

ADVANCED MAGNETIC RESONANCE IMAGING AND SPECTROSCOPY FACILITY (AMRIS) ACQUIRES TWO NEW MAGNETS

On Wednesday, 12/7, a new Siemens 3T MRI/S scanner was delivered to the AMRIS facility. Magnetic Resonance Imaging and Spectroscopy (MRI/S) is a powerful technique used to non-invasively examine the anatomy and physiology of the body in health and disease, such as measuring brain structure and function, monitoring muscle fitness, and examining heart metabolism in vivo. This instrument will support a rapidly increasing number of federally-funded investigators at UF who rely on MRI/S in their research studies addressing Parkinson's disease, muscular dystrophy, aging and cognition, Alzheimer's disease, adolescent brain cognition development, traumatic brain injury, obesity, diabetes, fatty liver disease, anxiety, and pain.

The AMRIS Facility is looking forward to making this instrument available to neuroimaging users beginning in January with full service scanning support beginning in February. The proposed instrument will provide much needed advanced technologies unavailable on our current nine-year-old 3T MRI/S system, which is the only research-dedicated 3T MRI/S instrument in the northern Florida (Gainesville-Jacksonville) area. This includes multi-band techniques for functional MRI (fMRI) and diffusion imaging (dMRI) as outlined in the Human Connectome Project, whole-body scanning, cross-compatibility with MRI/S facilities at other institutions for multi-center studies, and alignment of UF imaging with big data multi-site studies for Alzheimer's disease, Parkinson's disease and the NIH Adolescent Brain Cognitive Development (ABCD) Study. Multi-band techniques and new gradients will enable higher resolution brain studies in a shorter period of time and will increase the number of research studies the facility can support. Whole body scanning capabilities will enable needed correlative measurements in obesity, diabetes, osteoarthritis, aging and dystrophy studies.





The University of Florida AMRIS center has also commissioned an Oxford HyperSense Dynamic Nuclear Polarization (DNP) system. This commercial system adds new capabilities in addition to a homebuilt DNP system already present at AMRIS. DNP uses the presence of an exogenous radical doped into a sample, very low temperatures ($\sim -272^{\circ}\text{C}$), and microwave irradiation to enhance magnetic resonance signals by 4 to 5 orders of magnitude. The increased sensitivity of the experiment allows real-time measurements of metabolism to be carried out in living systems, from cell culture to rodents. The new system will more than double the throughput for DNP experiments at AMRIS, and will initially be used to study heart and liver metabolism.

BMB SEMINAR SERIES

BMB FACULTY RESEARCH DISCUSSIONS

The BMB Department hosts a seminar series, Faculty Research Discussions, where the BMB faculty and local researchers are able to present their ongoing research. These discussions provide the perfect platform for networking and increasing our understanding of the depth and breadth of research that is happening around us. Dr. Linda Bloom (lbloom@ufl.edu) coordinates this seminar series which meets weekly, Wednesdays, 4:00—5:00pm, MBI DeWeese Auditorium (LG-110), unless otherwise noted. [Spring 2017 full schedule](#).

January Schedule:

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| January 11
MBI LG-110 | Dr. Linda Bloom , Professor and Associate Chair, Department of Biochemistry and Molecular Biology
Topic: <i>TBD</i> |
| January 18
ARB R3-265 | Dr. Jörg Bungert , Professor, Department of Biochemistry and Molecular Biology
Topic: <i>TBD</i> |
| January 25
MBI LG-110 | Dr. Eric Wang , Professor, Department of Molecular Genetics and Microbiology
Topic: <i>TBD</i> |

BMB SEMINAR SERIES, cont.

CENTER FOR STRUCTURAL BIOLOGY SEMINAR SERIES

The seminar series of the Center for Structural Biology seeks to provide stimulating discussions with a molecular-structure focus or a focus on the cell and tissue/organism level of biological structure. Dr. Mavis Agbandje-McKenna is the Director for the CSB (mckenna@ufl.edu).

These sessions meet the third Monday of every month in the McKnight Brain Institute, DeWeese Auditorium (LG-101A), unless stated otherwise. The Fall 2016-Spring 2017 schedule may be seen [HERE](#).

January 2017 Session:

January 23 (4th week) ARB R3-265	Chad M. Petit, Ph.D. Assistant Professor, Department of Biochemistry and Molecular Genetics University of Alabama, School of Medicine
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CENTER FOR EPIGENETICS

The CEG serves as focal point and provides a framework to promote communication, interactions, and collaboration among ~50 investigators in the area of epigenetics who are housed in many different departments within and outside of the COM. It also provides a variety of important services, facilities, training, equipment, and expertise to assist the large number of laboratories engaged in epigenetics-related research. In its role to enhance learning and communication in the area of epigenetics, the CEG organizes the **CEG Seminar Program** featuring special invited speakers from outside the University of Florida. These speakers include some of the most prominent researchers in the field of epigenetics. This academic year, there will be eight guest speakers.

