Pitt State Mathematics and Physics Newsletter

Major Numbers:

The number of math majors is 30 undergraduate and 5 graduate students, There are 43 undergraduate computer science majors. The number of physics majors is 11 undergraduate and 2 graduate students. There are 6 graduate Material Science students.

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Pittsburg State University College of Arts and Sciences

News from the Chair

As you can see from the articles and highlights in this newsletter, we had an awesome year! Many of our events and activities had participation levels exceeding those before the pandemic.

 In October we hosted the 23rd PSU Math Honor Day with 71 Students from 14 high schools.

• The Mo-Kan Council of Teachers of Mathematics, an affiliate of the National Council of Teachers of Mathematics, returned to their regular meeting schedule with excellent attendance.

• The 54th Annual Math Relays had approximately 750 students from over 50 high schools participate. Mr. Alan Pommier took over the reins from Mrs. Terry Martin. With her guidance it was a smooth transition. Other faculty stepped up to take on additional roles as well. It was a huge success.

• Science Day was a huge success as well.



We had around 400 students participating in Science Day with nearly 170 from 13 area high schools competing in Physics Frolics.

 This year we included Physic and Computer Science in our annual awards banquet in April. We are so appreciative of all our benefactors who generously support our students with scholarships.

Our Computer Science program is going strong. We finished the spring semester with 48 students and had our inaugural group of students graduate. We had five Computer Science students graduate in May. That is incredible for a program that is only two years old! In addition, we were able to hire our first fulltime Computer Science faculty member.

Issue 2023-2024

Dr. Dinesh Jackson Samuel will be joining us in August. He is currently a Postdoctoral Researcher in the Iowa Institute of Hydraulic Research at the University of Iowa.

There have been a couple of changes in the status of faculty this school year. Dr. Yaping Liu has entered into a phased retirement agreement joining the rank of Mrs. Martin and Dr. Dobrowolski. We appreciate their willingness to stay on for a while as they transition to the next phase of their lives. In addition, I would like to congratulate Dr. Serif Uran on his promotion to University Professor. This is a welldeserved recognition of his accomplishments.

I hope my comments here highlight a few of the events you will read about in the remainder of this newsletter. As we share the news from within the department, we would love to hear from you as well. If you have any news about happenings in your life, please feel free to let us know so we can pass the word on to others. We would welcome a visit from you if you ever happen to be back in Pittsburg.



Join us on Facebook: Pittsburg State University Department of Physics and/or at Pitt State (Kansas) Math Alumni

Physics Professor Promoted to University Professor

Dr. Serif Uran was recently promoted to University Professor. This competitive rank is for seven years. According to the contract, "To be considered a candidate for University Professor a faculty member must demonstrate excellence in two of the three areas, and professional accomplishment in the third area of:

1. Teaching, 2. Research, Scholarship, and/or Creative Endeavor, 3. Community, Profes-



sional, and/or University Service." University Professors are eligible to reapply for the rank again. Congratulations, Dr. Uran!

Physics Participates in Science Day

On April 18, 2024, Physics participated along with Biology and Chemistry in the annual Science Day. High school students had the opportunity to participate in a series of challenging individual and team events designed to showcase their skill and knowledge in a fun and friendly environment. More information, including a list of winners can be found at <u>https://www.pittstate.edu/artsci/science-day/index.html</u>. Pictures below are from the event. Photo credits to Angelyn Hobson (paper towers photo) and Dr. Rebecca Butler.



Math Student Recognized

GET INVOLVED

Want to help students attend conferences? Contact Dr. Tim Flood (tflood@pittstate.edu) for information about supporting student travel. Double major (Mathematics and Computer Information Systems) Nate Parish was one of 16 to be recognized as a finalist for the 2024 Outstanding Senior Award. He also received an award for being a 2024 Outstanding Senior for the Kelce College of Business.

