



NEWSLETTER



Advanced Materials Research Institute

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AMRI on Display at Get to Know UNO

Dr. John Wiley and Jennifer Tickle set up the AMRI exhibit recently at the Get to Know UNO Day. This event was sponsored by the University Office of Enrollment Services on Saturday, November 22, 2014. Over 400 prospective students and their guests gathered at the Recreation Fitness Center Auditorium to browse through and learn about the many programs and disciplines available to study at the University of New Orleans. Brochures and flyers were displayed on tables and colorful exhibits filled the auditorium. The event proved to be quite successful.



Prospective students gather for Get to Know UNO

THE DIRECTOR'S CORNER

Greetings and Happy New Year from AMRI! As we begin 2015, I want to express my gratitude and thanks to all of our researchers, collaborators, sponsors and students for continued interest and support of our research activities. While we look forward to continuing the research in which we are now engaged, we also look forward to the prospect of pursuing new ideas and new areas of research in materials science. On February 12, AMRI will host our Annual Mardi Gras Review for 2015. This review is important to us because it allows us to review and evaluate all that we have accomplished to date in our current projects. It is always refreshing to see the productivity of our joint endeavors as we work together to make our research projects a success. As always, I encourage you to continue with your good work and collaboration with each other. Only through your collaborative efforts can our research programs continue to be truly interdisciplinary.

--Leonard Spinu



Dr. John Wiley recruits prospective student

AMRI Exhibit at Advanced Materials Workshop in Downtown New Orleans

Dr. Kevin Stokes, Dr. Weilie Zhou, Daniel Adams, and Jennifer Tickle represented AMRI at the Advanced Materials and Manufacturing Conference, a statewide industry-academia workshop held in downtown New Orleans at the Loews Hotel on Friday, November 7, 2014. Research professors from University of New Orleans, LA State University, LA Tech University, the University of LA at Lafayette, Tulane University, and Xavier University mingled with scientists and entrepreneurs from various companies and industrial partners. The purpose of the event was to bring together talented researchers from academia and industry to discuss the role LA will play in the manufacturing sector and the impact that advances in new materials and processes will have in this role. Michael Hecht, President and CEO of GNO, Inc. presented an inspiring keynote address and company and school displays were set-up in the lobby as a central place to meet and network. This successful event was hosted by the University of New Orleans and sponsored by the Louisiana Board of Regents' EPSCoR Program Office.



Kevin Stokes and Jennifer Tickle at Workshop Downtown

<https://www.unoalumni.com/cos-giving>

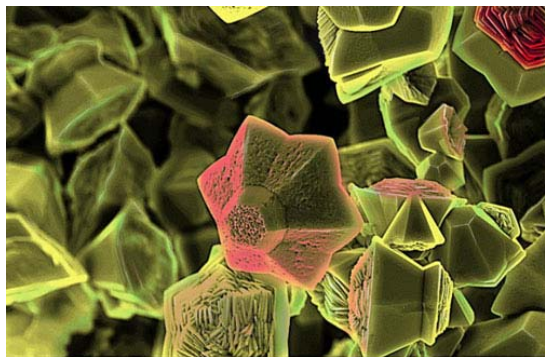
Thank you for your support
of our organization!



Opening Remarks by Dr. Kenneth Sewell, Vice-President for Research and Economic Development of UNO

Dr. John Wiley's Research Group Wins Awards

Congratulations to **Dr. John Wiley**, a Chemistry Research Professor and Associate Director of AMRI, and to the students of his research group. Their poster titled, "Fabrication of Nanopeapod Structures through the Directed Capture Semiconducting and Plasmonic Nanoparticles," by Shiva Adireddy, Taha Rostamzadeh, Treva T. Brown and John B. Wiley recently won 3rd prize overall at the Materials Research Society meeting held in Boston, MA, December 1- 5, 2014.



