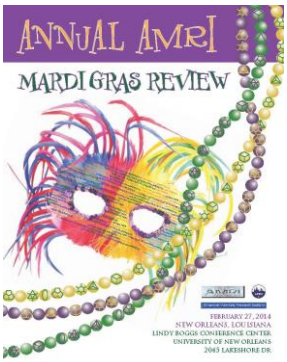
AMRI NEWSLETTER

Advanced Materials Research Institute

Volume 12, Issue 1 http://www.amri.uno.edu April 2014

2014 Annual AMRI Mardi Gras Review



The Annual AMRI Mardi Gras Review was held February 27, 2014 at the UNO Lindy C. Boggs International Conference Center.

AMRI research programs, including the current LASIGMA project and the Summer Outreach Program, were presented. AMRI industrial collaborators ***Scott Yano***, Lakeshore Cryotronics, and ***Timothy Langan***, Surface Treatment Technologies, also gave presentations. Following the Review, 21 research posters of AMRI graduate students were put on display for the 60 attendants.

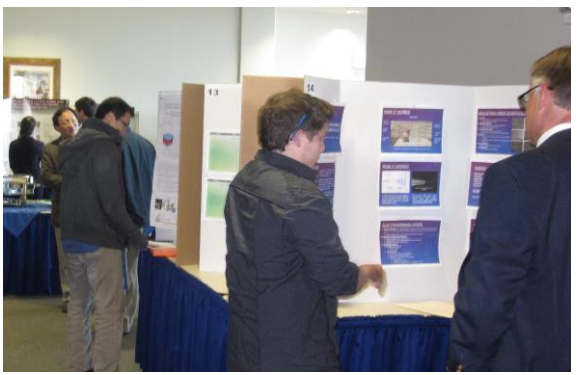
Many thanks to all involved for making this year's Annual AMRI Mardi Gras Review a success!

Poster session

THE DIRECTOR'S CORNER

I am pleased to announce the upcoming Outreach Summer Research Program. This year's program will be held May 22 through July 25, 2014. We have received 40 undergraduate, 18 high school and 15 high school teacher applications. We are grateful for the programs which are providing support for this program, including the NSF-REU program, the LA-BoR LA-SiGMA program, and the Louisiana Board of Regents, and look forward to a successful and productive summer.

- - Leonard Spinu



Poster Session

Banquet

InnovateUNO Awards and UL Academic Summit

Congratulations are in order to two AMRI undergraduate students who placed at the InnovateUNO 2014 poster competition. InnovateUNO is a competition open to UNO's undergraduate students engaged in projects that involve research, scholarly work, creative work, or service learning.

Nooraldeen Alkurd, who is sponsored by ***Dr. Weilie Zhou***, placed 4th on his poster titled "Investigating the Surface Modification of In2O3 Nanocrystals for Enhanced Chemical Sensing." ***Daniel Adams***, who is sponsored by ***Dr. Leonard Spinu***, placed 5th on his poster titled "Microwave Properties of Magnetic Nanowires Arrays."

The winners represented UNO at the UL Academic Summit on April 11-12, 2014.

AMRI Sponsors Junior High Robotics Team

AMRI recently donated $300 to the Boyet Junior High Robotics Team, a group of 7th and 8th graders called the "Gearheads," to sponsor their trip to San Diego, CA to attend the First Lego League North American Open Championship. This competition will be held in May 2014. The team already won the "Champion's Award" at the LA Regional FLL Competition and are the only team selected from LA to attend.

AMRI Group Meetings

AMRI Group Meetings are held every Thursday at 3:30pm in SC 2049.

1st Thursday	AMRI Students' Seminar (Dr. Weilie Zhou in charge)
2nd Thursday	LASIGMA Group (Dr. Leszek Malkinski in charge)
3rd Thursday	AMRI's Research Group Meeting (Dr. John Wiley in charge)
4th Thursday	AMRI General Group (Dr. Leonard Spinu in charge)

All AMRI personnel are encouraged to attend.

New Faces

We welcome the following new additions to our AMRI staff:

Agathe Brudo, Alice Dall'Armellina, and Maxime Brault join AMRI from the University Institute of Technology of Poitiers in Poitiers, France. The chemistry students arrived on February 10 and will work in AMRI research labs as part of their undergraduate training until May 10, 2014.

Nicolas Vargas joins AMRI from the University of Santiago. He will be collaborating with ***Dr. Leonard Spinu*** on research related to the nanomagnetism field and efforts of the research group of Dr. Juliano Denardin until December 3, 2014. His visit is funded by the CEDENNA center, a multidisciplinary group center dedicated to the science of nanotechnology and a scholarship from CONicyt-Chile.

Kieu Tran, Edwin Gomez, Luis De Grau, Denny Lenormand, Manish Bhatt and Daniel Adams join AMRI as undergraduate student workers. Kieu and Edwin will work for ***Dr. Dhruva Chakravorty***. Luis, Denny and Daniel will work for ***Dr. Leonard Spinu***. Manish will work for ***Dr. Weilie Zhou.***

Chemistry Department Spring BBQ and Poster Competition

The UNO Chemistry Department held their Spring Poster Competition and BBQ on Friday, March 28, 2014.