Physics Helps Campus and Community Experience Solar Eclipse

A solar eclipse swept across the country on April 8. Although not in the path of totality, Pittburg was close enough for a rare partial solar eclipse. In preparation for the event, a free informal show discussing the science behind eclipses was held at the L. Russell Kelce Planetarium. Then Physics faculty helped Campus Activities and Library Services host a viewing event for campus from 1:00-3:00 at Carnie Smith Stadium by setting up two telescopes with filters. (Photo credits: David Pearson, Ananda Jayawardhana, Rebecca Butler.)









From Physics alumna and the featured Gorilla in this newsletter, Jessica Clements, "Our home was on the path of totality for the 4/8/24 eclipse across the US. In the last 75 years, Vermont has had 'sunny weather' on three instances on April 8. We were so fortunate to have a front row ticket to the show and experience totality in our own backyard with our kids and their partners."



HIGHLIGHTS FROM PHYSICS (Contributed by Dr. Serif Uran)

- Our physics program helps people discover diverse career possibilities, supports physics educators, stimulates ideas, and communicates excitement and the importance of physics. We award alumni scholarships to most of our undergraduate students every year. Our program is smaller, but this allows us to focus on student success and help students realize their potential.
- PSU Science Day was a success! Many area-high school students gathered on campus to attend science competitions. The physics program contributed six different competitions: Astronomical Shuffle, Mars Colony, Paper Tower Competition, Mouse Trap, Rock Recognition and Physics Face-Off. (See pictures on page 2 and below on the left.)
- We graduated two undergraduates and three graduate students in the last academic year. One of the undergraduates (graduated in December) was awarded a full scholarship to the physics Ph.D. program at Florida State University. One of the graduate students was awarded a full scholarship to the physics Ph.D. program at the University of Kansas.
- The Pittsburg State local chapter of National Society of Physics Students (SPS) won "Notable Chapter Award" from the American Institute of Physics in December 2023. Our local chapter has been winning SPS awards almost every year in the last ten years.
- We added six new undergraduate physics students to our program in the last academic year.
- Our materials science master's program is growing. Seven international graduate students started our program in the last academic year. Eleven new students are admitted for Fall 2024 so far.
- Four new international physics graduate students have been accepted to the program starting in Fall 24 so far.



Upcoming Events

MAA MathFest, Indianapolis, IN, Aug 7-10, 2024

PSU High School Math Honor Day, Oct 3, 2024

PSU Homecoming, Oct 19, 2024

Joint Mathematics Meetings, Seattle, WA Jan 8-11, 2025

2024 Spring Semester Starts Jan 21, 2025

KSMAA, Emporia State University, Emporia, KS, TBA

PSU Math Relays, April 8, 2025

KME National Convention, TBA

Awards Banquet, April 27, 2025

PSU Mathematics and Physics on Facebook



If you are a Facebook user, there are two ways that you can stay connected with PSU Mathematics. One way is via a group with a focus on teaching called *Gorilla Math Teachers*. It is a great source of information including teaching ideas and job openings. It also provides a community for asking advice and questions related to teaching. The other way to stay connected is with the *Pitt State (Kansas) Math Alumni* group. Information related to the department and alumni is posted along with interesting mathematical tidbits as well as opportunities and job openings. Both of these groups are closed, so that anything posted is only available to be seen by others in the group. (Can you guess why the Kansas part was added to the name of the alumni group?) We would love to have you join either or both groups if you are interested. Just search for the name of the group within Facebook and put in a request to be added to the group.

It is also possible to stay connected with PSU Physics on Facebook. Just "like" <u>Pittsburg State University Department of Physics</u> to keep informed of happenings involving Physics at PSU.

Professor Recognized with Arts & Sciences Award

Each year the College of Arts and Sciences awards faculty for excellence in teaching, service, creative endeavor, and research. According to the general guidelines, "the intent of these awards is to recognize full-time faculty demonstrating evidence of significant accomplishments and excellence." Dr. Cynthia Huffman was selected as the 2024 recipient of the Excellence in Research award. This was the fifth time that she has been recognized with a college award - Excellence in Teaching (2003, 2016, 2023) and Excellence in Service (2019), Excellence in Research (2024).

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The next two pages contain a collection of pictures from the "archives". How many can you name and date? (Answers at bottom of next page.)

