Materials Science: Ph.D. Dissertation Topics

2021 Dissertation Titles

- High Temperature Creep Behaviors of Additively Manufactured IN625, Principal Investigator (P.I): Michael Kassner, Professor

2020 Dissertation Titles

- Printed Electronics Based on Carbon Nanotubes and Two-Dimensional Transition Metal Dichalcogenides, P.I: Chongwu Zhou, Professor
- Quantum molecular dynamics and machine learning for non-equilibrium processes in quantum materials, P.I: Priya Vashishta, Professor
- The reuse and recycling strategies for fiber reinforced polymer, P.I: Steve Nutt, Professor

2019 Dissertation Titles

- Quantum Molecular Dynamics and Machine Learning for Non-Equilibrium Processes in Quantum Materials, P.I: Priya Vashishta, Professor
- Printed Electronics Based on Carbon Nanotubes and Two-Dimensional Transition Metal Dichalcogenides, P.I: Chongwu Zhou, Professor
- Void Evolution in Vacuum Bag-Only Prepregs, P.I: Steven Nutt, Professor

2018 Dissertation Titles

- Biosensing and Biomimetic Electronics, P.I: Chongwu Zhou, Professor
- Nanostructured III-V Photoelectrodes For High Performance, High Durability Solar Water Splitting, P.I: Jongseung Yoon, Assistant Professor
- Perovskite Chalcogenides: Emerging Semiconductors for Visible and Infrared Optoelectronics, P.I: Jayakanth Ravichandran, Assistant Professor
- Exploring the Thermal Evolution of Nanomaterials: From Nanometallic Multilayers to Nanostructures, P.I: Andrea Hodge, Professor
- Multilayer Grown Ultra-Thin Nanostructured GaAs Solar Cell towards High-efficiency, Cost-competitive III-V Photovoltaics, P.I: Jongseung Yoon, Assistant Professor
- Processing and Properties of Phenylethynyl-Terminated Pmda-Type Asymmetric Polyimide and Composites, P.I: Steven Nutt, Professor
- Large-Scale Molecular Dynamics Simulation of Nano-structured Materials, P.I: Priya Vashishta, Professor

2017 Dissertation Titles

- Hot Carrier Enhanced Photocatalysis in Plasmon Resonant Metal Grating Systems, P.I: Steve Cronin, Professor
- Nonlinear Optical Nanomaterials in Integrated Photonic Devices, P.I: Andrea Armani, Professor
- Nanomaterials for Energy Storage Devices and Electronic/Optoelectronic Devices, P.I: Chongwu Zhou, Professor
• Mechanical Behavior of Materials in Extreme Conditions: A Focus on Creep Plasticity, P.I: Michael Kassner, Professor
• Proton Kinetics in Electrochemistry: New Directions and Mechanistic Analysis, P.I: Steven Nutt, Professor
• Developing Efficient Methods for The Manufacture and Analysis of Composites Structures, P.I: Steven Nutt, Professor