

Materials and Nanotechnology

Department Information

- **Program Director:**
Erik K. Hobbie, Ph.D.
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- **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.
- **Test Requirement:**
GRE
- **English Proficiency Requirements:**
TOEFL iBT 71, IELTS 6; Duolingo 100

Affiliated Faculty

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

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

Erik K. Hobbie, Ph.D.

University of Minnesota, 1990

Postdoctoral: NRC Fellow, NIST, 1990-1992

Research Interests: Colloidal nanoparticles, Polymers, Complex Fluids, Chromatography, Self-assembly, Photoluminescence, Flexible Electronics

Syed M. Iskander, Ph.D.

Virginia Polytechnic Institute and State University, 2019

Postdoctoral, University of Southern California, 2019-2020

Research Interests: Non-recyclable Municipal Solid Waste Management, Food Waste Management, Plastics Pollution, Landfilling, and Landfill

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

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

Dmitri Kilin, Ph.D.

Chemnitz University of Technology, 2000

Research Interests: Photo-induced Dynamic Processes of Charge Transfer, Nonradiative Charge Carrier Relaxation, Surfaces/Interfaces of Metal/Semiconductor Nanomaterials For Photovoltaic/Photocatalytic Energy Conversion

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 Function

Andrei Kryjevski, Ph.D.

University of Washington, 2004

Research Interests: First-principles Theoretical Descriptions of the Electronic Properties of Nanomaterials

Ivan T. Lima Jr., Ph.D.

University of Maryland, 2003

Research Interests: Photonics

Sylvio May, Ph.D.

Jena, 1996

Research Interests: Physics of Lipid Membranes, Biophysics

Keerthi Nawarathna, Ph.D.

University of Houston, 2005

Research Interests:

Lab-on-a-chip Technologies, Single-cell Genomics, Nanobioengineering, Tissue Engineering, Novel Imaging Techniques for Biology, Computation/simulations

Mohiuddin Quadir, Ph.D.

Freie University of Berlin, 2010

Research Interests:

High Performance Delivery Technologies, Biosynthetic Interfaces for Medical Coatings, Synthesis of New Polymers from Bio-based Resources

Bakhtiyor Rasulev, Ph.D.

Uzbek Academy of Science, 2002

Postdoctoral, Drew University, 2002; Jackson State University, 2004-2007

Research Area: Structure-Property Studies of Materials, Cheminformatics for Materials, Modeling of Nanomaterials Interactions With Biosystems, Nano-Descriptors, Development of Predictive Structure-Activity/Toxicity Models

Mukund P. Sibi, Ph.D.

City University of New York, 1980

Postdoctoral, Dartmouth College, 1980-1982; University of Waterloo, 1982-1985

Research Interests: Synthetic Organic Chemistry, Natural Products

Wenfang Sun, Ph.D.

Chinese Academy of Sciences, 1995

Postdoctoral, University of Alabama, Birmingham, 1997-1999

Research Area: Organic Materials Chemistry

Xiangqing (Annie) Tangpong, Ph.D.

Carnegie Mellon University, 2006

Research Area: Vibrations, Dynamics and Friction: Friction-Vibration Interaction; Friction Damping in Rotating Structures; Damping in Nanocomposites and Biomaterials.

Chad A. Ulven, Ph.D.

University of Alabama at Birmingham, 2005

Research Interests: Advanced Composites Materials, Green Materials Processing, Nondestructive Evaluation, Characterization of Advanced Materials Under Extreme Conditions

Andriy Voronov, Ph.D.

Lviv Polytechnic Institute, 1994

Postdoctoral, Institute Charles Sadron, CNRS, 1997

Research Interests: Polymer Synthesis and Characterization

Alexander J. Wagner, Ph.D.

University of Oxford, 1997

Postdoctoral MIT, 1998-2000, Edinburgh, 2000-2002

Research Interests: Computational Soft Matter, Phase Separation, Diffusion, Interface Physics

Danling Wang, Ph.D.

University of Washington, 2013

Research Interests: Chemiresistive Sensors, Semiconducting Nanomaterials, Optical Spectroscopy, Electronic Devices, Microfabrication

Dean Webster, Ph.D.

Virginia Polytechnic Institute and State University 1984

Research Interests: Synthesis of High Performance Polymers, Polymerization Reactions, Crosslinking Chemistry, Quantitative Structure-Property Relationship

Xiangfa Wu, Ph.D.

University of Nebraska-Lincoln, 2003

Beijing Institute of Technology, 1998

Research Interests: Nanofabrication/Nanomaterials, Advanced Functional Composites, Fracture/Impact Mechanics

Wenjie Xia, Ph.D.

Northwestern University, 2016

Research Interests: Multiscale Modeling, Mechanics of Materials, Polymers and Composites, Soft Matter, Bioinspired Materials, Mechanobiology

Qifeng Zhang, Ph.D.

Peking University, 2001

Postdoctoral, University of Washington, 2006-2008

Research Interests: Electronic Materials, Nanomaterials: Synthesis, Characterization and Device Application, Nanotechnology, Materials/Devices/Technology for Energy Conversion and Storage, Solar Cells, Lithium Ion Batteries, Photocatalysis