

TOP STORY: CELEBRATING 50 YEARS AT CSU OF JEARL WALKER AND HIS SIGMA PI SIGMA HONORARY MEMBERSHIP

As CSU celebrates 50 years of service (YES! 50 YEARS!) by our very own Dr. Jearl Walker (a.k.a Jearl) the Physics Newsletter wanted to share some pictures and reflections about the professor who deeply affected generations of students at CSU and beyond.

Jearl’s contributions to physics at the national and international level have been recognized by inducting him the Honorary Membership of the Sigma Pi Sigma, Physics Honor Society. Jearl was elected to join a distinguished list of honorary members that includes Mildred Dresselhaus, S. James Gates, Jr., Vera Ruben, Jocelyn Bell Burnell, John Mather, Linus Pauling, Eric Cornell.

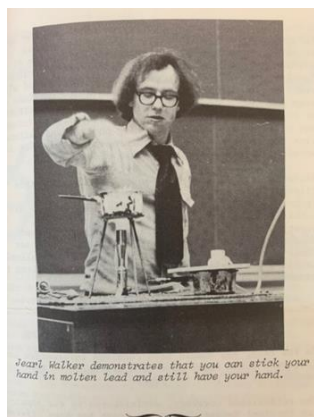
The Sigma Pi Sigma Honorary Membership was bestowed on Jearl by SPS and SIGMA Pi SIGMA Director, Dr. Brad Conrad on Mar 31, 2023 (For more details read Sigma Pi Sigma Induction story). The official citation of the Honorary Membership reads “... *in recognition*

*of his many years of supporting countless students across many countries through hundreds of articles and presentations, his seminal contributions to introductory physics courses, and defining how physics is the clockwork of universe to generations students. Dr. Jearl Walker is a pillar of Sigma Pi Sigma, which upholds the ideals of the society.”*



*From 2023 Sigma Pi Sigma Induction program:* Dr. Walker is a renowned physics professor, legendary physics educator and popularizer with a national and an international prominence, and the author of a leading introductory physics textbook. CSU has been extremely lucky to have Jearl, as he is known, as an educator and mentor to our students and professors alike for the last 50 years!

Jearl's classes at CSU have inspired generations of Northeast Ohioans to learn physics, with many of his students going on to excel in the subject as they pursued an impressive array of professions. In fact, the 2019 CSU alumni survey found that Jearl Walker was ranked as the professor with the highest impact (by far) among ALL the faculty since CSU's founding in 1964. It has become a norm these days to have a student in his classroom whose parents AND grandparents were taught by Jearl.



Jearl is the author of the seminal *Flying Circus of Physics* book that explains a thousand everyday physics phenomena encountered by people in their everyday life and provides detailed references for more in-depth explorations for those who want them. The book was first published in 1975, sold more than 100,000 copies, has been translated into more than 12 languages, and is often considered “a cult classic”. A second edition of the book came out in 2006.

Based on the book, Jearl created *Flying Circus* talk, which he toured throughout the U.S. and Canada for 16 years. On these tours Jearl introduced a variety of physics stunts such as laying on bed-of-nails, dipping his hand into molten lead (see 1978 picture on the previous page), walking-on-hot-coals, running across a cornstarch pool, and pouring liquid nitrogen into his mouth to countless physics teachers and students. The *Flying Circus* talk led first to a national PBS television series called *Kinetic Carnival*, which landed him a local Emmy award, then to 11 years of Canadian weekly radio show “*Quirks and Quarks*” and, later, to a “*Daily Planet*” show the Discovery Channel Canada. He even performed on “*The Tonight Show*” with Johnny Carson in 1987. In addition, Jearl wrote 152 articles for “*The Amateur Scientist*” section of the *Scientific American* magazine (with worldwide readership of over 2 million readers each month) over the period of 13 years. In recent years, Jearl has been creating a CSU video series (already 6 seasons) on *The Flying Circus of Physics*, posted on YouTube and advertised on Twitter to bring physics to the masses.