"A Rose By Any Other Name"

Additionally, "A Rose By Any Other Name," was one of two submissions to the MRS Science as Art Program which won 2nd place. The picture is an SEM image of complex ZnO mesocrystals synthesized through a solvothermal process. Contributions were from Taha Rostamzadeh and John Wiley from the University of New Orleans and Korosh Mahmood from the University of North Texas, Center of Non-Linear Science. The second submission is titled "Psychedelic Symmetry" and is a TEM image of self-assembled Fe₂O₃ nanoparticles. Assembly process was done

using solvent evaporation approach, Taha Rostamzadeh from John Wiley's lab at UNO.

UNO Awards Research Prize To Dr. John Wiley

Dr. John Wiley was one of three Professors to win a 2014 UNO Research Recognition Prize for Research Excellence. Wiley has been a faculty member with the Department of Chemistry since 1993 and has published 116 peer reviewed journal articles. He is also the Associate Director of UNO's Advanced Materials Research Institute. He has secured numerous grants through the Louisiana Board of Regents and the National Science Foundation.

The Research Excellence Prize is given to faculty members who have achieved the rank of associate professor or professor and who have an outstanding and sustained record of creative and scholarly activities. Wiley will receive a \$10,000 grant for winning the prize.¹

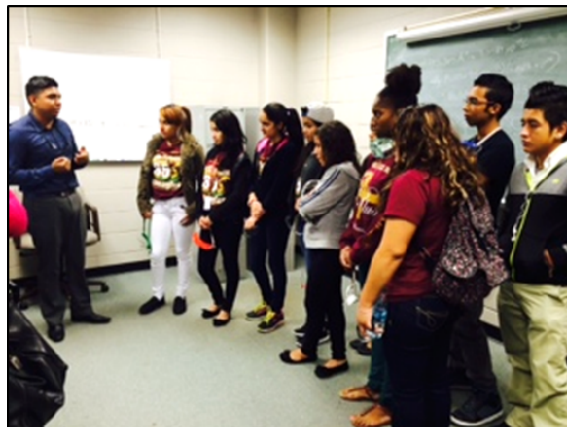
Latest News in Dr. Leszek Malkinski's Research Group

Prof. Leszek Malkinski is co-organizing IEEE Magnetics Society Summer School of Magnetism. University of New Orleans hosted School of Magnetism in the summer of 2011. Next school will be held at the University of Minnesota, in Minneapolis in June 2015. Prof. Malkinski is the Chair of the Selection Committee which will select about 90 students from all over the world who will be invited to participate in this great education event where the internationally renowned speaker will give invited lectures and students will present their research on magnetism. Prof. Malkinski also serves as the Treasurer of the Summer School of Magnetism.

Prof. Malkinski accepted position of an Editor of the journal IEEE Transactions of Magnetics. This journal has been subscribed by our UNO library since 1965. He will be in charge of assigning reviewers and accepting or rejecting articles submitted to this prestigious journal.

McDonogh 35 Senior High School Tour of Our Research Labs

On October 24, 2014, the University of New Orleans, Department of Chemistry hosted 11 students from McDonogh 35 Senior High School. The purpose of the visit was to expose high school students to the research equipment in the Chemistry Department and the Advanced Materials Research Institute (AMRI). The visiting students are enrolled in the English as Second Language (ESL) program at their high school. All of the students are originally from Central America and have recently come to the U.S. with their families in search of better opportunities. In the Chemical Sciences Building (CSB) the students viewed the computational labs and major instrumentation such as those used for X-ray single crystal diffraction and nuclear magnetic resonance. On the upper floors of the CSB the students toured the dry and wet chemistry labs. Lastly, the tour continued in the Science Building to view the AMRI research labs. The equipment there included the SQUID susceptometer, thin films deposition chambers, electron microscopes, a clean room, and the coldest "fridge" in Louisiana. Overall, the students were very engaged in all of the research equipment and gained better insight into what science-based research is like at UNO.



Mr. Edwin Gomez, undergraduate in Prof. Chakravorty's group and participant in the LASiGMA program, explains his computational studies to students from McDonogh 35.

New Faces at AMRI

We welcome the following new additions to AMRI:

Michael Retana joins AMRI as an undergraduate student worker. He will serve as a laboratory assistant in Dr. Weillie Zhou's group. He is part of the College of Science's Undergraduate Research Program (COSURP).