Thanks for the Support!

A big thanks for donations made to PSU in support of the Math Department and its programs. These generous gifts have been used to support travel by students and faculty to conferences, as well as student scholarships. Recently, \$43,000 was awarded to undergraduate Math majors, \$2,325 to graduate Math students, \$7,150 to **Computer Science** majors, and \$20,000 to Physics majors.













Picture 1: 2002 Math Softball - Keith Smeltz, Dr. Cynthia Huffman and son, George Kaemmerling, Carrie Denton Campbell, Ida Kaemmerling, Dr. Tim Flood and family.

Picture 2: Dr. Bruce Daniel, Chair of Physics Department, from the 1675 Kanza.

Picture 3: Dr. Don Hight and Dr. Elwayn Davis in the hallway in Yates in late 2011.

Picture 4: Math Faculty from the 1952 Kanza Yearbook. Back Row: R.W. Hart, W.H. Hill, L.E. Curtman, J.D. Haggard, and F.C. German. Seated are Helen Kriegsman and Dr. R.G. Smith, head of the department.

Picture 5: Physics Department from the 2014 Kanza. Chuck Blatchley, Rebecca Butler, Pawan Kahol, Serif Uran, Kyla Scarborough, David Kuehn, Benjamin Tayo.

Picture 6: J.A. Yates, M.S., head of the Department of Physical and Chemical Sciences and J.A.G. Shirk, M.S., head of the Department of Mathematics and Applied Mechanics, both from the 1923 Kanza.







KS Alpha Participates in KME Regional Convention

Kappa Mu Epsilon, national mathematics honor society, held a Regional Convention on April 19 - 20, 2024, in Springfield, Missouri. The tradition of PSU's KME Chapter Kansas Alpha being represented at KME conventions continued with Dr. Ananda Jayawardhana and Dr. Cynthia Huffman attending. Dr. Jayawardhana gave a presentation on a free statis-

tical software program, An Introduction to JASP, and Dr. Huffman led a workshop Can You Do Math Like an Egyptian? .

The PSU chapter of KME, which is called Kansas Alpha, has a long history going back to 1934 when we were the 3rd chapter in the country installed into KME. More than 2000 Pitt State students have been inducted into KME over the years.

Several faculty members have served national offices with KME, starting with J.A.G. Shirk, who was the second National President of KME and also served as Secretary. Dr. Ron G. Smith served as Vice-President (1957-1961) and Dr. Helen Kriegsman was Editor of the Pentagon journal (1965-71). Dr. J.D. Haggard was Historian (1963-1967). Dr. Harold Thomas served as Historian (1979-1985), President-Elect (1985-1989), and President (1989-1993). He received the most prestigious award granted by KME, the George R. Mach Distinguished Service Award, in 1997. Also, Dr. Thomas and Dr. Huffman each served as Regional Directors for 8 years, and Dr. Huffman served as Treasurer (2007-2015), Historian (2017-2021), and received the Mach Award in 2023. Dr. Leah Childers served as President-Elect (2017-2020) and Dr. Scott Thuong is currently President-Elect. In addition, Gorilla alumna Vanessa Peach Williams (Truman State University) serves as KME Social Media Director.









PSU Mathematics Colloquium Series

The Math Department has had a regular Colloquium Series since at least 1994. These lectures give the speakers an opportunity to share their research and the attendees a chance to gain new knowledge. To schedule a colloquium or for more information, contact Dr. Liu at yliu@pittstate.edu. The colloquia for the 2023-2024 academic year are listed below.

