

Research Fellow Awards – Fall 2010

In December 2010 the UWM Research Foundation selected six new Research Fellow awards in the third round of the program. A total of \$200,000 has been awarded in the three years of the program, with awards supporting 22 post-doctoral researchers and graduate students. Following is a summary of the recent awards.

Sponsoring PI: **Alexander Arnold**, Ph.D., Assistant Professor, Dept. of Chemistry and Biochemistry
Research Fellow: **Premchendar Nandhikonda**, Post-doctoral Researcher
Research Area: ***Vitamin D Receptors***

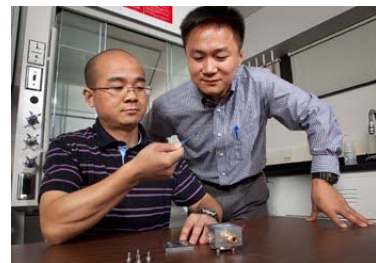
Alexander Arnold's research focuses on vitamin D receptors. Understanding the function of these important receptors may lead to targeted molecular probes as well as new therapeutics. Dr. Premchendar Nandhikonda works as a post-doctoral researcher with Dr. Arnold; together they are exploring using small molecules to control these receptors which may lead to new drug candidates for metabolic diseases. This work is also supported by the National Institute of Mental Health.



Alexander Arnold

Sponsoring PI: **Junhong Chen**, Ph.D., Associate Professor, Dept. of Mechanical Engineering
Research Fellow: **Ganhua Lu**, Post-doctoral Researcher
Research Area: ***Nanomaterials for Sensors and Energy Storage***

Junhong Chen's work is based on nanotechnology and hybrid nanomaterials. Dr. Chen and his team, including Post-doctoral Researcher, Ganhua Lu, have created a technique for assembling nano-structures using electrostatic charge. Using this technique, they are creating useful nano-devices that can be used in gas sensors, biosensors, solar cells, and materials for advanced batteries. Dr. Chen's company, NanoAffix Sciences LLC was recently awarded an SBIR grant to advance this work in gas sensing.



Junhong Chen (right) and Ganhua Lu

Sponsoring PI: **Madhusudan Dey**, Ph.D., Assistant Professor, Dept. of Biological Sciences
Research Fellow: **Mohammad Mannan**, Post-doctoral Researcher
Research Area: ***Study of Unfolded Protein Response***

Madhusudan Dey's research focuses on diseases linked to malfunctions in ER (endoplasmic reticulum) and ER-signaling pathways collectively called the unfolded protein response (UPR). These studies may enable identification of small molecules for therapeutic treatment of several human diseases including diabetes, arthritis and certain cancers. His post-doctoral fellow, Dr. Mohammad Mannan will help collect preliminary data for ongoing work related to understanding these molecular mechanisms.



Madhusudan Dey

Sponsoring PI: **Karyn Frick**, Ph.D., Assistant Professor, Dept. of Psychology
Research Fellow: recruitment ongoing
Research Area: ***Understanding and Treating Age-Related Memory Decline***

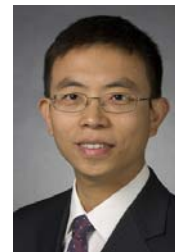
Understanding how aging and environmental factors affect the function of the brain and memory may lead Karyn Frick's to find new techniques to reduce age-related memory decline. She is working to develop new therapeutics based on mimicking the beneficial effects of hormones on memory. Dr. Frick joined UWM's Department of Psychology in 2010. This Research Fellows award will help her attract a top candidate as she grows her research program.



Karyn Frick

Sponsoring PI: **Ying Li**, Ph.D., Assistant Professor, Dept. of Mechanical Engineering.
Research Fellow: **Lianjun Liu**, Post-doctoral Researcher
Research Area: **Advanced Materials for Energy Conversion**

Ying Li's research focuses on the fabrication of materials for photocatalytic reactions – where sunlight interacts with materials at the surface of a material. He is applying this expertise toward carbon capture technologies, design of efficient battery electrodes and solar energy conversion devices. This Research Fellow Award is helping make it possible for Dr. Lianjun Liu to join Dr. Li's team and pursue research in reduction of carbon dioxide to fuels using photocatalytic reactions; this work is sponsored by the American Chemical Society Petroleum Research Fund (ACS PRF).



Ying Li

Sponsoring PI: **Shangping Xu**, Ph.D., Assistant Professor, Dept. of Geosciences
Research Fellow: **Lucia Feriencikova**, Graduate Student
Research Area: **Understanding Bacterial Surface Interactions to Improve Water Quality**

Shangping Xu's research interest lies in the protection of water resources and the supply of safe drinking water. Dr. Xu and his team, including graduate student, Lucia Feriencikova, study the interactions between bacterial cells and various surfaces including minerals and engineered surfaces. These interactions play dominant roles in determining the attachment/detachment of bacterial cells to/from a surface. This work is also supported by UW System Groundwater Research Program.



Shangping Xu

Previous Research Fellow Awards

The UWM Research Foundation has made fifteen previous awards in 2008 and 2009. These awards span a range of disciplines, recognize both junior and senior faculty, and help foster the growth of important research clusters at UWM.

Fall 2009

Zhen (Jason) He, Civil Engineering and Mechanics
Fei Zhang, Ph.D student
Microbial Fuel Cells

Vincent Larson, Mathematical Sciences
Brian Griffin, Ph.D. student
Numerical Modeling of Clouds and Turbulence

Sandra McLellan, School of Freshwater Sciences
Ryan Newton, Post-Doctoral Researcher
Genetics Signatures to Pinpoint Pollution Sources

Christopher Quinn, Biological Sciences
Yan Xu, Post-Doctoral Researcher
Neural Development Related to Autism and Down Syndrome

Masha Ranji, Electrical Engineering and Computer Science
Rayhaneh Sepehr, Ph.D. student
Noninvasive Optical Tissue Diagnostics Tools

Stefan Schnitzer, Biological Sciences
Scott Mangan, Post-Doctoral Researcher
Species Diversity – a Driver for Carbon Budgets and Climate Change

Vladislav Yakovlev, Ph.D., Professor, Physics
Kazimierz Czarniecki, Ph.D. student
Spectroscopic Tools for Biology and Medicine

Lei (Leslie) Ying, Electrical Engineering and Computer Science
Dong Liang, Post-Doctoral Research Assistant
Improving the Speed of MRI

Fall 2008

Luis Anchordoqui, Physics
Lisa Goggin, Post-Doctoral Researcher
Search for Gravity Wave Signatures

Jian Chen, Chemistry
Ryan Kohmeyer, Graduate Research Assistant
Organic Nanomaterials

Junhong Chen, Mechanical Engineering
Bo Zhang, Post-Doctoral Researcher
Nanotechnology Applied to Environmental Protection

Yi-Qiang (Eric) Cheng, Biological Sciences
Vishwakanth Potharla, Ph.D. student
Novel Compounds for Treatment of Cancer

Adel Nasiri, Electrical Engineering
Goran Mandic, Ph.D. student
Innovative Control Techniques for Wind Turbines

Abbas Ourmazd, Ph.D., Distinguished Professor, Physics
Russell Fung, Post-Doctoral Researcher
Determining Molecular Structures from the Diffraction Patterns of Single Molecules

Wilfred Tysoe, Chemistry
Zhenjun Li, Ph.D. Student
Surface Chemistry for Palladium-Based Catalyst