Congratulations to the winners and many thanks to all who participated!

Senior Graduate Students (Advisors):
1. ***Marielle Soniat*** (Dr. Steve Rick)
2. *tie* - ***Donna Peralta*** (Dr. Matthew Tarr) and ***Dariush Montasserasadi*** (Dr. John Wiley)
3. ***Sara Wozny*** (Dr. Weilie Zhou)

Junior Graduate Students (Advisors):
1. ***Dustin Kountz*** (Dr. Matthew Tarr)
2. ***Sara Akbarian*** (Dr. John Wiley)
3. ***Treva Brown*** (Dr. John Wiley)

Undergraduate Students (Advisors):
1. ***Nooradeen Alkurd*** (Dr. Weilie Zhou)
2. ***Alexander Lyons*** (Dr. Matthew Tarr)
3. ***Edwin Gomez*** (Dr. Dhruva Chakravorty)

IPMI Awards

Congratulations are in order to ***Taha Rostamzadeh*** and ***Dr. John Wiley*** who received the Gemini Industries Student Award and Student Advisor Awards ($5,000), respectively, from the International Precious Metals Institute (IPMI). The awards will allow Taha to continue his research on precious-metal-containing nanopeapods.

Recent Publications

‘‘Iron Oxide Nanotubes Synthesized via Template-based Electrodeposition,” Jin-Hee Lim, Seong-Gi Min, Leszek Malkinski, and John B. Wiley* *Nanoscale* **2014**, (accepted)

“Peapod-type Nanocomposites via the *In Situ* Growth of Au Nanoparticles within Preformed Hexaniobate Nanoscrolls,” Shiva Adireddy, Cecilia E. Carbo, Taha Rostamzadeh, Jose M. Vargas, Leonard Spinu, and John B. Wiley* *Angew. Chem. Int. Ed.* **2014**, *53*, (in press). DOI:10.1002/anie.201310834 and 10.1002/ange.201310834 (Research to be highlighted on cover (inside back) of April issue)

“Topochemical Synthesis of Alkali-Metal Hydroxide Layers within Double- and Triple-Layered Perovskites,” Dariush Montasserasadi, Debasish Mohanty, Ashfia Huq, Luke Heroux, Edward A. Payzant, and John B. Wiley* *Inorg. Chem.* **2014**, *53*, 1773. DOI:10.1021/ic402957c

“Nearly Lattice Matched All Wurtzite CdSe/ZnTe Type II Core-Shell Nanowires with Epitaxial Interfaces for Photovoltaics”, Kai Wang, Satish C. Rai, Jason Marmon, Jiajun Chen, Kun Yao, Sarah Wozny, Baobao Cao, Yanfa Yan, Yong Zhang and Weilie Zhou, Nanoscale, 6, 3679 DOI: 10.1039/C3NR06137J (2014).

Recent Presentations

“Peapod Nanocomposites – Forming Organized Nanoparticle Chains within Scrolled Nanosheets,” Shiva Adireddy, Cecilia Carbo, Taha Rostamzadeh, Treva Brown, Jose M. Vargas, Leonard Spinu, and John B. Wiley, 247th ACS National Meeting, Dallas, TX, March 16-20, 2014 (talk).

“Topochemical Reaction Strategies for Directing Structure in Layered Perovskite Hosts,” Dariush Montasserasadi, Léa Gustin, Elisha Josepha, and John B. Wiley, 247th ACS National Meeting, Dallas, TX, March 16-20, 2014 (talk).

“Synthesis of Bi-functional Peapod-type Nanocomposites via the In Situ Growth of Au Nanoparticles within Hexaniobate Nanopeapods,” Cecilia E. Carbo, Shiva Adireddy, Taha Rostamzadeh, Treva Brown, Jose M. Vargas, Leonard Spinu, and John B. Wiley, 247th ACS National Meeting, Dallas, TX, March 16-20, 2014 (poster).

“From Layer to Scrolls – Layer Construction and Peapod Formation through the Manipulation of Niobium Oxides,” John B. Wiley, Solid State Chemistry Potpourri in Kyoto (2014), Kyoto University, March 11-12, 2014 (invited speaker).

Grants

“Development of Next Generation Hybrid Materials”, $1,410,000, Weilie Zhou (co-PI, Scott Grayson in Tulane, lead PI) (2014).

“Materials Science Lab: Hands on Experiment Experience with the Energy and Electronic Materials for UNO Students,” $100,000, Leszek Malkinski (co-PIs Kevin Stokes, Leonard Spinu, John Wiley and Weilie Zhou) (2014).

Other Achievements

Dr. John Wiley’s article, “Peapod-type Nanocomposites via the *In Situ* Growth of Au Nanoparticles within Preformed Hexaniobate Nanoscrolls,” was accepted in *Angewandte Chemie International Edition*, one of the top journals in chemistry. The editor chose this article as a “Hot Article”, artwork for this work was accepted for appearance on one of the journal’s covers, and an article appeared in the New Orleans Advocate highlighting the research: http://www.theneworleansadvocate.com/home/8588322-172/tulane-study-identifies-promising-hiv (3rd story)

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