

WAKE FOREST UNIVERSITY · DEPARTMENT OF PHYSICS

2023 Physics Alumni Newsletter

The complete web newsletter, collected from its original articles.

ARTICLE 1 OF 5

Homecoming Reception 2023

[View this article on the Wake Forest Physics website](#)

October 2023



The Physics Department faculty and staff invite you to our **Homecoming reception and demo show on Saturday, October 21**. We will join the Festival on the Quad again this year. We will have a table near the steps of Wait Chapel. Due to the duration of the event, many of the demonstrations will be continuous and

some will be “hands on”. The demonstrations are designed to be of interest to everyone including children. Please stop by, we would love to chat with you and have you check out the demos.

ARTICLE 2 OF 5

2023 Alumni Award

[View this article on the Wake Forest Physics website](#)

October 2023

In 2018 we implemented a new alumni award. The award is given to a Physics Department alumnus for exceptional achievements and/or service. The award is not limited to physics but covers all areas that our alumni excel in. This year the award is going to Jacob Kline.

Jacob Kline received his Bachelor's degree in 2001. He had a triple major in Physics, Mathematics, and Political Science. He won the Speas Award in Physics, the Jack Fleer award in Political Science, and an award for the top graduate in Mathematics. After spending some time at Harvard University, he worked at Bridgewater Associates in various positions for over eleven years and then started his own company, Dark Forest Technologies, where he is the CEO/CIO, directing the management of over a half billion dollars in investment funds spread over three private pooled investment vehicles.

If you can think of someone to nominate for next year, please send a letter to the Department Chair, Daniel Kim-Shapiro or email (shapiro@wfu.edu) describing why that person is a good candidate for this award. Please send nominations by 12/1/2023. Note that the award will have a modest monetary component.

Alumni News

Bharat Gummadi, class of 1998, says, "I am an interventional cardiologist in Jacksonville FL. Have been in Jacksonville for the last 20 years. I still enjoy coming back to North Carolina to visit friends and come watch football games with friends and family."

Zach Scofield, class of 2022, says, "I am a member of the Yonsei Observable Universe Group, which is led by Professor M. James Jee. I currently study weak-gravitational lensing using the James Webb Space Telescope (JWST), with my recent work being focused on JWST NIRCам point spread function modeling. I look forward to returning to the United States this winter for a short vacation and to present at the American Astronomical Society meeting in New Orleans."

And many other alumni have told us their news. Just go to our [Alumni Profile page](#). Please visit this page to see how people are doing. If you would like to submit your own profile and photo, please contact us. We would love to hear from you!

ARTICLE 3 OF 5

Recent Changes

[View this article on the Wake Forest Physics website](#)

Significant Changes Over the Past Year October 2023

The department has had great success in the past year. According to College Factual, the Physics Department now ranks 41 out of 226 colleges and universities in the US for our Bachelor of Science degree, second in North Carolina, and 30 out of 106 for our PhD program. With things trending in the right direction, we are continuously striving to provide the best education for our students.

ARTICLE 4 OF 5

Awards

[View this article on the Wake Forest Physics website](#)

Awards Received by Faculty, Staff and Students October 2023



Professor Martin Guthold was awarded the Kulynych Family Faculty Fellowship. This fellowship has a three-year term beginning July 1, 2023, and ending June 30, 2026. This and other fellowships recognize Wake Forest's best teacher-scholars. The Wake Forest Faculty Fellowship program is a program of financial support designed to honor the University's best teacher-scholars.



Oana Jurchescu

Professor Oana Jurchescu was awarded the 2022 George B. Pegram Prize from the Southeastern Section of the American Physics Society (SESAPS). The award is in recognition of her excellence in mentoring and in teaching physics in the Southeast US. The award citation reads:

For her exceptional mentorship of students in physics and service in the teaching of physics. Prof. Jurchescu has mentored multiple students on to physics careers, many of which have been recognized through the receipt of awards and fellowships of the highest caliber. This mentorship includes students both in and outside of her home institution and we also recognize her success in the mentoring and promotion of women and underrepresented students in physics. For her excellence in teaching, Prof. Jurchescu has been recognized multiple times by her home institution, at both the departmental and university levels

The following Awards were presented at our Annual Physics Department Awards Ceremony in May:



Timo Thonhauser received the *Excellence in Teaching Award*



Candace Ring received the Physics Department ***Outstanding Service Award***.

Leda Gao, Shohreh Gholizadeh Siahmazgi, and Wells Graham were co-recipients of the ***Outstanding Teaching Assistant Award***.

Haardik Pandeyl received the ***Outstanding Graduate Research Award***

Laxman Poudel received the ***Peer Mentor Award***.

Chao Shang and Arina Yu were co-recipients of the ***Speas Award***.

Eduardo Castellanos, Joe Cho, Cameron May, and Arina Yu were co-recipients of the ***Major Field Tests Achievement Awards***.