- Dr. Cynthia Huffman, PSU, Cambodia: Numbers, Geometry, and Zenith Passage, September 28, 2023
- Dr. Bobby Winters, PSU, Haskell, Category Theory, Monads, and Functional programming, but not necessarily in that order, November 28, 2023
- Dr. Bobby Winters, PSU, Arduino, Assembly Language, and Architecture, March 7, 2024
- Dr. Cynthia Huffman, PSU, Following Mathematical Footprints through the Loire Valley in France, March 21, 2024
- Dr. Ananda Jayawardhana, PSU, JASP and Easy to Use Free Statistical Software, March 28, 2024
- Prince Lathiya, PSU graduate student, Gröbner Bases & Elementary Matrices, April 16, 2024
- Andrew Day, PSU graduate student, Where do We Draw the Line with AI, April 25, 2024
- Aisha Ford, PSU graduate student, Wonders of Greek Mathematics, April 29, 2024



PSU Math Honor Day

The 2023 annual PSU Math Honor Day was held on October 6. Students and teachers from area high schools were treated to presentations by PSU faculty, a planetarium show, and a luncheon. The featured lunch speaker was Mr. Danny White, FSA, EA, MAAA (PSU Math MS and Math and Economics BS) Senior Consultant and Vice President at Gabriel, Roeder, Smith & Company, a national actuarial and benefits consulting company. Faculty presentations included *Russian Peasant Math* (Dr. Bobby Winters), *Mathmagic* (Dr. Scott Thuong), *Do Math Like an Egyptian* (Dr. Cynthia Huffman), and *Let's Play Set* (Dr. Tim Flood).

Sarah Dolence (Blue Valley Southwest) was recognized as an Outstanding Novice Teacher, while Kristen Joyal (Valley Center High) and Jeff Warstler (Riverton High School) were recognized with Outstanding Veteran Teacher awards.



KSMAA Meeting

Pitt State mathematics faculty continue to be very active in the Kansas Section of the Mathematical Association of America (KSMAA). Dr. Tim Flood is Historian and Dr. Scott Thuong is co-coordinator of the Kansas Collegiate Math Competition.

The 2024 KSMAA meeting was held at Washburn University in Topeka, KS on March 22-23. One team of three PSU students competed in the Kansas Collegiate Math Competition, held in conjunction with the KSMAA meeting. Students participating were Colby Fausett, Jonas Garibay, and Nate Parish. Graduate students Palakben Chaudhary and Prince Lathiya gave presentations on *Polynomial Rings Over Fields* and *Gröbner Bases*, respectively. Faculty giving presentations were Dr. Yaping Liu (*Determinants in Wonderland*) and Dr. Cynthia Huffman (*Ellipses on Easter Island*). Also in attendance at the meeting were Dr. Tim Flood and Dr. Scott Thuong.













Pictures from MOKAN meetings

MOKAN is an affiliated group of the National Council of Teachers of Mathematics (NCTM). It provides an opportunity for mathematics teachers and friends in southwest Missouri and southeast Kansas to network, share teaching ideas, and learn more mathematics. MOKAN meets three times per school year on the first Monday of October, February and April. Due to inclement weather, there was no April meeting this year.

Below is information about the speakers during the 2023-24 school year, along with pictures.

- October 2: Jennifer Malan, , *Two Tech Toys Tools: Adaptable activities for the math classroom*, Place: Yates Hall (catered Smittle House), Pittsburg
- February 5: Neal Smith, Geometric Series and Annuities, Place: Yates Hall (catered Mall Deli), Pittsburg



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Pictures from the 2023 Fall Picnic



















Pictures from the 2023 Christmas Party





PRESENT

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Physics alumnus, Dr. Femi Oluwafemi, was on campus for a presentation on Friday October 27, 2023. Dr. Oluwafemi graduated from Pittsburg State University in 2002. He is currently Senior Director and Principal Engineer for the Intel Corporation. He was on campus as part of a Career Talk program sponsored by the PSU African Students' Association & Alumni, with the theme Navigating Success: Unveiling Pathways to a Fulfilling Career Journey.

Pictures from the 2024 Honor Banquet



























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More Pictures from the 2024 Honor Banquet













































PSU Math Relays Continues

The 54th annual PSU Math Relays was held on April 9. Around 750 students visited the PSU campus to participate. The competition started in 1968 when math faculty, including Don Hight, Jerry Stein, and Bryan Sperry, came up with the idea of a math competition modeled after a track meet. The event gets Pitt State faculty, retired faculty, faculty spouses, alumni, and graduate and undergraduate students involved in welcoming the high school students to campus for a day filled with short individual events and some team relay events. It is also exciting that many of the high school teachers are also Gorillas and can share with their students where they went to college. Mr. Alan Pommier is assuming the role of organizer, along with Mrs. Suzanne Lindsay, due to the upcoming retirement of Mrs. Terry Martin, who has organized the event for many years.