Jearl also is known as the author who, since 1990, has revised and edited the *Fundamentals of Physics* textbook by David Halliday and Robert Resnick, leading to the textbook being known as Halliday, Resnick, and Walker. Since Jearl became the author of the textbook, nine editions of the book have been published and one million copies of it sold in North America. The textbook has been translated into 18 languages with an estimated three to four million copies sold worldwide. It is currently one of the leading introductory textbooks worldwide. In 2002, APS named the textbook as the most outstanding introductory physics text of the 20th century.

Locally at CSU, Jearl has been a continuous inspiration not only to numerous physics majors but to tens of thousands of students majoring in various disciplines. He has been an ardent supporter of the SPS and Sigma Pi Sigma chapters at CSU and a generous contributor to every PhysCon fundraiser. Jearl became a member of Sigma Pi Sigma in 2018 and has since honored each crop of new CSU inductees by reading them the induction charge at the induction ceremony. In the last several years he has also supported students financially through the Jearl Walker scholarship, which provides a \$2000 yearly scholarship to all physics juniors and seniors at CSU.

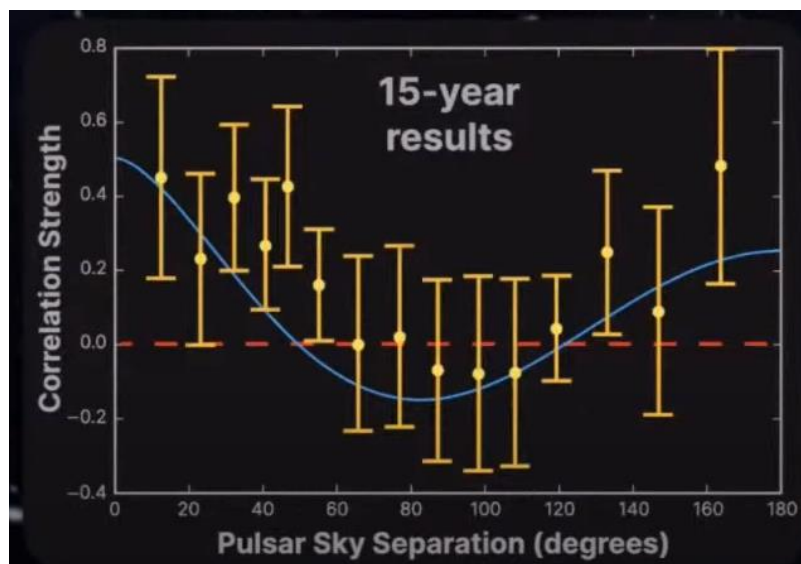
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CSU ALUMNI INTERNATIONAL HIGHLIGHTS: CSU ALUM JOSEPH GLASER IS A PART OF NANOGrAV TEAM THAT JUST ANNOUNCED DISCOVERY OF BACKGROUND GRAVIATIONAL WAVE SIGNAL



On June 29<sup>th</sup> NANOGrav announced the results of their 15 Years data set! Using Pulsars within our Milky Way Galaxy, NANOGrav fashioned a Gravitational Wave Antenna to uncover the background "hum" of Gravitational Waves. CSU Alum Dr. Joseph Glaser, (BS Physics Honors & BS Mathematics, 2014) is part of this exciting team, providing key computational expertise.

Pulsars are a type of neutron star, the ultra-dense substances left behind after a star dies. These Pulsars spin rapidly, generating consistent radio waves in steady pulses. These pulses can be measured from earth and due to their consistent signature, can be used as clocks. According to the General Theory of Relativity, low-frequency gravitational waves could change the time it takes for these signals to arrive. Taking a pair of these pulsars, and measuring the difference in arrival time between them helps uncover the shape of the signal that distorts the pulses. By comparing the measurements of 68 pulsars in our galaxy over 15 years, they have uncovered evidence to support the Gravitational Wave Background Signal, which is likely caused by binary supermassive black holes formed from merging galaxies. (Fig1, Blue Line Proposed Signal, Yellow Bar Measured Results between Pulsars Pairs.)



