News from the Hampden-Sydney Sciences 2024-25

***Biology* –** by Michael J. Wolyniak

Dr. Kristian M. Hargadon '01 continued work on a number of exciting projects during the 2024-2025 academic year. Among his ongoing work in the lab, Dr. Hargadon recently brought a long-term project on the induction of anti-tumor T cell dysfunction to completion, publishing an article entitled "Lymph Node Invasion by Melanoma Cells Is Not Required for the Induction of Incomplete Differentiation by Tumor-Specific CD8+ T Cells" in the journal *Cancer Reports*. This article included two former H-SC student co-authors, **Stephen Woodall '15** and **Travis Goodloe '16**, both of whom have since earned their M.D. degrees and are now working as a family medicine physician and emergency medicine physician, respectively. Upon publishing this work, Dr. Hargadon was also invited by the journal *Current Protocols* to contribute an article on an assay described in the study which he developed to assess the presence of metastatic melanoma cells within tumor-draining lymph nodes. He is currently preparing this article for submission later this semester.

In addition to his ongoing work in tumor immunology, Dr. Hargadon has also continued to investigate the role of the FOXC2 transcription factor in melanoma progression. In the summer of 2024, he worked alongside **Baylor Jenkins '26** to investigate how a pharmacologic FOXC2 inhibitor influences melanoma cell susceptibility to various widely used chemotherapeutic agents. This work, which Baylor will present at the annual meeting of the American Association for Cancer Research in Chicago in April 2025, highlights a role for FOXC2 in melanoma chemoresistance and demonstrates the utility of FOXC2 inhibition as a means of reversing drug resistance in this cancer. Dr. Hargadon and Baylor will continue their work in this regard in the summer of 2025, with plans to investigate how FOXC2 inhibition might interfere with the oxidative stress response of melanoma cells exposed to toxic reactive oxygen species-promoting chemotherapeutics. Complementing this work with the novel MC-1-F2 FOXC2 inhibitor, Dr. Hargadon has also continued to employ CRISPR-Cas9 gene editing strategies in an effort to establish a genetically engineered FOXC2-deficient melanoma cell line. In the summer of 2024, he worked with **Matthew Miscikowski '26** to create such a model using a targeted indel-based approach to disrupt *Foxc2* gene function, work which Matthew presented at the 2024 annual meeting of the Mid-Atlantic Regional Conference for Undergraduate Scholarship. In addition, Dr. Hargadon has also been working during the past academic year with **Dillon McReynolds '26** on a whole gene deletion approach as an alternative strategy to completely knock out the *Foxc2* gene in melanoma cells.

In addition to his efforts in the lab, Dr. Hargadon has continued to serve on the Editorial Board of Springer Nature's peer-reviewed journal *Discover Immunity*, and he joined the Editorial Board of *Discover Oncology*, also a peer-reviewed journal published by Springer Nature. Recently, he was also invited to edit a 2nd Edition of his highly successful *Melanoma: Methods and Protocols* volume, first published by Springer Nature as part of its *Methods in Molecular Biology* book series in 2021. Having just begun work on updating the original edition and recruiting new contributors for the new edition, Dr. Hargadon will be dedicating time to this project over the next year and half, with an anticipated publication date of late 2026/early 2027.

Notably, in 2024 Dr. Hargadon was recognized by the Council on Undergraduate Research with its Biology Division Research Mentor Award (Mid-Career category). This national award is given annually to a single biology faculty member from among all U.S. colleges and universities in recognition of sustained efforts in mentoring undergraduate research students, fostering their development, and providing an equitable learning environment.

Last summer, **Dr. Alex Werth** supervised a research project with **Brandon Finch '26** and **M. Cooper Lemmond '27** investigating how entanglement in fishing gear affects whales, and this research is still ongoing, with lab experiments, image analysis, and fluid dynamics simulations. Werth will also supervise Brandon Finch's honors capstone project on the ecological impact of introducing non-native trout in the eastern U.S., and will once again supervise a Prospero summer student studying Hampden-Sydney history: this summer, **Alex Albright '27** will explore the role and impact of science throughout the 250 year history of H-SC. Werth's own research has recently brought him back to Australia and New Zealand, where he has been studying rare spade-toothed whales and pygmy right whales. In addition to continuing research on right whale entanglement, his collaborative projects also involve Pacific blue whale feeding, Bermuda humpback whale reproduction, the ability of dolphin teeth to sense prey, and

Dr. Alex Werth (right) in New Zealand to examine the rare spade-tooth beaked whale

the role of suction feeding in now-extinct fossil whale species. Werth is teaching a new science and democracy course this year (for Honors students) and the first iteration of the newly revised Anatomy & Physiology course sequence, along with new, non-lab versions of Human Evolution/Anthropology and Marine Biology.

