Board of Governors Professor of Chemistry and Chemical Biology Helen M. Berman, Ph.D.

We take great pride in celebrating Professor Helen M. Berman's remarkable career and accomplishments. Her vision, spirit, and leadership continue to impact and influence biomedical research and education around the world.

Helen's abiding love of science and strong sense of community were sparked during her Brooklyn childhood and adolescence by her father, a physician, and her mother, a community health volunteer. She was also influenced by the strong mentors she met through an NSF-funded program for high school students (which required a 1.5 hour subway ride each way). Thereafter she went to Barnard College and then on to the University of Pittsburgh, as she became a lifelong student of X-ray crystallography.

These manifold influences underpinned Helen's nearly five-decade commitment to ensuring that the Protein Data Bank (PDB) archive was successfully launched in 1971 and maintained thereafter as a resource created by the community for the community. Major accomplishments on this journey include taking leadership roles in establishing the Nucleic Acid Database (NDB, 1992), the Research Collaboratory for Structural Bioinformatics Protein Data Bank (RCSB PDB, 2000), the worldwide Protein Data Bank (wwPDB, 2003), the Structural Biology Knowledgebase (SBKB, 2008), and the Unified Data Resource for 3D Electron Microscopy (EMDataBank, 2007).

In parallel, Helen pursued an extraordinary academic career that has been recognized with numerous awards. She led important structural studies of nucleic acids, protein-nucleic acid complexes, and collagen peptides, and mentored a host of successful students, from high-school to postdoctoral fellows.

Within Rutgers, Helen worked selflessly with her colleagues to intellectually and physically unite research groups focused on structural biology, bioinformatics, computational chemistry, and proteomics. Today, the Center for Integrative Proteomics Research (Proteomics), a testament to these efforts, stands ready to foster future generations of scientific collaborators from diverse disciplines.

Helen's vision, determination, and drive have made many remarkable things happen, from the PDB to Proteomics. The worldwide Protein Data Bank Foundation is pleased to host this symposium on the occasion of her 70th birthday to celebrate that spirit and reflect the gratitude and admiration of all those it touched.

Center for Integrative Proteomics Research

The Center for Integrative Proteomics Research (Proteomics), a new 75,000-square-foot facility in the heart of the Rutgers Busch Campus, is dedicated to fostering interdisciplinary structure-function studies of complex biomolecular phenomena. Center members include internationally recognized scientists leading dynamic research groups focused on computational chemistry, structural biology, mechanistic enzymology, and bioinformatics.

Proteomics is the home of the Research Collaboratory for Structural Bioinformatics Protein Data Bank, which operates one of the four global data centers comprising the worldwide Protein Data Bank. In addition, the Center serves as the headquarters of the BioMaPS Institute for Quantitative Biology, with its interdisciplinary Ph.D. program in Computational Biology and Molecular Biophysics.