Congratulations go out to all members of the NANOGrav for this incredible discovery and particularly to Joseph and we look forward to the exciting opportunities and research these findings create!

For more information, you can watch the announcement and presentation on [YouTube](#).



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## CSU ALUMNI INTERNATIONAL HIGHLIGHTS: CSU ALUM JUSTIN FLAHERTY REFLECTS ON EXPERIMENTS FROM THE SOUTH POLE!

Justin Flaherty, CSU Physics Honors ('16) and Physics MS ('18) alum is currently a physics PhD student at the Ohio State University. He was recently sent to the Antarctic for his Ph.D. research. Below is a quick note from Justin about this unique and exciting experience in one of the most remote places in the world!



"I'm a fifth-year Ph.D. student working under Professor Amy Connolly in the Center for Cosmology and Astroparticle Physics (CCAPP) at the Ohio State University, where we research ultra-high energy neutrinos from extra-galactic sources. I am part of two major collaborations that Justin Flaherty in the Antarctic 2search for neutrinos using radio: The Payload for Ultra-high Energy Observations (PUEO) and The Askaryan Radio Array (ARA). Both experiments are based in Antarctica, where the ice is useful for our detection methods. PUEO is a balloon-based experiment that will fly over the continent for about a month in late 2024 to observe neutrinos in the energy range of  $10^{18}$  to  $10^{21}$  eV, whereas ARA is an in-ice experiment at the South Pole that looks for neutrinos year-round in the range of  $10^{18}$  to  $10^{20}$  eV. I was lucky enough to be sent to the Amundsen-Scott South Pole Station in January of 2023 to perform maintenance on



ARA, where I had to physically dig up two of our detectors and attempt to repair them at the IceCube Lab. In addition to the repairs, I conducted calibration measurements by setting up a radio pulser at different locations around the stations, up to five miles away from South Pole Station, in order to test the sensitivity and range of our detectors. Outside of my work, I was able to spend time exploring South Pole Station as well as McMurdo Station, ranging from the tunnels beneath the South Pole to Observation Hill overlooking McMurdo Station. I plan to continue working on these projects after getting my doctorate, which will hopefully lead me back to the beautiful continent of Antarctica."

Justin, thank you for sharing this update with us and we are looking forward to hearing more about your research with PEUO and ARA in the future.



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## CSU NEWS: 2023 SIGMA PI SIGMA INDUCTION AND SPECIAL RECOGNITION OF JEARL WALKER

On March 31, 2023 our Society of Physics Students (SPS) chapter held a Sigma Pi Sigma ( $\Sigma\Pi\Sigma$ ) induction ceremony with a large 2023 inductee class consisting of graduating student and SPS vice-president George Tomaras '23 (starting a PhD in AMO Physics at Rice University, Houston TX), and six alumni. The alumni list included: Dr. Prasenjit Bose '12 (Staff Software Research Scientist, Intel Corporation, Portland OR), Dr. Phil Dee '13 (Postdoctoral Associate, University of Florida, Gainesville FL), Kaitlin Vandemark '13 (CAPEX and Indirect Category Manager, North American Transformer, Youngstown OH), Hannah Shuman Dee '14 (Director of Client Solutions, Integrity Laboratories, Knoxville, TN), Dr. Joseph Glaser '14 (Scientific Computing Specialist, NANOGrav, West Virginia University, Morgantown WV), Christian Gunder '17 (Fermentation Development Engineer, Meati, Boulder CO). This was 4<sup>th</sup>  $\Sigma\Pi\Sigma$  induction ceremony since the revival of CSU's  $\Sigma\Pi\Sigma$  chapter in 2018 (our chapter was dormant for almost 46 years before that). The induction event this year was very special as it included bestowing the Honorary  $\Sigma\Pi\Sigma$  Membership (the highest  $\Sigma\Pi\Sigma$  honor) on Jearl Walker with help from SPS Director, Dr. Brad Conrad.



