## Research Interests 2019-2020

### BIOMEDICAL ENGINEERING
- **Biomaterials, Drug Delivery and Drug Discovery**
  Ault, Colvin, Coulombe, Darling, Hoffman-Kim, Mathiowitiz, Morgan, Shukla, Srivastava, Tripathi, Wong, Xu
- **Biomedical Optics and Biophotonics**
  Lee, Nurmikko, Toussaint, Xu
- **Biomolecular Engineering and Nanomedicine**
  Colvin, Dawson, Hurt, Mathiowitz, Palmore, Shukla, Tripathi
- **Biosensors and Bioplatforms**
  Ault, Borton, Colvin, Coulombe, Lee, Morgan, Palmore, Rose, Rosenberg, Shukla, Tripathi, Wong, Xu
- **Mechanobiology and Motion Sciences**
  Coulombe, Crisco, Darling, Dawson, Fleming, Jay, Morgan, Shukla, Srivastava, Toussaint, Wong
- **Neuroengineering and Brain Computer Interfaces**
  Borton, Hochberg, Lee, Nurmikko, Simeral
- **Repair and Regenerative Medicine**
  Coulombe, Darling, Dawson, Fleming, Hoffmann-Kim, Morgan, Shukla
- **Tissue Engineering and Stem Cell Technology**
  Coulombe, Darling, Dawson, Hoffmann-Kim, Palmore, Shukla, Srivastava

### CHEMICAL AND ENVIRONMENTAL ENGINEERING
- **Alternative and Sustainable Fuels**
  Goldsmith, Kulaots, Palmore, Peterson, Suuberg
- **Biochemical Sensing**
  Dawson, Palmore, Tripathi, Xu
- **Biomaterials, Nanomaterials, and Composite Materials**
  Colvin, Coulombe, Dawson, Hurt, Padture, Pennell, Sheldon, Shukla, Tripathi, Wong, Xu
- **Carbon and Graphene-Based Materials**
  Hurt, Kulaots, Padture, Sheldon, Suuberg, Xu
- **Catalysis and Reaction Kinetics**
  Goldsmith, Kulaots, Kumar, Peterson, Suuberg
- **Computational Chemistry and Atomicistic Modeling**
  Goldsmith, Peterson, van de Walle
- **Electrochemical Energy Conversion**
  Bower, Palmore, Peterson, Xu, Zhou
- **Environmental Processes and Remediation**
  Colvin, Dawson, Goldsmith, Hurt, Kulaots, Pennell, Suuberg
- **Environmental Exposure and Human Health**
  Colvin, Hurt, Pennell, Suuberg, Wong

### ELECTRICAL AND COMPUTER ENGINEERING
- **Computer Architecture and Embedded Systems**
  Bhar, Patterson, Reda, Rosenberg, Silverman, Taubin
- **Computer Vision and Image Processing**
  Bhar, Felzenszwalb, Kimia, Reda, Taubin, Toussaint, Zia
- **Electronic Materials and Devices**
  Beresford, Larson, Mittleman, Pacifici, Padture, Paine, Xu, Zaslavsky, Zhou, Zia
- **Energy-Efficient and Thermal-Aware Computing Systems**
  Bhar, Reda
  Bhar, S. Kim, Larson, Pacifici, Padture, Paine, Xu, Zaslavsky, Zhou, Zia
- **Integrated Circuit Design**
  Bhar, Larson, Patterson, Reda, Rosenberg
- **Mixed-Signal Electronics and Analog/Digital Design**
  Bhar, Larson, Patterson, Reda, Rosenberg, Silverman
- **Molecular Informatics**
  Reda, Rose, Rosenberg
- **Optoelectronics, Plasmonics and THz**
  Mittleman, Nurmikko, Pacifici, Toussaint, Xu, Zia
- **Neuroengineering and Brain-Computer Interfaces**
  Borton, Hochberg, Larson, Nurmikko, Simeral
- **Robotics and Industrial Automation**
  Bahar, Taubin
- **Sensor Networks, Smart Cameras, Networked Systems, and Signal Processing**
  Rose, Rosenberg, Zaslavsky, Taubin, Xu
- **Wireless Communication and Power Transmission**
  Borton, Larson, Mittleman, Nurmikko, Rose

### MATERIALS SCIENCE
- **Biomaterials**
  Breuer, Coulombe, Dawson, Palmore, Shukla, Srivastava, Wong, Xu, Zenit
- **Electronic Materials**
  Chason, S. Kim, Kingon, Padture, Paine, Sheldon, van de Walle, Xu, Zhou
- **Energy Materials**
  Padture, Palmore, Paine, Peterson, Sheldon, Srivastava, van de Walle, Zhou
- **High Temperature Materials**
  Brait, Hurt, Kumar, Padture, Sheldon, van de Walle
- **Thin Films**
  Chason, S. Kim, Pacifici, Padture, Paine, Sheldon, Shukla, Xu, Zhou

### SOLID MECHANICS
- **Biomaterials, Biomechanics, and Biophysics**
  Bazilevs, Blume, Breuer, Clifton, Coulombe, Dawson, Kesari, Powers, Srivastava, Zenit
- **Computational Mechanics**
  Bazilevs, Bower, Henann, Kesari
- **Mechanics of Materials for Energy Storage**
  Bower, Guduru, K.S. Kim, Sheldon, Srivastava, Zhou
- **Mechanics of Soft Materials (e.g. gels, polymers, granular matter)**
  Ault, Blume, Clifton, Harris, Henann, K.S. Kim, Powers, Srivastava, Zenit
- **Mechanics of Thin Films and Surface Engineering**
  Chason, Guduru, K.S. Kim, Kumar, Padture, Peterson, Sheldon, van de Walle, Zhou
- **Nano and Micro-mechanics**
  Breuer, Chason, K.S. Kim, Padture, Sheldon, Toussaint, Xu
- **Structural Materials**
  Bazilevs, Bower, Clifton, Guduru, K.S. Kim, Kumar, Padture, Sheldon, Srivastava, van de Walle, Xu

### FLUIDS AND THERMAL SCIENCES
- **Biomechanics, Biophysics, and Biolumocon**
  Breuer, Dawson, Powers, Zenit
- **Fluid-Structure Interaction**
  Ault, Bazilevs, Breuer, Harris, Powers, Zenit
- **Interfacial Dynamics and Surface Science**
  Breuer, Harris, Powers, Xu, Zenit
- **Micro and Nano-scale Mechanics and Dynamics**
  Ault, Breuer, Dawson, Harris, Powers, Toussaint
- **Soft Matter, Complex Fluids, and Colloidal Sciences**
  Ault, Dawson, Harris, Henann, Hurt, Powers, Shukla, Wong, Xu, Zenit

### TECHNOLOGY & ENTREPRENEURSHIP
- **Appropriate Technology**
  Breuer, Bull, Gonsheer, Hazeltine
- **Entrepreneurial Networks and Environment**
  Chaltas, Harry, Kingon, McHugh, Suuberg, Warshay
- **Innovation Management and Early Stage Enterprise Growth**
  Chaltas, Harry, Kingon, Larson, McHugh, Suuberg, Warshay, Xu
- **Social Entrepreneurship**
  Bull, Gonsheer, Hazeltine, Kingon