Athanasios Chalastaras returns to UNO to continue his studies and joins AMRI as a Graduate Student pursuing his Ph.D. in Engineering and Applied Sciences working in Dr. Leszek Malkinski's group. He has a Masters in Physics from the University of New Orleans. He will be assisting Dr. Malkinski by investigating the micro-origami technology of magnetic structures. He will also do modeling of their properties using multi-physics software COMSOL.

Mohammed Asif Khan, an undergraduate physics student, will join Professor Leonard Spinu's Research Group in January 2015. He will work in the magnetic characterization

laboratory while supported by the College of Sciences Undergraduate Research Program (COSURP).

Recent Publications

"Particle Placement and Sheet Topological Control in the Fabrication of Ag-Hexaniobate Nanocomposites," Shiva Adireddy, Taha Rostamzadeh, Cecilia E. Carbo, and John B. Wiley *Langmuir* **2015** (accepted)
<http://dx.doi.org/10.1021/la503775f>

Recent Presentations

"Relaxation and Interaction Effects in Magnetic Nanowire Arrays" S. Khanal, J. Tripathy, J. Wiley, and L. Spinu, Magnetism and Magnetic Materials Conference, Honolulu, Hawaii, November 3-7, 2014.

"Static and Dynamic Properties of Interacting Planar Magnetic Nanowire Arrays" S. Khanal, N.M. Vargas, D. Adams, M. Stokes, D. Altbir, J.C. Denardin and L. Spinu, Magnetism and Magnetic Materials Conference, Honolulu, Hawaii, November 3-7, 2014.

"Fabrication of Nanopeapod Structures through the Directed Capture Semiconducting and Plasmonic Nanoparticles" S. Adireddy, T. Rostamzadeh, T.T. Brown and J.B. Wiley, Materials Research Society, Boston, MA, Dec. 1-Dec 5, 2014. (*Poster won 3rd prize overall at the meeting.*)

"Cubic CeO₂/Au@Hexaniobate Nanopeapods," Taha Rostamzadeh, S. Adireddy, and J.B. Wiley, Materials Research Society, Boston, MA, Dec. 1-Dec 5, 2014.

"Using Micro-Origami Techniques to Create Functional Materials with Complex Architectures" Presented by Dr. L.M. Malkinski, Energy Materials Nanotechnology Conference, Orlando, Florida, November 22-25, 2014 (invited talk).

"Coexistence of Magnetomechanical and Electromechanical Resonances in Multiferroic Composites" L.M. Malkinski, M.M. McGehee, R. Eskandari and T. Gould, Conference on Magnetism and Magnetic Materials, Honolulu, Hawaii, November 2-8, 2014.

"New Sacrificial Layers for the Growth of Magnetic Micro-Origami Structures" L.M. Malkinski, R. Eskandari, M.M. McGehee and A. Chalastaras, Conference on Magnetism and Magnetic Materials, Honolulu, Hawaii, November 2-8, 2014.

Upcoming Events

Annual AMRI Mardi Gras Review 2015

Please join AMRI faculty, researchers and students for an annual review of oral presentations and a poster session as an overview of the AMRI programs. Notable technical accomplishments and new scientific insights gained since the last review will be highlighted. There will be a dinner held after the poster session. No registration fee will be charged for this meeting. Deadline to register is January 20, 2015. Meeting agenda will posted on this site as soon as it is available.

When: Thursday, February 12, 2015
8:00 am – 7:00 pm

Location: Lindy C. Boggs International
Conference Center
Research and Technology Park
of the UNO Lakefront Campus
New Orleans, LA

Please register for the Mardi Gras AMRI
Review 2015 by January 20 at:

http://neworleans.co1.qualtrics.com/SE/?SID=SV_6IHFe3y8VPIRVj

Footnotes

¹The information for this article is taken from the
UNO News section of the UNO website,
specifically:

<http://www.uno.edu/news/2014/UNOAwardsResearchPrizestoThreeFacultyMembers.aspx>

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