Dr. Rachel Goodman presented results of her sabbatical research on reptiles and amphibians in Colombia with several co-authors at the World Congress of Herpetology & Global Amphibian and Reptile Disease (GARD) Conference in Kuching, Malaysia in 2024. As part of her work on a disease task team for Partners in Amphibian and Reptile Conservation (PARC), she helped create a report from this conference that was published in Herpetological Review ("Disease update from the Global Amphibian and Reptile Disease Conference and the World Congress of Herpetology, Kuching, Malaysia").

Dr. Rachel Goodman hiking in Bako National Park, Malaysia

In early 2025, research by Dr. Goodman and former students **Henry Carman '23, Paul Mahaffy '22, and Nathan Cabrera '24** was published in Herpetological Review. The study detected ranavirus, an important wildlife pathogen that is understudied in reptiles, in Eastern Worm Snakes (*Carphophis amoenus*) on our campus.

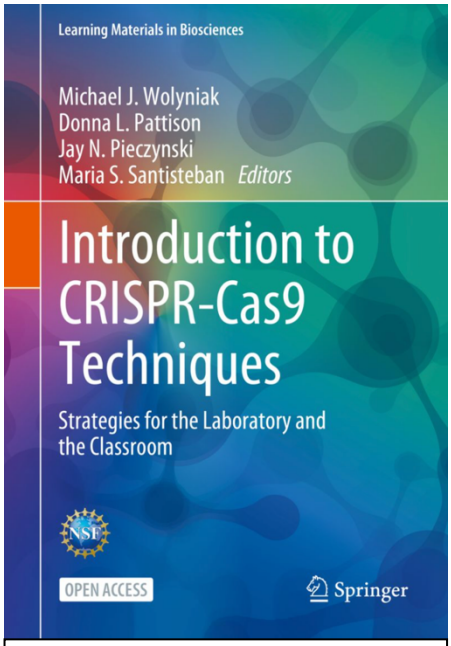
Dr. Goodman's lab is undertaking a new collaboration with Dr. Amanda Starr at Longwood University investigating amphibian pathogens and microbiome in local species. As part of this project, **Nick Hutson '26** worked in the summer of 2024 on testing salamanders on campus for ranavirus and documenting the bacterial microbiome in skin swab samples. Students in Dr. Goodman's BIOL 349 *Wildlife Biology* class continued these collections in the fall 2024 semester, and students in BIOL 203 *Ecology* class will conduct this work with frogs in the spring 2025 semester. These efforts are coordinated with the Student Network for Amphibian Pathogen Surveillance (SNAPS), a network of undergraduate students, instructors, and scientists who are working on early detection of a deadly amphibian fungus that has decimated salamander populations in Europe after introduction and spread in recent years.

Dr. Kristin Fischer's lab continued to work on skeletal muscle tissue engineering to replace lost, injured, and/or diseased muscle. Two areas of focus are creating the scaffolds to grow the tissue and decreasing the time for the cells to proliferate and mature. **Ben Currin '25** continued the plant-based scaffold project started by **David Banks '24** and Dr. Fischer. Ben and Dr. Fischer presented their work on electrospun zein, a corn protein, and poly(ε-caprolactone) scaffolds at the annual Biomedical Engineering Society (BMES) in Baltimore this past October. **Eric Mayer '25** investigated the effects of branched chain amino acids (BCAAs) on skeletal muscle cell proliferation and maturation by exposing the cells to varying BCAA amounts. Eric and Dr. Fischer also presented their work at the BMES conference.

Ben Currin '25, Dr. Kristin Fischer, and Eric Mayer '25 in Baltimore at the Biomedical Engineering Society meeting.

Dr. Michael Wolyniak had a couple of significant professional highlights in the past academic year. First, he published a review article on the evolution of the enzyme malate dehydrogenase with three Hampden-Sydney student co-authors: **Henry Loehr '24, Pierce Gemborys '25**,

and **Bo Frazier '26**. This article appeared in the journal *Essays in Biochemistry* as part of a special issue written by members of the Malate Dehydrogenase CUREs Community (MCC), a national undergraduate education consortium on protein biochemistry of which Wolyniak is a member. More recently, Wolyniak was the lead editor on a book focused on CRISPR instructional techniques published by Springer Nature as part of its *Learning Materials in Biosciences* series. The volume is a part of the National Science Foundation (NSF)-supported grant on which Wolyniak is co-Principal Investigator that is dedicated to providing undergraduate instructors with the tools and confidence necessary to bring CRISPR techniques into the classroom and the teaching laboratory.