Clockwise from upper left:

High school students preparing to take an exam.

Gorilla math alumni and former roommates, Timothy McVey and Luke Henke. Tim teaches at Auburn-Washburn High School while Luke teaches at Columbus High School.

Three PSU math students, Palak Chaudhary, Dharani Maddi, and Christia-Rose Gorges helping administer an exam.

Gorilla math alumna and Girard High School math teacher Christen Jackson recording medal winners.

Math Professor Organizes Conference

Dr. Ananda Jayawardhana received a Rotary grant and chaired the planning committee for the Regional Human Trafficking and Exploitation Conference. According to the flyer, "This conference is designed to educate and raise awareness about the impact of human trafficking and exploitation in this region of the United States. Throughout the conference, participants will gain understanding about prevention, identification, intervention, and recovery for victims." Area law enforcement officers, social workers, school counselors, APRNs/Nurses, and nurses were able to earn continuing education credit by attending the conference on September 20, 2023.



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Graduation Pictures

Photo Credits: Rebecca Butler, Ananda Jayawardhana, Serif Uran, and Bobby Winters



Pictures of Physics Students

Left: Physics grad student, Kirandeep, presented her research to the department on May 9. Right: Physics students at the Honor Banquet.





Faculty Updates - Math



Dr. Karla Childs

In the Mathematics Department we held our 23rd PSU Math Honor Day. PSU Math alum, Danny White, Regional Director and Actuary with GRS Consulting was our keynote speaker. Save the date for our next Math Honor Day – Thursday, Oct.3, 2024.

This year I was honored to serve as new faculty mentor for Alan Pommier. I got to know Alan better in addition to helping him get acclimated at PSU. My job was easy because Alan is a PSU Math alum and was a Graduate Teaching Assistant while working on his Masters degree with us.

I saved the best for last. My son, Andrew, was invited and attended the Academy Awards as co-producer of a film nominated for best animated feature film. The film didn't win the Oscar but it was a huge moment for him in his career. My granddaughter Vivian turned 4. Stop by my office anytime and I will show you a few pictures!

I'm looking forward to an awesome 2024-2025 academic year.



Dr. Ananda Jayawardhana

I have a new publication: S. Carlson, A. A. Jayawardhana, and D. Miniel (2024), "They Don't Read Very Well: A Study of the Reading Comprehension Skills of University English Majors" March 2024, The CEA Critic, John Hopkins University Press.

I served on several committees:

- First VP PSU/KNEA January-June 2024;
- Assistant Governor of Rotary District 6110;
- Member of the DEI Team and Rotarians Against Slavery, District 6110;
- Chapter representative Mu Sigma Rho Statistics Honorary Society;
- Member faculty Senate Executive Committee; and

I spent a month with family in Sri Lanka last summer.

Mrs. Terry Martin



Well, I no longer have any Math Relays news to report. Alan Pommier took over as director for spring of 2024, and did a fantastic job!

The 2024-2025 school year will be my third and final year of phased retirement. I will totally miss the college students and my co-workers.

I continue to serve as faculty advisor for Campus Christians. I also continue to serve as a board member for Countryside Christian School, which is a pre-school.



Dr. Cynthia Huffman

During the 2023-2024 school year, as is expected for professors, I split my work time among teaching, scholarly activity, and service. Teaching continues to be my favorite. I try to make learning mathematics fun and relevant for my students. It is very rewarding to hear students say that they did not realize how hard they were working since they were enjoying it so much. It was nice to get back in the classroom in the fall after being away from campus on sabbatical during the Spring 2023 semester.