$\Sigma\Pi\Sigma$  is the Physics Honor Society which “exists to honor outstanding scholarship in physics and astronomy; to encourage interest in physics and astronomy among students at all levels; to promote an attitude of service of its members towards their fellow students, colleagues, and the public; to provide a fellowship of persons who have excelled in physics and astronomy.” Every year we induct the very top of the current physics class and program’s alumni and friends from recent and not-that recent years who have significantly contributed to our physics department, to physics scholarship, to physics fellowship, to physics general outreach and service. We believe that strong  $\Sigma\Pi\Sigma$  chapter helps to build bridges between our department, current students, and alumni from different walks of life. Different generations of alumni in multitude of professions, current and emeritus faculty, and students assembled at the induction event might not know each other well, but they all have a common bond in our physics department. This bond creates an amazing synergy and atmosphere in the room not only provokes the exchange of ideas, many laughs, and jokes, but also leads to real job opportunities for current students and to service/fellowship opportunities for the alumni, which in turn strengthens the department.

The induction event hosted about 60 people (students, alumni, faculty, and administration) and took place in the ballroom of the Student Center at CSU. It was the evening of celebration of 2023 student awards and achievements, recognition of honorary alumni who contributed heavily to the department, an induction of seven new  $\Sigma\Pi\Sigma$  members, and celebration of Dr. Jearl Walker, who received the Honorary  $\Sigma\Pi\Sigma$  membership.

The evening started with a reception during which guests had a chance to meet each other and explore a poster collection about SPS, Physics Department, CSU’s REU and 17 Physics Day posters that highlighted yearly departmental outreach event for middle and high school students. The opening remarks by Dr. Streletzky started the official portion of the evening. After welcoming the guests, Dr. Streletzky briefly talked about the national SPS and the history of the CSU’s SPS chapter showing pictures of the chapter leadership from the past (as far as back as 1971). Then Patrick Herron (SPS President) and Jordan Miller (SPS VP) with some help from Dr. Streletzky discussed the CSU’s SPS chapter achievements in the past year which included on-campus events such Physics Olympics and



Physics Jeopardy, student conference travel, student publications and a student led “Physics Fridays” outreach program that in 2023 celebrated 12 years of operation in local Cleveland area schools.



In the next part of the program dedicated to Sigma Pi Sigma, Dr. Streletzky introduced the special guest of the evening, the Director of the SPS and Sigma Pi Sigma, Dr. Brad Conrad. Dr. Conrad told the audience about the mission, the history, and four pillars of the  $\Sigma\Pi\Sigma$ , the Physics Honor Society. This was followed by Dr. Streletzky talking about CSU’s chapter of  $\Sigma\Pi\Sigma$ , its own history including participation of CSU students in the Physics Congresses (PhysCons) organized by  $\Sigma\Pi\Sigma$ . Over the recent years CSU delegations went to the PhysCons of 2016, 2019, and 2022 supported by generous donations of CSU alumni and friends. In this part of the program,

CSU students Patrick Herron, Jordan Miller, George Tomaras, Collin Douglas, and Jacob Forester gave a detailed report on their attendance of the Centennial Physics Congress (2022 PhysCon) in Washington DC. Students described in detail their PhysCon participation, the huge impact of the conference on their education and career plans and thanked the donors for supporting their trip to PhysCon 22.



The formal 2023  $\Sigma\Pi\Sigma$  Induction Ceremony followed with Dr. Conrad describing the symbolism of  $\Sigma\Pi\Sigma$ ’s insignia and the Red Book. Dr. Streletzky then introduced every 2023 inductee and inviting them to come up to the podium to sign the Red Book one by one. Each inductee was gifted a pin, a pen, and a



membership card that signifies their lifetime membership at  $\Sigma\Pi\Sigma$ . Then, following CSU tradition, the words of the Charge to New  $\Sigma\Pi\Sigma$  Members were read by Dr. Jearl Walker to the entire group.

