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.

• Test Requirement:
  GRE

• English Proficiency Requirements:
  TOEFL iBT 71, IELTS 6; Duolingo 105

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

Eugene B. Caldona, Ph.D.
Mississippi State University, 2020
Research Interests: Advanced coatings and materials, Corrosion, Electrochemistry, Surface chemistry, Nanocomposites

Yongki Choi, Ph.D.
City University of New York, 2010
Research Interests: Nano-bio-electronics, Carbon nanotube circuits, Single-molecule electronics, Biomedical applications

Andrew Croll, Ph.D.
McMaster University, Ontario, 2009
Research Interests: Polymers, Diblock copolymers, Thin films, Pattern formation, Mechanics

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 physics

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

Syeed 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 leachate management

Long Jiang, Ph.D.
Nanyang Technological University, 2003
Research Interests: Polymer/composite processing, Polymer processing machinery/design, Nanocomposites, Biobased polymers/composites, 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, Nanocomposites and biomaterials

Kalpana Katti, Ph.D.
University of Washington, 1996
Research Interests: Advanced composites, Nanomaterials, Biomaterials, Biomimetics, Materials characterization/modeling, Analytical electron microscopy, Bone tissue engineering

Dmitri Kilin, Ph.D.
Chemnitz University of Technology, Chemnitz, Germany, 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, 2007

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

Selvakumar Prakash Parthiban, Ph.D.
Nagoya University, 2012
Research Interests: Biomaterials, Regenerative medicine, Tissue-engineered vascular grafts, Microvasculature, Decellularized extracellular matrix, Bioceramics, Cancer and vascular biology

Xiaoning Qi, Ph.D.
North Dakota State University, 2009
Research Interests: Corrosion characterization and prevention, Coating design and formulation, Sustainable coatings, Nanocomposites

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

Seth C. Rasmussen, Ph.D.
Clemson University, 1994
Postdoctoral, University of Oregon, 1995-1999
Research Area: Inorganic/organic materials chemistry, Chemical history

Bakhtiyor Rasulev, Ph.D.
Uzbek Academy of Science, 2002
Postdoctoral, Drew University, 2002; Jackson State University, 2004-2007
Jing Shi, Ph.D.
Purdue University, 2004
Research Interests: Microelectronics packaging, Direct-write material deposition, Laser processing for electronics, RFID applications, Modeling of manufacturing processes, Computer integrated manufacturing

Mukund P. Sibi, Ph.D.
City University of New York, 1980
Research Interests: Synthetic organic chemistry, Natural products

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

Jessica Vold, Ph.D.
North Dakota State University, 2015
Research Interests: Additive manufacturing of materials, Polymer composites, Materials characterization, Entrepreneurship

Andriy Voronov, Ph.D.
Lviv Polytechnical Institute, 1994
Postdoctoral, Institute Charles Sadron, CNRS, 1997
Research Interests: Polymer synthesis and characterization

Alexander J. Wagner, Ph.D.
University of Oxford, 1997
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