Dr. Mike Wolyniak's edited volume on CRISPR-Cas9 techniques for the classroom

This past summer, **Joshua Ferreira '27, Ethan Currin '25,** and Bo Frazier '26 engaged in summer research work on campus in Dr. Wolyniak's laboratory, while **Thomas Flagg '25** engaged in an informatics-based research project remotely. Ethan Currin will join **John Hurt '26** and **Garrett Regan '25** in presenting their research at the DiscoverBMB meeting of the American Society for Biochemistry and Molecular Biology in Chicago, Illinois this spring.

Dr. Vani Narayanan was a Visiting Professor of Biology in 2024-25

Finally, the Department would like to recognize the outstanding work done by **Dr. Vani Narayanan** this past year as a Visiting Professor teaching introductory and neuroscience coursework. Dr. Narayanan consistently went above and beyond to make sure that her students received the best classroom experience possible, and we know she will continue this great work in her future endeavors.

Chemistry – by Glenn D. Gilyot

Dr. Herbert Sipe, Spalding Professor of Chemistry, had a very busy year teaching, supervising undergraduate research projects, and attending conferences. He continued teaching sections of the introductory chemistry lecture (CHEM 110) and laboratory courses (CHEM 151/152), chemical instrumentation and analysis (CHEM 440/441), and Western Culture 102. In addition to teaching obligations, he mentored **Benjamin Currin '25**, **Evan Old '26**, and **Daniel Ludovico '25** in advanced lab research projects.

In June of 2024, Dr. Sipe went to Research Triangle Park to attend a reunion of the Free Radical Metabolites Research Group in which he had sabbatical leaves in 1987-88, 1996, 2002-2003, and 2009-2010. The group was variously associated with the Laboratory of Molecular Biophysics, the Laboratory of Chemistry and Molecular Pharmacology, the Laboratory of Pharmacology and Chemistry, and the Laboratory of Toxicology and Pharmacology. Former group members from as far away as Canada were in attendance.

In Fall 2024, Dr. Sipe assisted emeritus Professor **William "Bill" Porterfield** in his weekly seminar offerings on the history of Hampden-Sydney College from ca. 1770 to 1950. This series was part of the run-up to the celebration of the College's 250th anniversary. In March 2025, he attended an initial three-day celebration at his alma mater, Juniata College, of their chemistry department's 100th anniversary. He remarked that he was not the oldest alumnus (class of 1962) in attendance, since one from the class of 1953 was also there.

Dr. Kevin Dunn has been working on several projects with students this year. **Briggs Randall '24** investigated the authenticity of Sea Buckthorn oil from a variety of sources. He was able to distinguish between Sea Buckthorn and several oils that could potentially be used as adulterants. **Jaron Concepcion '24** investigated the efficacy of putting Cannabidiol (CBD) in bath bombs. Since its legalization in 2019, CBD has been used in a variety of personal care products, but Dr. Dunn was skeptical that a bath bomb would be an effective means of

administering it. Jaron found that test subjects were unable to tell the difference between bath bombs with and without CBD.

Dr. Dunn teaching a caveman chemistry lesson on making fire at an Alpha Chi Sigma (AXΣ) recruitment event.

Adam Dayag '26 and **Ethan Currin '25** have resurrected a project that Dr. Dunn worked on years ago. There is a branch of chemistry that replaces carbon atoms in organic molecules with pairs of boron and nitrogen atoms. Borazine ($B_3N_3H_6$), the analog of benzene (C_6H_6), is a well-studied compound, but borazocine ($B_4N_4H_8$) has never been synthesized. Adam and Ethan are attempting its synthesis this semester.

In addition, Dr. Dunn has embraced astrophotography as a hobby and is currently constructing an observatory in his back yard. his photographs are publicly available at https://app.astrobin.com/u/KevinDunn.

Dr. Ava Kreider-Mueller has had a busy and rewarding year teaching a variety of classes including General Chemistry, Chemistry of the Environment, Inorganic Chemistry, and Advanced Inorganic Chemistry! Dr. Kreider-Mueller was awarded a Hampden-Sydney College Faculty Summer Research Fellowship for the 2024 Summer. She worked for 8 weeks on an independent research project entitled "Investigating the binding of flavonoids to heavy metals". Dr. Kreider-Mueller's research interests include synthetic coordination chemistry as it relates to the study of secondary plant metabolites and humic substances.

Dr. Kreider-Mueller mentored sophomore **Jackson Cofer '27** and junior **Evan Old '26** in independent research projects during the 2024-2025 academic year. Dr. Kreider-Mueller accompanied these two students to the American Chemical Society Spring Meeting held in San Diego, CA, in March 2025. Mr. