

Michael J. Bedzyk

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Education:

Ph.D., Physics, State University of New York at Albany. 1982
M.S., Physics, State University of New York at Albany. 1975
B.S., Physics and Mathematics, State University of New York at Brockport, 1973

Professional Appointments:

Chair, Materials Science and Engineering, Northwestern University, 2011-2016
Professor, Materials Science and Engineering, Northwestern University, 2000-
Professor, Physics and Astronomy, Northwestern University, 2000-
Co-Chair, Applied Physics Program, Northwestern University, 2010-2011
Co-Director, Synchrotron Research Center, Northwestern University, 2005-
Director, X-ray Diffraction Facility, Northwestern University, 1999-
Visiting Scientist, Argonne National Laboratory (ANL), 1991-
Assoc. Professor, Materials Science and Engineering, Northwestern University, 1991-2000
Assoc. Professor, Physics and Astronomy, Northwestern University, 1999-2000
Adjunct Assoc. Prof., Materials Science and Engineering, Cornell University, 1990-1991
Staff Scientist, Cornell High Energy Synchrotron Source, Cornell University, 1984-1991
Research Associate, Hamburg Synchrotron Laboratory, DESY, Hamburg, Germany, 1982-1984

Professional Societies:

American Physical Society, American Crystallographic Association, American Association for the Advancement of Science, Materials Research Society, American Chemical Society, American Vacuum Society

Honors and Awards:

Bertram Eugene Warren Diffraction Physics Award from the American Crystallographic Assoc., 1994
Fellow of the American Physical Society, 1998
Fellow of the American Association for the Advancement of Science, 2012

Research Areas and Interests: (213 refereed publications)

Surface, interface, thin-film, and nanoscale structures
Heteroepitaxy of 2D materials
Semiconductor and Oxide surface structures and heteroepitaxial strained-layer systems
Metal / oxide supported monolayer and nanoparticle catalysts
Liquid/solid interface, diffuse double-layer structure, Li ion battery solid-electrolyte interphase
Biomolecular adsorption at charged surfaces
Ultrathin organic films, Self-Assembled Monolayers and Multilayers
Molecular Self-Assembly, membrane and vesicle formation, DNA coated Au nanoparticle assembly
Utilization of high brightness x-ray synchrotron sources as *in-situ* structural probes
X-ray interference phenomena, X-ray Spectroscopy, X-ray optics, Crystallography

Michael Bedzyk is a Northwestern University Professor of Materials Science & Engineering and Physics & Astronomy. He presently serves as co-director of the Northwestern Synchrotron Research Center. He is a Fellow of the American Physical Society and the American Association for the Advancement of Science, and received the Warren Award for Diffraction Physics. His PhD is in Physics from the State University of New York at Albany. Prior to Northwestern he was a staff scientist at synchrotron X-ray facilities located at DESY in Hamburg, Germany and then at Cornell University. His research uses in situ X-ray scattering and spectroscopy to study interface processes and structures that form between various phases of matter. These include ion distributions at electrified interfaces, DNA-coated nanoparticles, oxide supported catalytic nanoparticles, membrane and vesicle formation by molecular assembly, functionalized 2D crystalline materials, organic thin films, strain in complex-oxide heterolayer structures, and Li-ion battery solid-electrolyte interphase layer formation.