In 2023, I had 10 peer-reviewed publications in various stages: 6 which appeared, 3 accepted, and 1 submitted. Five of these were solo publications and five were joint. These included 3 book chapters in Birkhauser publications and a book chapter in an MAA publica-

tion, 4 scholarly articles, and 2 expository articles. In addition, revisions were made to 40 online articles and I discovered two videos of mine (1 solo and 1 joint) which had been published. I had 10 presentations in 2023 at various places: an international venue via Zoom (by invitation), an international conference (accepted), another international conference (accepted and given by my co-author), a national conference, a state conference, a Sabbatical Showcase on campus, and 2 PSU Math Colloquia. My total number of publications is now 79 and number of presentation is 346. It was nice to have my scholarly activity recognized with the 2024 College of Arts & Sciences Excellence in Research award.

I love learning new things. Since the last newsletter, I participated in study trips to France and Cambodia. In France we explored sites of megaliths and then chateaus in the Loire Valley before ending up at Versailles. It was so exciting to be walking in the footsteps of mathematicians such as Leonardo da Vinci (who spent the last three years of his life in a chateau in France) and Emilie du Chatelet, who merged the ideas of Descartes, Newton, and Leibniz. This coming summer I plan to travel to Germany to participate in a symposium on the trivium and quadrivium at a medieval library. I'm the first mathematician to be invited to participate in this symposium. Later I anticipate traveling to Peru to study the mathematics of quipus and to visit Machu Picchu.

A few years ago I had a grant to write some Open Educational Resource (OER) materials. Since then I have continued writing OER materials and publishing them on PSU's <u>Digital Commons</u> and more recently, the international <u>OER Commons</u> repository. To date, the 35+ activities have had over 10,850 downloads in 137countries. I am in the process of writing more activities based on my sabbatical research.

Service-wise at the national level, I am the Chief Editor of the Board of Editors for the MAA Classroom Resource Materials book series, having served on the board of editors an unprecedented 14 years (the typical time is 6 years). I also was re-elected for a third term as the Secretary/Treasurer/Newsletter Editor for the MAA Special Interest Group on History of Math. In addition, I was invited to serve on the MAA Halmos-Ford Expository Writing Award committee. Closer to home, I serve as an eLearning Academy online course reviewer, an online teaching College Coach, and the editor of this newsletter, along with being on various other committees.

I sure enjoy hearing what all of our alumni are doing, whether it be through Facebook, LinkedIn, or some other means (like ballgames!). It is wonderful to hear how well so many of our alumni are doing in their careers and personal lives. Please continue to keep in touch! Once a Gorilla, Always a Gorilla!









Dr. Yaping Liu

After nearly 30 years of full time teaching at Pittsburg State University, I am ready to take the next step in my career. I'll be on a 50% 3-year phased retirement starting the fall of 2024. This means that I'll be teaching only in the spring semester for the next three years. I have to give up some of my service roles I have held for many years, including the Colloquium Coordinator and the departmental Graduate Coordinator. I also have to give up Mathematical Modeling, a class that I have taught and loved to teach for 28 years. On the other hand, it will allow me to do more travel and to spend

more time with my grandchildren.

In June this year, I will again be a table leader in AP reading, managing about 10 readers in reading AP calculus. In July, I'll teach Elementary Statistics online, as usual. In the next few spring semesters, I hope to have my regular teaching responsibilities that consist of Calculus II, Differential Equations, Senior Seminar, and Introduction to Stochastic Processes.

That's all for now. Wish everyone a wonderful 2024/2025 academic year!



Mr. David Newcomb

During this last school year, I was very busy with the variety of classes which I taught: Mathematics for Education I, Calculus I, and Mathematics Education Seminar. In the spring semester I teach Manipulatives, Technology in Secondary Education, and the PSU Dual Credit College Algebra class at Colgan High School. In addition, I taught a section of Computer Information Systems and a section of Quantitative Decision Making for the Kelce College of Business both semesters.

So, the breaks during the school year, especially the summer break, are very enjoyable. My wife and I have continued some of our usual spring/summer activities. We have already worked on a few lawn mowers for ourselves and relatives. We've gotten some much needed rain recently, so the pond is finally back up to what used to be its usual level, after two years of not enough rain. And the garden looks very good with green beans, corn, tomatoes, peppers, squash, and melons. The new grape plants are looking good, also. We haven't been able to go camping yet, but we'll take some camping trips this summer and fall. We do have a new great grandbaby, so Demi makes four for us.

