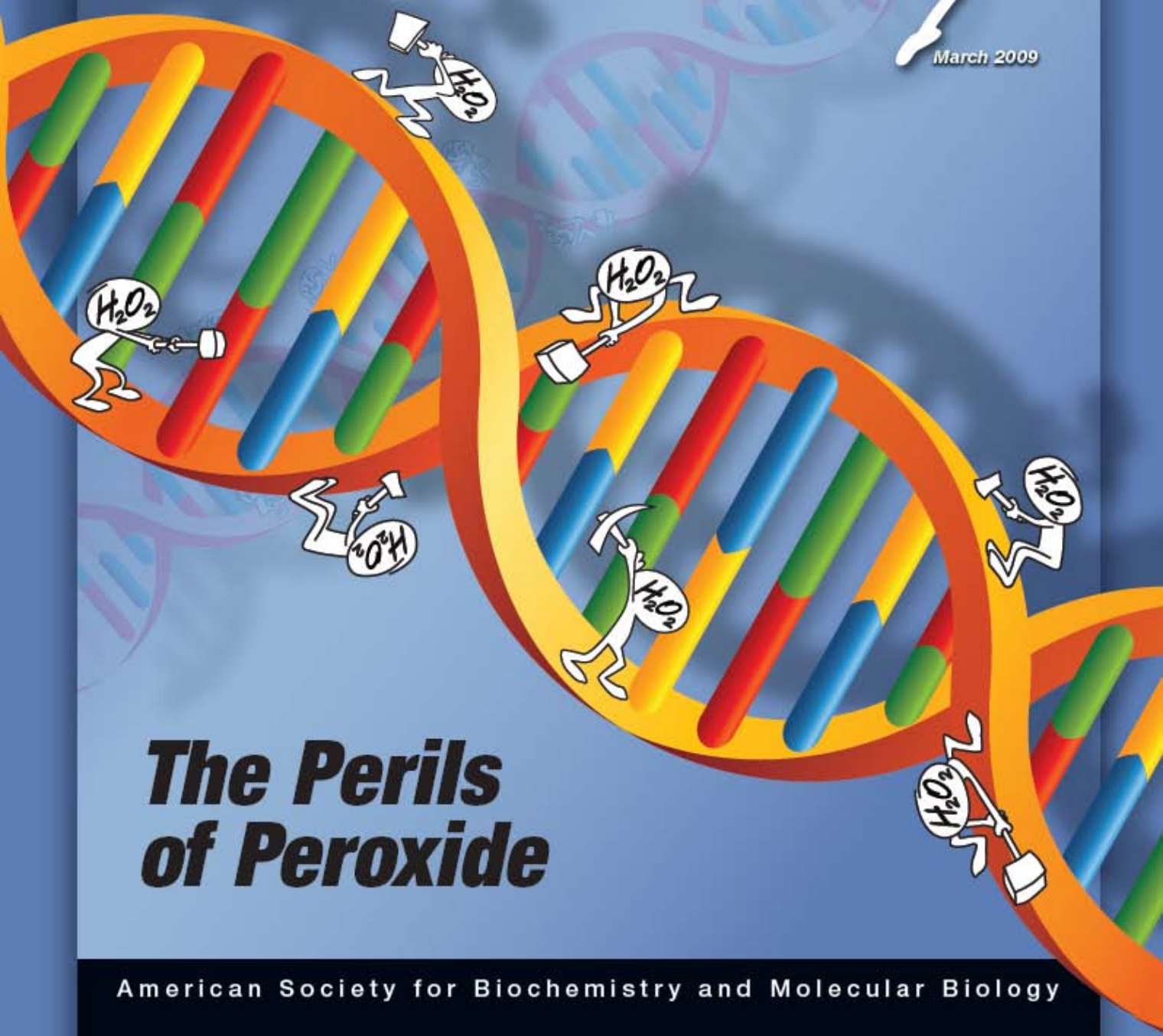

The Perils of Peroxide

American Society for Biochemistry and Molecular Biology

asbmb member spotlight

Beckwith Wins Waksman Award

Jonathan Beckwith, American Cancer Society Professor in the Department of Microbiology and Molecular Genetics at Harvard University, will receive the 2009 Selman A. Waksman Award in Microbiology from the National Academy of Sciences.