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Faculty Updates

[View this article on the Wake Forest Physics website](#)



Daniel Kim-Shapiro

This will now be my seventh year as Chair of Physics and most likely my penultimate year – my renewed contract was for two years which will end in 2025. As you can see from the news, we have a lot going on. Thankfully, the entire faculty is working hard to maintain excellence in our program and make it even better.

The lab is doing very well with graduate students Laxman Poudel and a new graduate student Thilini Karunaratna who just joined us. Ellie Alipour completed her PhD in April and now has a permanent job at Atrium Health in Charlotte. Stephen Baker (WFU PhD grad) is also working in the lab now as a research professor. We have a lot of projects going on with several external NIH grants covering topics from basic research on nitric oxide delivery to a Phase 3 clinical trial on using of Beet root juice as a treatment for peripheral artery disease.

My youngest son is now 2nd-year student at UC Santa Cruz (Go Banana Slugs), my middle son is a 3rd year at Reed College, and my oldest graduated from NC State. My wife is still working hard as a Pathologist. I do hope to see people at homecoming this year. Please reach out and let us know how you are doing.



Paul Anderson

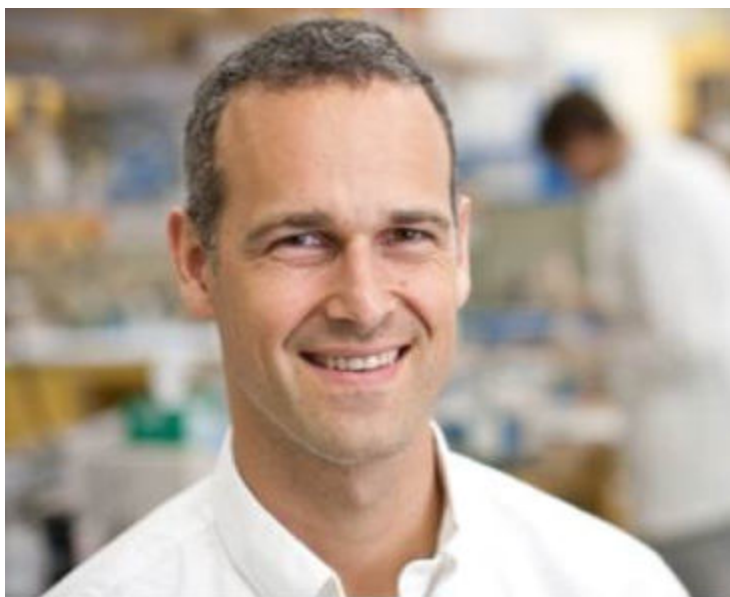
During the past year, I continued work with my research students and published a paper related to quantum effects in black hole spacetimes. My research group consisted of WFU undergraduates.

Catherine (Shuyu) Chen, Emily Foley, and Amanda Peake along with two graduate students, Shohreh Gholizadeh Siahmazgi and Ian Newsome. On July 1, 2023 I began two years of phased retirement. I am working half time for this period and will be fully retired on July 1, 2025. However, I plan to continue with research during my retirement.



George Holzwarth

George Holzwarth continues to explore the mechanisms used by particles like viruses to move through the fine pores in the mesh of cytoskeletal fibers in living cells, using fluorescence microscopy, single particle tracking, and machine learning. Undergraduates Kate Smith and Ryan Oglietti, as well as Jed Macosko (Physics) and Doug Lyles (Biochemistry, WFU School of Medicine), all collaborated on this work.



Jed Macosko

Both undergraduate researchers who were seniors in the G.Holzwarth/Macosko lab last year, R. Oglietti and K. Smith, are now attending or accepted to Wake Forest Medical School. Congratulations! Both Dr. Holzwarth and Dr. Macosko continue to publish papers with their undergraduate researchers and grad students from the Bowman Gray campus. Their latest manuscript is now under review. Dr. Macosko launched two new FYS courses this fall. Both have a fintech theme, which will hopefully attract business-minded students to the physics department. Macosko also is active with a college ranking website and, as can be imagined given the shake-up with US News & World Report's ranking system, has had many opportunities to speak to reporters about good and bad ways to use big data to rank universities. On the home front, Dr. Macosko's wife, Dr. Cecilie Macosko continues with her career in medicine. Also, Macosko and Dr. Guthold plan to defend their running titles (in their age group!) at a 5K/10K event this month!

Dr. Macosko always enjoys hearing from former students and recently has had the pleasure of learning about engagements being celebrated and new children being welcomed—such wonderful news from those who spent time in the Macosko, Holzwarth, and Guthold labs!



Rick Matthews

While I miss teaching since I retired, I enjoy spending time traveling and with my children and grandchildren. My grandkids range in age from 4 to 12, all fun ages.

Carolyn and I have done a bit of travel, hitting central Europe for a couple of weeks last summer, and looking forward to visiting Greece this year. Trips to the national parks out West have given me wonderful opportunities to indulge in my long-neglected hobby of photography.

I hope to see many of you at homecoming this year. We had great fun on the quad at last year's homecoming! Bring your little ones – and not so little ones – for the demo show!