

**UW2020: WARF Discovery Initiative Awards  
April 2017**

**Research Proposals:**

**A CRISPR/Cas9 Based Therapeutic Strategy for Alzheimer's Disease**

*Principal Investigator:* Subhojit Roy, Professor, Department of Pathology

**A Virtual Dairy Farm Brain: The Next Big Leap in Dairy Farm Management Applying Artificial Intelligence**

*Principal Investigator:* Victor Cabrera, Associate Professor, Department of Dairy Science

**An Adaptive Computational Pipeline to Accelerate Drug Discovery**

*Principal Investigator:* Julie Mitchell, Professor, Department of Biochemistry

**Anti-Virulence Approaches to Prevent Bacterial Infection and Combat Evolved Resistance in Next-Generation Wound Dressings**

*Principal Investigator:* Helen Blackwell, Professor, Department of Chemistry

**“Cardioimmunotherapy” - A Paradigm Shifting Concept: Engineering Cardio-Reparative Macrophages by Cardiac Specific Exosomes**

*Co-Principal Investigators:* Amish Raval, Associate Professor, Department of Medicine and Peiman Hematti, Professor, Department of Medicine

**CREATE: Cumulative Risks, Early development, and emerging Academic TrajectoriEs**

*Principal Investigator:* Janean Dilworth-Bart, Associate Professor, Department of Human Development and Family Studies

**Development of a High-Flux Fusion Neutron Source for Academic and Industrial Applications**

*Principal Investigator:* Cary Forest, Professor, Department of Physics

**Engineering Leukocytes Generated from Human iPS Cells to Treat Human Disease**

*Principal Investigator:* Anna Huttenlocher, Professor, Department of Pediatrics

**The Human Microbiome in Health and Disease**

*Principal Investigator:* Cameron Currie, Professor, Department of Bacteriology

**Laying the Foundation for a New NSF-Funded Mathematics Institute**

*Principal Investigator:* Gloria Mari-Beffa, Professor, Department of Mathematics

**Radio Neutrino Detection Using Scalable Technologies to Lower Energy Thresholds**

*Principal Investigator:* Kael Hanson, Professor, Department of Physics, WIPAC

**Testing the Action Basis of Language Structure and Language Production**

*Principal Investigator:* Maryellen MacDonald, Professor, Department of Psychology

**Towards a City-scale Living Laboratory for Advanced Wireless Research**

*Principal Investigator:* Suman Banerjee, Professor, Department of Computer Sciences

**Infrastructure/Equipment Proposals:**

**A Plant Phenotyping Core at the Wisconsin Crop Innovation Center to Enable Discovery and Technology Transfer**

*Principal Investigator:* Shawn Kaeppler, Professor, Department of Agronomy

**Acquisition of State-of-the-Art Solid-State NMR Instrumentation Enabling Characterization of Nanoparticles, Catalysts, Other Novel Materials, and Biochemical Systems**

*Principal Investigator:* Ive Hermans, Associate Professor, Department of Chemistry

**Bringing the Cryo-electron Microscopy Revolution to UW-Madison**

*Principal Investigator:* Robert Landick, Professor, Department of Biochemistry

**Development of the Wisconsin Integrated Biodiversity, Human, and Environmental Specimen Portal: A Gateway to More than 11 Million UW Natural History Museum Specimens**

*Principal Investigator:* Kenneth Cameron, Professor, Department of Botany

**The Digital Maximum Project**

*Principal Investigator:* Martin Foys, Professor, Department of English

**Metal Powder Bed 3D Printing**

*Principal Investigator:* Dan Thoma, Professor, Department of Materials Science and Engineering

**Saving New Sounds: Preserving Podcasts and Making Audio Culture Analyzable**

*Principal Investigator:* Jeremy Morris, Assistant Professor, Department of Communication Arts

**SIMFab: Shared Instrumentation for Micro-bio Fabrication**

*Principal Investigator:* Paul Campagnola, Professor, Department of Biomedical Engineering