Beckwith is being honored for fundamental contributions to gene regulation, protein targeting and secretion, disulfide biochemistry, and also for the development of gene fusions as an experimental tool. The Waksman Award, established by the Foundation for Microbiology, recognizes excellence in the field of microbiology and includes a prize of $5,000.

Beckwith uses genetics, biochemistry, and bioinformatics to study the properties and evolution of enzyme systems in bacteria that are important for protein folding, protein translocation, and responses to oxidative stress. For these studies, he and his colleagues are defining the pathways of electron transfer that confer a reducing environment on the cytoplasm and an oxidizing environment on extra-cytoplasmic compartments. These include the glutathione/glutaredoxin and thioredoxin pathways of *E. coli*. He is also studying the mechanisms by which the enzymes DsbC and DsbD correct proteins that are misfolded as a result of formation of incorrect disulfide bonds.

Chu to Deliver Eweson Award Lecture

Charleen T. Chu has been named a Dorothy Dillon Eweson Lecturer on the Advances in Aging Research for 2009, sponsored by the American Federation for Aging Research (AFAR). The Eweson Lecture Series on Advances in Aging Research was established in 1997 to enhance awareness of "cutting-edge" research in aging and age-related conditions at the forefront of scientific or medical specialty disciplines.

Chu's lecture, entitled "In the PINK1: Mitochondrial Kinases and Autophagic Neurodegeneration," will be presented at the "Presidential Symposium on Resolving Cell Death and Inflammation: Implications in Disease," on April 20 in New Orleans, LA as part of the American Society of Investigative Pathology (ASIP) Annual Meeting at Experimental Biology 2009.

Chu is a neuropathology physician-scientist in the Department of Pathology at the University of Pittsburgh, with secondary appointments in Ophthalmology, Center for Neuroscience, Pittsburgh Institute for Neurodegenerative Diseases, and McGowan Institute for Regenerative Medicine. Her research focuses on neuronal cell signaling in toxin and genetic models of Parkinson disease, implicating mitochondrial kinases and reactive oxygen species in regulating autophagy as a double-edged sword.

Eichman Receives Young Investigator Award

Brandt F. Eichman, assistant professor of biological sciences and biochemistry at Vanderbilt University, has been honored with Sigma Xi's Young Investigator Award.

Eichman is recognized as a leader in research into the structural biology of cellular mechanisms that maintain DNA fidelity. The Young Investigator Award has been presented annually since 1998. Sigma Xi members within 10 years of their highest earned degree are eligible for the award, which recognizes excellence in research. It includes a certificate of recognition and a $5,000 honorarium. The recipient is also invited to present a lecture at the Sigma Xi Annual Meeting.

Eichman's research interests include structural biology, biophysics, and biochemistry of proteins and protein-nucleic acid complexes. Research in his laboratory is focused on understanding how proteins recognize and manipulate DNA structure during replication and repair processes, which are critical for the prevention of genetic disease and cancer. Eichman and his colleagues use X-ray crystallography and biochemistry to investigate the physical and mechanistic basis for the biological functions of several DNA processing enzymes.

Horwich Presented with Horwitz Prize

Arthur Horwich, Eugene Higgins Professor of Genetics, professor of pediatrics, and a Howard Hughes Medical Institute (HHMI) investigator at Yale University School of Medicine, has been awarded the 2008 Louisa Gross Horwitz Prize from Columbia University.

Horwich shares the prize with F. Ulrich Hartl, professor and director of the Department of Cellular Biochemistry at the Max Planck Institute of Biochemistry in Germany, for their collaborative work in expanding fundamental understanding of cellular protein folding, and its role in Alzheimer disease, Huntington disease, cystic fibrosis, and other life-threatening diseases.

Previously, it was thought that proteins spontaneously fold themselves into their final, three-dimensional structures. Hartl and Horwich discovered that inside cells, proteins need assistance from chaperones to guide the folding process and ensure they fold into the proper shape. In independent and often complementary work, they also established the pathway and molecular mechanisms involved in this process. Their work also demonstrated that when the protein folding pathway is imperfect, protein can accumulate in cells, leading to disease.

The Louisa Gross Horwitz Prize was established by Columbia University to recognize outstanding contributions to basic research in the fields of biology and biochemistry. Awarded annually since 1967, the prize is named for the mother of Columbia benefactor S. Gross Horwitz.