The Director for the Center for Epigenetics is Dr. Thomas P. Yang, (tpyang@ufl.edu). The full schedule of guest speakers may be viewed [HERE](#). **These sessions are held in CGRC-451A unless stated otherwise.**

January 2017 Session:

January 6 2:00pm MBI LG-101A	Eva Nogales, Ph.D. Senior Faculty Scientist at the Lawrence Berkeley National Laboratory Professor, Biochemistry and Molecular Biology, University of California, Berkeley, Investigator, Howard Hughes Medical Institute Topic: <i>Mechanistic insights into microtubule dynamics and transcription initiation from cryo-EM structures</i>
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BMB JOURNAL CLUBS

STRUCTURAL BIOLOGY JOURNAL CLUB

Mondays, 3:00-4:00pm, ARB R3-265

The Structural Biology Journal Club on Methodologies and Discoveries in Crystallography and Cryo-Electron Microscopy is hosted by Dr. Mavis Agbandje-McKenna (mckenna@ufl.edu) and Dr. Rob McKenna (rmckenna@ufl.edu). Spring 2017 semester schedule will be posted soon.

BMB JOURNAL CLUB/BCH 6936

Tuesdays, 11:45am–12:45pm, ARB R3-265.

Each week, a student in the Biochemistry and Molecular Biology Advanced Concentration presents a journal article from the current literature to the group of BMB students, post-docs, and faculty. Senior (4th year and more advanced) students have the option of giving a research seminar or presenting a journal article. One faculty member and one or two students are assigned as “readers” and they are available to answer questions and help with the preparation of the presentation. The readers also provide the student with feedback on the presentation to aid in the development of strong presentation skills and the ability to critically evaluate scientific work.

This Journal Club is facilitated by Dr. Andy Berglund (aberglund@ufl.edu). Spring 2017 semester schedule will be posted soon.

EPIGENETICS JOURNAL CLUB/GMS 6195

Thursdays, 12:00–1:00pm, CGRC-351A.

The Epigenetics Journal Club is facilitated by Dr. Mike Kladde (kladde@ufl.edu) and Dr. Tom Yang (tpyang@ufl.EDU). Details and complete schedule for Spring 2017 semester will be posted soon.

CONGRATS TO OUR AWARDEES!

ALEC COURTELIS AWARD

Rosha Poudyal



IDP-BMS student, Rosha Poudyal, a Graduate Assistant in Dr. Michael Kladde's lab and member of the Biochemistry and Molecular Biology Advanced Concentration, has earned the honor of receiving the prestigious Alec

Courtelis award.

The Alec Courtelis Award is given annually to three outstanding international graduate students who meet the following qualifications:

- Currently enrolled in a Master's or Ph.D. program.
- Demonstrates outstanding academic achievement.
- Contributions to the department and college exceed expectations.
- Contributions and service to campus life at UF exceed expectations.
- Involvement in the Gainesville community.

INTERNATIONAL STUDENT AWARD

MIR HOSSAIN



As a direct result of his accomplishments in his field of study, Mir Hossain has been selected as one of five students to receive the College of Medicine's Outstanding International Student Award.

Over the past four years, Mir has been involved with various activities that have contributed to the mission of the College—to excel in medical research, education and invention.

From the country of Bangladesh, Mir is a Graduate Research Assistant being mentored by Dr. Jörg Bungert as an IDP student with a focus in Biochemistry and Molecular Biology. In 2016, Mir has also had the honor of receiving the American Heart Association Predoctoral Fellowship and is the recipient of the *Wanda and Richard Boyce Award* for outstanding graduate research in Biochemistry and Molecular Biology.

CANCER CENTER DISSERTATION AWARD

Mam Y. Mboge

UF Health Cancer Center Announces the winners for the Inaugural Cancer Center Dissertation Awards. These awards are intended to recognize and support outstanding predoctoral candidates who are conducting innovative cancer research. Mam Y. Mboge, a graduate student in the labs of Drs. Susan C. Frost and Rob McKenna, won one of the five awards. Mam is in the Cancer Biology Concentration and presented a 3-minute vignette of her work at the UF Health Cancer Center Research Day on Thursday, November 3, 2016. Mam received a plaque and an award of \$10,000. Mam will also be presenting her work at the Annual AACR meeting in Washington, DC in April of 2017.

CONGRATULATIONS, Mam!