In the next part of the ceremony, Dr. Fodor, the chair of the physics department, highlighted the state of the program and some of the recent achievements of the department which included faculty promotions and hire, renewal of Soft Matter REU at CSU, publications with undergraduate students, CSU student admittances to REU and grad schools, and student awards, including the Undergraduate Teaching Assistant Award. Dr. Fodor then thanked alumni and friends of the department for their donations. This portion of the evening was followed by presenting alumni-honorary guests who made significant contribution during CSU’s 2023 Giving Day with personal CSU/Physics Dept gifts.

The highlight and the concluding part of the ceremony was very special and unique: Dr. Jearl Walker was bestowed with the Honorary  $\Sigma\Pi\Sigma$  Membership. For his contributions on the national and



international level, Jearl was elected to join the distinguished list of honorary members that includes Mildred Dresselhaus, S. James Gates, Jr., Vera Ruben, Jocelyn Bell Burnell, John Mather, Linus Pauling, and Eric Cornell. Here is the official citation: *"... in recognition of his many years of supporting countless students across many countries through hundreds of articles and presentations, his seminal contributions to introductory physics courses, and defining how physics is the clockwork of universe to generations students. Dr. Jearl Walker is a pillar of Sigma Pi Sigma, which upholds the ideals of the society."*



This part of the ceremony included a short presentation about Jearl's contribution, watching an excerpt of Jearl's interview with CSU's YouTube channel, a clip of his appearance on the "The Tonight Show with Johnny Carson", and several video messages from Jearl's former students.

The guests were then invited for group pictures and served a buffet dinner which stimulated many conversations and networking between students, alumni, and faculty. The induction ceremony was

made possible through funding by the College of Arts and Sciences; Jack, Joseph and Morton Mandel Honors College; Physics Department; and contributions from members of CSU's Sigma Pi Sigma chapter

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#### REGIONAL/NATIONAL NEWS: DRs. KIRIL STRELETZKY AND JESSICA BICKEL AWARDED SOFT MATTER REU GRANT BY NSF



Professor Kiril A. Streletzky and associate professor Jessica Bickel from CSU's Department of Physics have been awarded a grant by the National Science Foundation (NSF) to re-establish a Research Experiences for Undergraduates (REU) Site at CSU. The project, titled "Synthesis, Assembly and Characterization of Soft Matter Systems," has received \$367,616 in funding to bring 30 students from across the US in

the summers of 2024, 2025, and 2026 to CSU to work with faculty from Physics, Chemical, and Biomedical Engineering, and Math and Statistics on 10-week research projects.

REU sites have both scientific and mentoring goals. In mentoring, CSU's REU site will involve rising sophomore and junior physics and engineering majors, recruited particularly from underrepresented groups, in interdisciplinary research projects within soft matter science and engineering. The REU Site is intended to encourage students to pursue graduate studies in physics and engineering. Fundamental to the REU site is intentional faculty mentoring through meaningful research experiences, which is shown to improve students' persistence in STEM careers and encourage them to pursue graduate studies in physics and engineering. The scientific focus of this REU is soft matter, a subfield of condensed matter that encompasses a large variety of materials, from polymeric gels that can be used for transport and for directing assembly of other materials, to polymers that can be used for electronic or mechanical applications, to biological materials studied to better mimic nature's complexity and develop new pathways towards healing. If you are interested in applying for the program, you can get more information [here!](#)

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## STUDENTS/ALUMNI NATIONALLY: SIZABLE REPRESENTATION OF CSU PHYSICS AT THE 2023 APS MARCH MEETING (LAS VEGAS, NEVADA)



One of the largest gatherings of CSU faculty, alumni, and students at the annual American Physical

Society (APS) March Meeting occurred in Las Vegas in March of this year. APS March Meeting is the largest physics scientific community meeting with 10,000+ contributed and invited presentations by physicists from around the world. This year CSU physics

has been represented by three undergraduates, two CSU physics alumni, and three CSU physics faculty who gave five talks and three posters.

