

Department of Physics and Materials Science

Summer 2024 Newsletter

Dear friends, colleagues, and alum,



Once again, I am very pleased to be able to bring to you a summary of the accomplishments and achievements of our faculty and students from the summer semester. We had a very busy and successful semester with a lot to be proud of! I also would like to give Dr. Kei Nagai a warm

welcome to the department!

Firouzeh Sabri, Professor-Chair

Visit to LIGO—Livingston



Sixteen students affiliated with the DPMS (picture below) made a trip—sponsored by NSF REU grant (PI: **Dr. Firouzeh Sabri**)—to the Laser Interferometer Gravitational-Wave Observatory (LIGO) in Livingston, Louisiana on Friday, July 26. **Dr. Benjamin Keller**, **Dr. Francisco Muller**

Sanchez, and **Dr. Samuel Mensah** accompanied the students to explore this laboratory that—operating together with the other site in Hanford, Washington State—detects the weak signals from the cosmologically-significant gravitational waves.



Student Receives NASA Fellowship

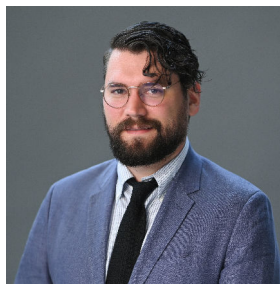
DPMS graduate student **Scott Morris** (advisor: **Dr. Benjamin Keller**) received the NASA Fellowship. Below follows the description of this scholarship:

Students receiving a Space Grant Fellowship will be expected to make signif-

icant progress on their research efforts during the ... academic year and submit a peer reviewed journal or a peer reviewed conference publication (full paper) during this period.

Congratulations, Scott!

Faculty Gives Keynote Address; Awarded Research Grant



Dr. Benjamin Keller gave a keynote address at *The Feedback-Driven Matter Cycle in Galaxies: New perspectives from JWST* conference in Heidelberg, Germany, which was held from June 3 - 7.

Additionally, Dr. Keller was awarded a grant by NASA's High Priority Open-Source Science program. The title of the grant is "Portable and Reproducible Initial Conditions for Galaxy Simulations." Congratulations, Dr. Keller!

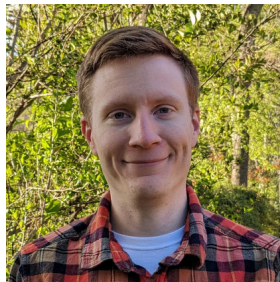
Faculty Member Gives Invited Talk



DPMS faculty member, **Dr. Shawn Pollard** presented an invited talk, entitled "Vertically non-uniform magnetic films for next generation spintronics" on April 14 at the Ole Miss-MSU-Alabama-Memphis

Physics Research Joint Symposium. This annual symposium provides a gathering for researchers from the Mississippi-Alabama-Tennessee region to share recent results and foster collaborations.

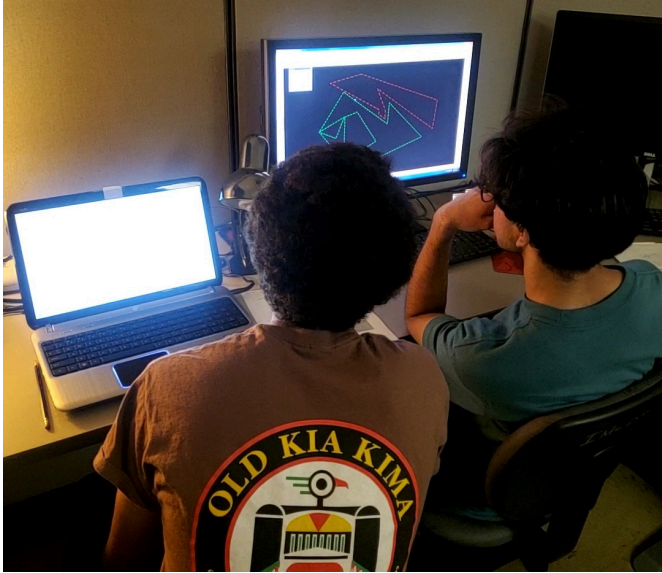
Physics Alumni Spotlight Series



We have recently featured **Kyle Moats**, an UofM Alumnus and native Memphian, as he shares his unique path highlighting the unique interests of physics majors, and the various careers physics graduates pursue. Please check out his profile at memphis.edu/physics/alumni_spotlight/kylemoats.php.

PMS Summer Camp at the UofM

The DPMS hosted the **Physics and Materials Science Summer Camp 2024**. **Mr. Lucas Wade** and **Dr. Gustav Borstad** organized this event, the fourth year in a row and the third on campus. The week-long camp was attended by 32 local high school students. The camp participants learned about various areas of physics, including acoustics, astronomy and astrophysics, optics, materials science as well as careers in physics.



Students exploring software to design the nanometer structure on components.

In particular, they learned about transistors and visited the UofM clean room to witness first-hand the equipment and setting required for the development of the sensitive electronics that power the devices that we rely for productivity and pleasure. The participants also had the opportunities to build transistor circuits.



Other activities included a tour of the Scale Model

of the Solar System, an exercise involving computer programming and visualization data, and making speakers and a simple telescope with magnifying glasses.



The week concluded with a liquid nitrogen plume. If you are interested in participating in a future summer camp, please check our webpage for announcements in the Spring.



New DPMS Faculty Member



Please join us in warmly welcoming **Dr. Kei Nagai**, who will be joining the DPMS as an Assistant Professor this fall, coming from Duke University, having previously earned his B.S., M.S. and Ph.D. degrees from Tokyo University. Welcome Dr. Nagai!



For up-to-date information, please visit our **News** page at memphis.edu/physics/news/index.php or view this and past **Newsletters** at memphis.edu/physics/newsletters/index.php (including information on border art) or using the **QR Code** to the left.

For content-related questions, please contact Dr. G. Borstad at gustav.borstad@memphis.edu.