I hope students and faculty have a wonderful 2024/2025 academic year at Pitt State.

Best wishes to all.



Mr. Alan Pommier

Howdy all! My name is Alan Pommier. This is my first year teaching at Pitt State, so I'd like to take a moment to introduce myself. I am a native of the area, so you may know me already – but for those of you who don't, I'll begin by saying that I grew up in Franklin, KS and went to school in Arma. Go Vikings! From there, I came to PSU and earned

my Bachelor of Science in Secondary Education of Mathematics in 2003. I stayed on as a graduate assistant and earned my Master of Mathematics in 2005. My first job out of high school was taking over for my retiring high school math teacher at my old high school. I taught in Arma for seven years before I moved on to Labette Community College in Parsons. I taught there for the next twelve years, and I am now starting here at Pitt State. Ever since I was a teenager, I've dreamed of teaching at PSU, and I can't believe I have been given that opportunity. It truly is a dream come true!

With the new job comes a LOT of changes. It has definitely been a learning experience. One of the primary duties of my position is to serve as mentor and guide to our future math teachers. I am humbled that I am able to work with our students to help them become the best teachers in the area. My group has been great this year, and I'm looking forward to seeing where their careers will take them. I'm also excited to help grow the program so that we can continue to foster the love and passion of our educators!

This spring, I encountered one of the biggest tasks of my career. I was placed in charge of coordinating the PSU Math Relays. We hosted over 50 schools for the event, and I had a ton of help from everyone in the department. It really does take a village, and I had a great team. From all accounts, everything went very well. It was such an amazing experience, and I can't wait to get started for next year.

Overall, I am extremely grateful that I am able to be a Gorilla again. I am thankful to all of my colleagues, mentors, and former professors who advocated for me, and I am excited to see where the journey takes me.



Dr. Scott Thuong

In August, I travelled to Seoul, Korea to give an invited lecture at Sejong University over my research.

It was nice to see my Ph.D. adviser and mentor Kyung-Bai Lee, as well as all of his former students (my mathematical brothers).

I had not seen him since his retirement in 2017, so it was nice to catch up.

Then in April, I presented in the topology seminar at Oklahoma State, at the invitation of my former student who is now having success in the Ph.D. Program there.

I continue in my national service roles as Kappa Mu Epsilon president-elect and cocoordinator of the Kansas Collegiate Math Competition. Our team performed very well this year, and with many returning mathletes, I anticipate even better results next year!

With the upcoming retirement of Dr. Liu, I will also be coordinating department colloquiums and master's comprehensive exams. The Ping Pong Club had a quiet year, but as faculty adviser, I hope to get it more active in the upcoming school year.



Dr. Thuong in a billiard club in Seoul, South Korea with his Ph.D. advisor. It was a rare occurrence for all 3 of Dr. Lee's Ph.D. students to be together in the same room. <u>https://</u>

<u>www.genealogy.math.ndsu.nodak.edu/</u> <u>id.php?id=7051</u>. Dr. Lee is on the left and then his students are in order of increasing age from the left to right.



Dr. Bobby Winters

From June to January, Bobby will be transitioning from administration back to the world of goodness and light. He is looking forward to being back with the students after spending the last 18 years in administration.

Faculty Updates - Physics



Dr. Serif Uran

Dr. Uran taught his regular classes each semester; adopted OER OpenStax textbooks for both College Physics I and Engineering Physics II. He also introduced weekly "Discussions" on Canvas in his College Physics I class, in addition to updating course content for his upper level and graduate level physics classes. He continues to serve as the Editor and Board member for *The Midwest Quarterly* a journal of

contemporary thought contents. The board oversees and decides on critical aspects of journal activity such as subscriptions and pricing.

He served on university service committees, CAS Faculty Excellence Awards Committee, master's thesis committees and PSU Undergraduate/Research Colloquium as a poster judge. He also attended various seminars at the PSU Center for Teaching, Learning and Technology and the 2nd International Emerging Materials and Technologies (ICEMT-2024) Conference at the Tyler Research Center. Lastly, he participated in Camp Academic Publications at the PSU Axe library in mid-May.

