



Department of Physics & Materials Science

Summer 2022 Newsletter

Chair's Corner



Dear reader, it gives me great pleasure to be able to share with you a few of the recent news and events about our department and the amazing work that our faculty, staff, and students are doing. Our department continues to grow and push the boundaries in academic and research excellence. I am particularly proud of our students who have achieved numerous

successes despite the various challenges posed by the pandemic. I also enjoy connecting with our alum through our Alumni Spotlight Series. I invite you to explore our department's news and connect with us. I hope you enjoy the rest of summer. On behalf of our department, I wish you the very best.

Sincerely

Firouzeh Sabri, Professor-Chair

Welcome to Dr. Benjamin Keller!



We are pleased to announce the anticipated arrival of Dr. Benjamin Keller, who will be joining our department in August. He joins us from the Astronomisches Rechen-Institut at the University of Heidelberg and holds a Ph.D. in

Physics and Astronomy from McMaster University. His research explores how new approaches in applying observational insight and a careful examination of the underlying physical processes involved in stellar feedback can improve the fidelity of simulations of galaxy formation. Welcome and congratulations, Dr Keller!

DPMS Faculty Awards

Congratulations to **Drs. Xiao Shen** (top) and **Chenhui Peng** (bottom) for their efforts which have been recognized by the "Mentor Award" from the Graduate Student Association. This award recognizes administrative and faculty members who have shown tremendous commitment

to mentoring, advising, and supporting graduate students during the academic year.



Congratulations to Physics Graduates

We want to acknowledge our Spring 2022 undergrads: **Cullen Rossmeyssl, Tate Wyatt, Zachary Wyatt, Jesse Morrow, Jada Weber, and Autumn Jones.**

We also want to recognize our graduate students: **Dipesh Neupane, Ph.D.** (advisor Dr. Mishra), **Juan Chen, Ph.D.** (advisor Dr. Peng).

Undergraduate Student Awards

Congratulations to three DPMS undergraduate students for the following achievements:



J. Duncan

N. Nolen

C. Rossmeyssl

- **Joseph Duncan** for receiving the Highest Physics GPA Award as well as the Best Undergraduate Researcher Award, and Dr. Albert H. Woollett Scholarship in Physics
- **Nicholas Nolen** for receiving Dr. Robert Marchini Scholarship in Physics!
- **Cullen Rossmeyssl** for receiving the Chi Beta Phi Science Award and the 2022 Outstanding Physics Student Award!

Graduate Student Accolades

We also would like to acknowledge our graduate students for the following honors:

Bryson Krause for: 1st author on journal article "Nonlinear Strong Coupling by Second-Harmonic Generation Enhancement in Plasmonic Nanopatch Antennas." published in *Advanced Optical Materials* (impact factor 9.926) and receiving "Celebrate Student Success" Award.

Juan Chen for Provost's Program/Track Outstanding Student Award", GSA "20 under 35" Award, and for receiving "Celebrate Student Success" award.

Liyan Jacob for: Receiving the Physics Service Award

Aerogel Composite Samples Returned from ISSNL!



Phosphor-aerogel composite samples that had been flying for 6 months on MISSE were returned to Dr. Firouzeh Sabri's research team by Aegis.

The group traveled to Houston, and experienced exciting moments as they watched the de-integration of their samples. This represents a wonderful learning opportunity for our physics students Jordan Darling (graduate student) and Grayson Nelms (undergraduate student).

Dr. Pollard Receives NSF Grant



We are pleased to announce that Dr Shawn Pollard has been awarded an NSF-ERI grant titled "Compositionally modulated ferrimagnets for spin-orbitronic devices." Congratulations, Dr Pollard!



Dr. Jahan Receives Free Radical Research Grant

It is a pleasure to announce that Dr. M. Shah Jahan has received a grant from the West Cancer Foundation to investigate "Freeing the Radicals: Enabling patients to better understand the care they need, through knowledge of free radicals and their relation to cancer." Congratulations, Dr. Jahan!

Dr. Holley-Bockelmann delivers Lois McGlothlin Donaldson Endowed Lecture

On March 25, 2022, Dr. Kelly Holley-Bockelmann, Vanderbilt University, delivered the 6th annual Lois McGlothlin Donaldson Endowed Lecture in Physics. She described gravity and how the effects spread out through the entire universe as gravitational waves and the information they carry and explained the insight into the universe that Laser



Interferometer Gravity-Wave Observatories (LIGOs) reveal.

Alumni Spotlight

We continue to feature alumni of the UofM DPMS on our website, most recently Tim Howard (Right)



and Dr. Steve Allison (Left). To see these stories and either catch up with old friends or make new ones, please visit our [Alumni Spotlight page](#).

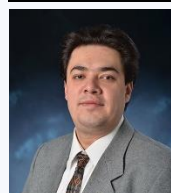
Faculty Spotlight: We have recently launched a Faculty Q&A Series and are excited to share the 1st in this series, an interview with Dr Samuel Mensah, discussing his journey in life and what led him to pursue physics. Thank you for making our department your professional home! [Interview with Dr. Samuel Mensah - YouTube](#)



Ice Cream Social Summer Fun Summer is here, and that gives us an excuse to have a get together outside with faculty and students while also mitigating the thermal effects of the Memphis summer with Ice Cream! Hopefully, these images induce good memories of your times as a student at the University of Memphis.



Dr. Muller-Sanchez Discusses Research on Local Television:



Dr. Francisco Muller Sanchez was recently interviewed by ABC24 Memphis regarding his research programs that utilize the recently-launched James Webb Space Telescope. Check out below for the full interview:

https://www.youtube.com/watch?v=q_dFnRZFkY

For content-related questions please contact Dr. G. Borstad at gustav.borstad@memphis.edu. More details on all news can be found at:

<https://www.memphis.edu/physics/news/index.php>