Congratulations to physics senior Patrick Herron who won the Best Presentation Award in the undergraduate research session. His research project “On the Importance of the Direct Measurements of the Specific Refractive Index for Microgels and Micelles” was supported by a CSU Undergraduate Summer Research Award (URSA) and advised by Dr. Streletzky. This is the sixth time a CSU undergraduate has won the award at this meeting.



Physics majors Collin Douglas and George Tomaras presented posters on their summer research supported by CSU’s USRA program and advised by Drs. Streletzky and Fodor, respectively. Patrick Herron also presented a poster prepared together with physics major Jordan Miller (who could not attend the meeting) on local physics outreach efforts of CSU’s chapter of the Society of Physics Students (SPS).

Alumni Dr. Phil Dee’ 13, currently a physics postdoctoral associate at the University of Florida, and Jacob Adamszyk’ 20, now a Ph.D. candidate at the University of Massachusetts, Boston, delivered their oral presentations and attended every CSU student poster presentation, providing each student with detailed feedback and academic career advice. The CSU students and CSU Alumni then joined Drs—Fodor, Kaufman, and Streletzky for a reunion dinner and some exploration of Las Vegas.

Hopefully, this tradition of physics students, faculty, and alumni getting together at the annual APS March Meetings will continue as we continue to build a strong physics program at CSU!





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## STUDENTS/ALUMNI REGIONALLY: PHYSICS FRIDAYS STUDENT-LED OUTREACH COMES TO BATH ELEMENTARY SCHOOL

Members of the Society of Physics Students (SPS) at CSU take a great pride in their “Physics Fridays” outreach efforts throughout the years with schools in and around Cleveland (e.g. Campus International School, MC<sup>2</sup> STEM High School, Bio-Med Academy). This year they have made new connections and had their first outreach outing to the Bath Elementary School on May 31. During this event, several of the SPS chapter members (4 current SPS officers: Patrick Herron, Jordan Miller, Collin Douglas, Grace Miller; an SPS outreach alum: Jim Pitchford, and an SPS adviser: Dr. Streletzky) went to the school to interact with and do various demonstrations for a fourth-grade class (34 students). We spent several hours with the class, showing them the physics behind sound. The day consisted of a main demonstration focused on the concept of sound waves and 3 breakout sections (Sound waves in tubes; Sound propagation and reflection; Physics of musical instruments) that the students rotated between.

CSU students had a great time at the Bath Elementary and ended the outreach by answering many science-related questions from fourth graders. This is always a fun way to end things which we highly recommend because you will hear questions you will never hear anywhere else, and it helps the students remember the day. Below are the pictures from this outreach trip.



Students listening for reflected sounds.



Singing glasses at the “Musical Instruments” station.



Kids playing straw oboes.



Group photo after outreach.

As a great surprise for CSU students and their advisor, all the children wrote thank you notes which included their favorite moments and even some hand-drawn pictures. Reading dozens of thank you notes from kids was a great reminder of why we do this outreach. Some snippets are shown below:

*"It was so interesting seeing your team work together. The knowledge that you guys have is amazingly cool! The singing tubes were my favorite. They make the coolest sound in the world."* - Georgia S.

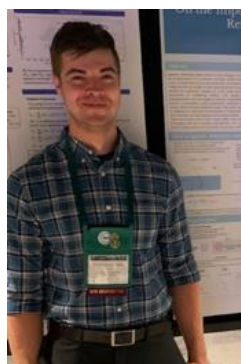
*"Thank you so much for coming to our school. I had a lot of fun learning about sound waves! When I grow up I hope that I will become a scientist"* - Sally

*"I thought it was so cool when the cups filled with water started vibrating when I put my wet finger on the top. It felt so weird! The kazoos made out of straws were really clever. I can't wait to annoy my parents with it!!!"* - Theodora

*"I had so much fun at the presentation. I loved the music and sound wave station. I can't wait to tell my parents, brother, and pets all about it!"* - Alex J.