Dr. Uran has been serving as the physics program coordinator for the last six years tackling things like course scheduling, student recruitment events, course equivalency, assigning scholarships, application for Educational Opportunity Fund (EOF), meeting with prospective new/transfer students. He is also the advisor for Society of Physics Students (SPS) and graduate coordinator for physics. He was promoted to University Professor in Fall 2023.

Dr. Uran worked with Garrett Shouse on his senior research project studying graphite thermal evaporation on glass substrates. He currently collaborates with Dr. Zoran Petrovic on electrical properties of soybean polyurethanes filled with conducting and non-conducting fillers. They are in the process of buying, testing equipment, and writing a grant application.

Alumni Highlight Where we "brag" on one of our former students!

The featured Gorilla in this edition of the department newsletter is Jessica Clements. Jessica is an Imaging Physicist and Radiation Safety Officer. She was born in Wichita and then her family moved to Pittsburg when she was a toddler. She earned a BS in Physics in 2002 at PSU and a MS in Nuclear Engineering (medical physics) at the University of Florida in Gainesville in 2005.

Jessica took her first job in Environmental Health and Safety at UF just before graduation and has since worked at major healthcare systems in the Dallas Fort Worth area, as the chief for all of Southern California Kaiser Permanente based in the Los Angeles area and now, she's at the University of Vermont Medical Center in the Burlington, VT area.

Her recognitions include the 2017 PSU Kenneth Bateman Outstanding Alumni award, a Fellow of the American Association of Physicists in Medicine in 2018, and a Fellow of the American College of Radiology in 2023. She is certified by the American Board of Radiology in Diagnostic Medical Physics (2008) and Nuclear Medical Physics (2011).

When asked about using math/physics/problemsolving in her work, Jessica answered, "Every day! Lucky for me, the most complicated math I use most days is a first order differential equation for radioactive decay. The profession of medical physics applies concepts of physics such as photon interactions with matter (x-rays in people) along with radiation biology (tissue damage -sometimes intentional to kill cancer or for general protection from excessive radiation). My training in medical physics has basically allowed me to be a complex problem solver from topics such as causes for unusual artifacts in medical images, to determining how to treat patients with radioactive materials, to determining the best x-ray equipment to purchase for imaging millions of patients." She and her husband met at the Langdon Lane preschool when they were 3. His family built a home next door to her family's home in Chicopee when they were about 10. They attended PMS and PHS together and even enrolled in a PSU physics course in the summer before their senior year of high school (astronomy with Shoburg). They also took meteorology with Dr.



L to R: Jessica, Evan, Dylan and Jake Clements

Shoburg during their senior year. They were married during their freshman year at PSU, and have two sons, Dylan (25) and Evan (20) who both attend the University of Vermont. Jessica has lots of hobbies! Gardening, movies, making glass mosaics, she's taking a woodworking class now to make a Shaker table, loves to travel, bake, cook, and of course spend time with her husband and kids. She attends the 'University of You Tube' or signs up for classes anytime she wants to learn something new, which is pretty much all the time.

According to Jessica, "Some of my fondest memories are from my time at PSU. I benefited tremendously from excellent teachers, small class sizes, and fun research opportunities in the NSF REU summer program. Now, I have the pleasure of working with several medical imaging modalities and have focused primarily in nuclear medicine in recent years. Nuclear medicine is going through a renaissance – we use what are called theranostic pairs – radiopharmaceuticals with both an imaging (diagnostic) and therapeutic element. Our department administers several Lu-177 therapeutics and Y-90 microspheres. We are also participating in a clinical trial using Ho-166 microspheres this summer. As a medical physicist and radiation safety officer, I help doctors determine treatment plans (activity of radiation

to administer) and ensure safe and compliant treatments. Several of these therapies are working really, really well for patients."

> Jessica Clements at the International Atomic Energy Agency / United Nations in Vienna, Austria

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