

Materials and Nanotechnology

Department Information

- **Program Director:**
Erik K. Hobbie, Ph.D.
- **Email:**
Erik.Hobbie@ndsu.edu
- **Department Phone:**
(701) 231-6103
- **Department Web Site:**
www.ndsu.edu/materials_nanotechnology/ (http://www.ndsu.edu/materials_nanotechnology/)
- **Application Deadline:**
April 1 for fall semester.
- **Credential Offered:**
Ph.D., M.S.
- **Test Requirement:**
GRE
- **English Proficiency Requirements:**
TOEFL iBT 71, IELTS 6; Duolingo 100

Affiliated Faculty

Iskander Akhatov, Ph.D.

Lomonosov University of Moscow, 1983

Research Interests: Fluid Dynamics, Multiphase Systems, Heat and Mass Transfer

Dilpreet Bajwa, Ph.D.

University of Illinois, 2000

Research Interests: Biobased Polymer Composites, Wood Composites, Processing and Characterization, Recycled Materials Utilization, Durability Engineering via Weathering and Degradation Mechanisms

Achintya N. Bezbaruah, Ph.D.

University of Nebraska-Lincoln, 2002

Research Interests: Environmental sensors, Recalcitrant and micro pollutants, Contaminant fate and transport, Small community water and wastewater treatment, Environmental management

Gordon P. Bierwagen, Ph.D.

Iowa State University, 1968

Research Interests: Surface chemistry of coatings materials, corrosion, electrochemistry of coatings, coating lifetime prediction, concentrated random composites

Bret Chisholm, Ph.D.

University of Southern Mississippi, 1993

Research Interests: Combinatorial chemistry methods for coatings, novel organic-inorganic coatings applications, new polyester nanocomposites

Dr. Yongki Choi, PhD

City University of New York, 2010

Research Interests: Nanoparticle based electronics and sensors.

Andrew Croll, Ph.D.

McMaster University, Ontario, 2009

Research Interests: Polymers, Diblock Copolymers, Thin Films, Pattern Formation, Mechanics

Stuart G. Croll, Ph.D.

University of Leeds, 1974

Postdoctoral: National Research Council, Canada

Research Interests: Weathering durability of coatings, physical chemistry and suspension stability, pigment/polymer interactions, film formation processes, coating and polymer physics

Alan R. Denton, Ph.D.

Cornell University, 1991

Postdoctoral, University of Guelph, 1991-94; Technical University of Vienna, 1994-95, Research Center Julich, 1996-98

Research Interests: Soft Condensed Matter Theory, Computational Physic

Daniel L. Ewert, Ph.D.

University of North Dakota, 1989

Research Interests: Biomedical Engineering

Thomas Ihle, Ph.D.

Technical University, 1996

Research Interests: Theory and Simulation of Complex Fluids (Colloids, microemulsions and Biopolymers).

Long Jiang, Ph.D.

Nanyang Technological University, 2003

Research Interests: Polymer and Polymer Composite Processing, Polymer Processing Machinery and Design, Nanocomposites, Polymers and Composites Derived from Biomass, Functional Composites with Novel Microstructures.

Alan R. Kallmeyer, Ph.D.

University of Iowa, 1995

Research Interests: Theoretical, Computational, and Experimental Solid Mechanics, Fatigue and Fracture of Engineering Materials, Composite Materials

Dinesh Katti, Ph.D.

University of Arizona, 1991

Research Interests: Geotechnical Engineering, Constitutive Modeling of Geologic Materials, Expansive Soils, Multiscale Modeling, Steered Molecular Dynamics, Computational Mechanics, Nanocomposite, and Bionanocomposites. Computational Biophysics

Kalpana Katti, Ph.D.

University of Washington, 1996

Research Interests: Advanced Composites, Nanomaterials, Biomaterials, Biomimetics, Materials Characterization and Modeling, Analytical Electron Microscopy, and Microspectroscopy, Bone Tissue engineering

Svetlana Kilina, Ph.D.

University of Washington, Seattle, 2007

Research Interests: Photoexcitation process on the organic-inorganic interfaces in hybrid nanostructures: functionalized carbon nanotubes and quantum dots; Non-adiabatic dynamics in hybrid nanostructures: electron-phonon interactions in ligated quantum dots and functionalized carbon nanotubes; Self-assembly of bio-nanomaterials: structural aspects; Transport properties in amorphous conjugated polymers: effect of structural disorder.

Ivan T. Lima Jr., Ph.D.

University of Maryland, 2003

Research Interests: Photonics

Valery R. Marinov, Ph.D.

Technical University of Sofia, 1992

Research Interests: Process Modeling for Machining, Theory of Metal Cutting, Tribological Coatings, Including Nanocomposite Coatings and Deposition Methods, Design for Composites Manufacturing Processes, Packaging for low-cost disposable microelectronics, Direct-write material deposition methods, Laser processing

Sylvio May, Ph.D.

Jena, 1996

Research Interests: Physics of Lipid Membranes, Biophysics

Seth C. Rasmussen, Ph.D.

Clemson University, 1994

Postdoctoral, University of Oregon, 1995-99

Research Area: Inorganic/Organic Materials Chemistry, Chemical History

Jing Shi, Ph.D.,

Purdue University, 2004

Research Interests: Microelectronics

Packaging, Direct Write Material Depositing, Laser Processing for Electronics, RFID Applications, Numerical Modeling of Manufacturing Processes, Computer Integrated Manufacturing

Wenfang Sung, Ph.D.

Chinese Academy of Sciences, 1995;
Postdoctoral, University of Alabama, Birmingham, 1997-1999
Research Area: Organic Materials Chemistry

Chad A. Ulven, Ph.D.

University of Alabama at Birmingham, 2005
Research Interests: Advanced Composites Materials Development, Environmentally Friendly Materials Processing, Nondestructive Evaluation, Impact/
High Strain Rate Characterization of
Advanced Materials

Alexander J. Wagner, Ph.D.

University of Oxford, 1997
Postdoctoral MIT, 1998-2000, Edinburgh, 2000-2002
Research Interests: Computational Soft Matter, Phase Separation, Diffusion, Interfaces Physics

Xinnan Wang, Ph.D.

University of South Carolina, 2008
Research Interests: Experimental Biomechanics, Synthesis of Nanomaterials, Nanomechanical Characterization, Nanomanipulation

Dean Webster, Ph.D.

Virginia Polytechnic Institute and State University 1984
Research Interests: Synthesis of high performance polymers, polymerization reactions, crosslinking chemistry, and quantitative structure-property
relationship

Xiangfa Wu, Ph.D.

University of Nebraska-Lincoln, 2003
Beijing Institute of Technology, 1998
Research Interests: Nanofabrication and Nanomaterials, Advanced Composites, Fracture and Impact Mechanics