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## STUDENTS: P. HERRON NAMED OUTSTANDING PHYSICS SENIOR AND RECEIVED UNDERGRADUATE PHYSICS TEACHING ASSISTANT AWARD



Congratulations to Patrick Herron (BS Physics senior) who was recognized as 2023 Outstanding Physics Senior, the honor that recognizes not only outstanding academics, but also significant research achievements presented at CSU and nationally, and tangible service contributions to the department, SPS, and physics outreach to general public. In addition, Patrick received the 2023 Undergraduate Physics Teaching Award for his work as teaching assistants for our introductory undergraduate teaching laboratories.

Patrick has been involved with CSU chapter of SPS for years as a treasurer, outreach coordinator, and president, organizing local events such as Physics Olympics, Jeopardy, and outreach events at BioMed Academy in Rootstown OH and Bath Elementary at Bath OH. He also was a part of CSU delegation SPS to the PhysCon 2022 in Washington Dc. In addition, Patrick has been a dedicated undergraduate researcher in Streletzky's lab who already has a peer-reviewed manuscript based on his research accepted for a publication. His oral research presentation "On the Importance of Direct Measurements of the Specific Refractive Index for Microgels and Micelles" won the Future of Physics Days Recognition Award at the 2023 March Meeting of the Society of Physics Students in Las Vegas, NV. Patrick will be pursuing an MS in Physics at CSU as a part of 4+1 program and plans to go into industry upon completion of his degree. He would prefer to continue in research setting while working with his hands from time to time.

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## STUDENT PRESENTATIONS/PUBLICATIONS SINCE 2022

### *Undergraduate Research Presentations (National & Regional)*

#### **2022 Sigma Pi Sigma Physics Congress, Washington DC, Oct 6-8, 2022:**

1. *"On the Importance of Direct Measurements of the Specific Refractive Index for Microgels and Micelles"*, **P. Herron, C. Douglas**, K.A. Streletzky, Oct 7
2. *"Achieving Reproducible Atomically Smooth Au (111) Surfaces"*, **J. Miller**, J. Bickel, Oct 7.
3. *"Understanding the Scattering by Polystyrene Microspheres"*, **C. Douglas, P. Herron**, and K. A. Streletzky, Oct 7
4. *"Development of Micromixing Strategies Using Elements of Elongational Flow"*, **G. Tomaras**, P. Fodor, C. Kothapalli, Oct 7.
5. *"The Anomalous Zeeman Splitting of the Sodium 3p States"*, **J. Stefanov, A. Merk, G.Tomaras**, Oct 7.

6. "What's it like next to a cloud?", J. Forester, T. Heus, Oct 7.

#### American Physical Society March Meeting, Las Vegas NV, Mar 6-10, 2023:

1. "On the Importance of Direct Measurements of the Specific Refractive Index for Microgels and Micelles", P. Herron, C. Douglas, K.A. Streletzky, Mar 6, **Undergraduate Oral Presentation Award**
2. "Physics Fridays - Undergraduate Student Led Physics Outreach Program for K-12 Kids", P. Herron, J. Miller, K. A. Streletzky, Mar 7
3. "Understanding the Scattering by Polystyrene Microspheres", C. Douglas, P. Herron, and K. A. Streletzky, Mar 7
4. "Development of Micromixing Strategies Using Elements of Elongational Flow", G. Tomaras, P. Fodor, C. Kothapalli, Mar 8.

#### Innovation Day at Kent State University, Kent OH, Mar 24, 2023:

1. "Development of Micromixing Strategies Using Elements of Elongational Flow", G. Tomaras, P. Fodor, C. Kothapalli, Mar 24.