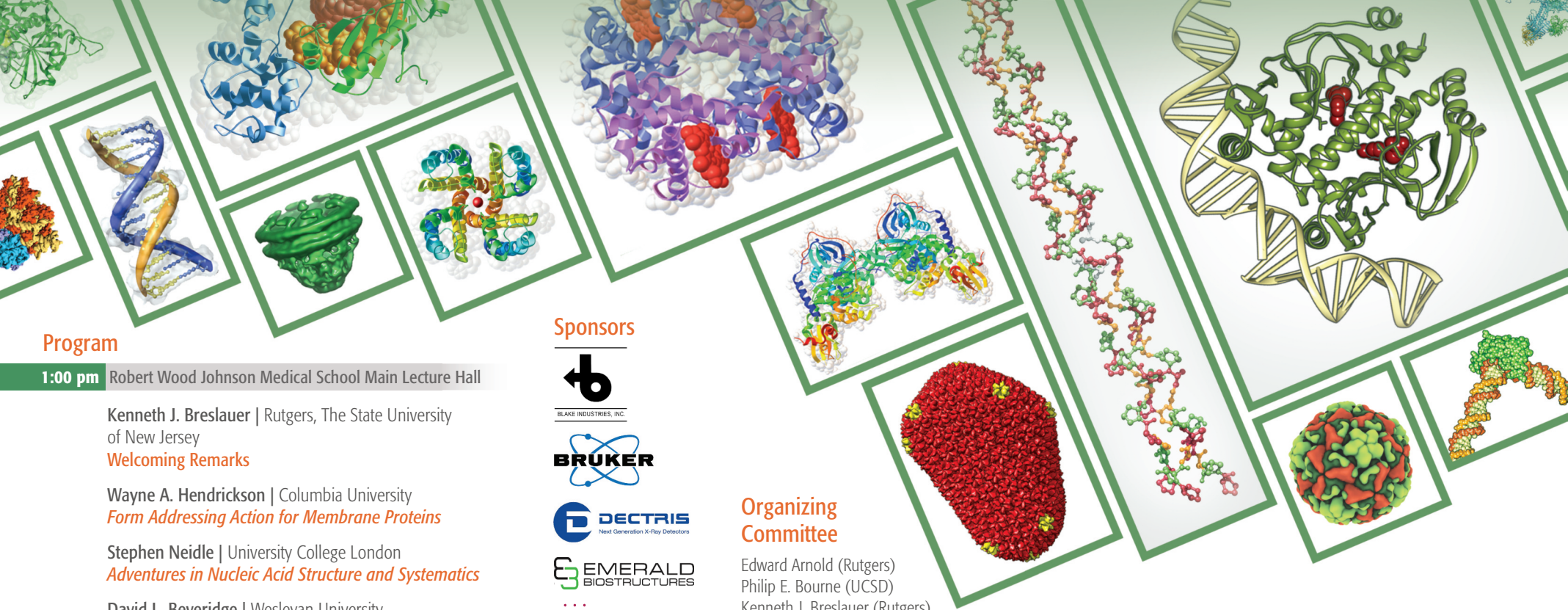
Dedication Ceremony • 5:00 pm

Please join us in celebrating the official dedication of Proteomics' new outdoor sculpture.

Julian Voss-Andreae's 20-foot, 3,200-pound polished stainless steel and colored glass sculpture *Synergy* is based on the triple-helical structure of collagen. The most abundant protein in humans, collagen forms long molecular ropes that provide tensile strength to our tendons and bones, and make up vast, resilient molecular sheets that support the skin and internal organs. Collagen also serves as a pathway for cellular movement during development and growth.

The first atomic resolution structure of the collagen triple-helix was determined in Helen's laboratory in 1994.

Julian Voss-Andreae is a German-born sculptor based in Portland, Oregon. Starting out as a painter, he later changed course and studied quantum physics at the Universities of Berlin, Edinburgh, and Vienna. For his graduate research, Voss-Andreae participated in a seminal experiment demonstrating quantum behavior for the largest objects thus far, which became the inspiration for many of his sculptures. Voss-Andreae's work has quickly gained critical attention and graces multiple institutional and private collections in the U.S. and abroad.



Program

1:00 pm Robert Wood Johnson Medical School Main Lecture Hall

Kenneth J. Breslauer | Rutgers, The State University of New Jersey
Welcoming Remarks

Wayne A. Hendrickson | Columbia University
Form Addressing Action for Membrane Proteins

Stephen Neidle | University College London
Adventures in Nucleic Acid Structure and Systematics

David L. Beveridge | Wesleyan University
The ABC's of Molecular Dynamics Computer Simulations on DNA

Soichi Wakatsuki | SLAC National Accelerator Laboratory; Stanford University
X-ray Free Electron Lasers in Structural Biology

Cynthia Wolberger | Howard Hughes Medical Institute; Johns Hopkins University School of Medicine
Structural Insights into Ubiquitin Signaling

Janet Thornton | EMBL-European Bioinformatics Institute
Of Proteins, Nucleic Acids, PDB & Helen

Jean Baum | Rutgers, The State University of New Jersey
The Collagen Triple Helix: Structural features and biological implications

Closing Remarks

5:00 pm Center for Integrative Proteomics Research (Proteomics)

Dedication Ceremony for the new outdoor sculpture, *Synergy* (rain location: Lobby)

Reception to follow in the Irving Geis Gallery, Proteomics First Floor

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Wilma K. Olson (Rutgers)

worldwide Protein Data Bank (wwPDB)

The wwPDB manages the PDB archive, the global resource for experimentally determined 3D structures of important biological macromolecules.

wwPDB members host deposition, processing, and distribution centers for PDB data and collaborate on a variety of projects and outreach efforts.

wwPDB members

RCSB PDB PROTEIN DATA BANK | PDBe Protein Data Bank in Europe | PDBj Protein Data Bank Japan | BMRB

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A Celebration of Open Access in Structural Biology:
Recognizing the career and achievements of Professor Helen M. Berman

Thursday, September 26, 2013 • 1:00 pm

Robert Wood Johnson Medical School Main Lecture Hall
Rutgers, The State University of New Jersey
675 Hoes Lane West • Piscataway, NJ 08854

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WORLDWIDE PDB PROTEIN DATA BANK