#### Undergraduate Publications since 2022:

1. M. Mansouri, S. Beemer, C.R. Kothapalli, T. Rhoades, P. Fodor, D. Das, and N.D. Leipzig "Generation of oxygenating fluorinated methacrylamide chi-tosan (MACF) microparticles to increase cell survival and function in large liver spheroids" *ACS Applied Materials & Interfaces*, 14, 4, 4899 (2022).
2. G. Tomaras, C. Kothapalli, and P. S. Fodor "Serpentine Micromixers Using Extensional Mixing Elements" *Micromachines*, 13(10), 1785 (2022).
3. P. Herron, A. Scherer, and K. A. Streletzky, "Post pandemic Outreach Builds New Bonds", *The SPS Observer*, 56 (2), 8 (2022).
4. P. Herron and K. A. Streletzky, "Measuring dn/dc for Polysaccharide Microgels of Varying Crosslinking Density" *Journal of Undergraduate Reports in Physics*, accepted (2023).

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#### STUDENT/VERY RECENT ALUMNI ANNOUNCEMENTS

*George Tomaras* (Physics BS' Spring 23) was named College of Arts and Sciences Outstanding Senior. He will be joining a PhD program in applied physics at Rice University (Houston, TX) in the Fall 2023.

*Lee Candiff* (Physics BA' Spring 23) joined Science Applications International Corporation (SAIC) as Explosives Engineer where he will be able to apply his experience and skillsets from the military with his academic knowledge garnered through Physics at CSU.

Steven Onyango won 2023 Graduate Teaching Assistant Award.

Jordan Miller and Grace Miller were hired for summer undergraduate research in the Dr. Bickel Lab supported by CSU's Undergraduate Summer Research Award (USRA) program.

Patrick Herron and Collin Douglas were hired for summer undergraduate research in the Dr. Streletzky Lab supported by CSU's USRA.

Joseph Ball was hired for undergraduate research in the Dr. Sensale-Rodriguez Lab supported by CSU's USRA.

James Taton was hired for undergraduate research in the Dr. Fodor Lab supported by CSU's USRA.

Jeremiah Greene was hired for undergraduate research in the Dr. Heus Lab supported by CSU's USRA.

CSU SPS Chapter Spring 2023 elections: President - Patrick Herron (reelected), VP - Jordan Miller, Treasurer - Collin Douglas, Secretary - Jeremiah Greene, Historian - Jacob Forester (reelected), Math



Club Liaison - Grace Miller. Special Thanks to outgoing SPS officers: VP - *George Tomaras*, Treasurer - Jordan Miller, Secretary - Collin Douglas.

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#### FACULTY/STAFF ANNOUNCEMENTS

Dr. Alexander Borisov was renewed to College Associate Professor.

Dr. Thijs Heus will teach Advanced topics course “Great American Eclipse of 2024” in the spring 2024.

Dr. Andrew Resnick has been promoted to the rank of full professor.

Drs. Sensale-Rodriguez and Zurcher are local organizers of the 2023 Fall Meeting of the Eastern Grate Lakes Section (EGLS) of the American Physical Society (APS). EGLS meeting “[Physics at the Nanoscale](#)” will be held at CSU to be help on Oct 20-21. CSU will also host a Zone 7 SPS meeting on both days in conjunction on with the EGLS Meeting organized by CSU’s SPS chapter and Dr. Streletzky.

Dr. Streletzky was re-elected as the President of the National Society of Physics Students (2023-2025).

Dr. Jearl Walker received Honorary Sigma Pi Sigma Membership.

Dr. Jearl Walker’s Flying Circus of Physics is now on Tic Tok.

Dr. Jearl Walker’s 50 years of teaching at CSU have been spotlighted on CSU Matters (<https://youtu.be/BfuRlh8liI8>).

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#### FUNDRAISING UPDATE:

During 2023 Physics Giving Day Alumni and friends of the department donated \$2,650 supporting Physics Scholarships at CSU. Your generous support and contributions for our students is very much appreciated. Thank you very much!

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#### CONTACT US!

Have something you’d like to share? Send an email to [physics.dept@csuohio.edu](mailto:physics.dept@csuohio.edu) or call the number below! Thank you for supporting the CSU Physics Department!

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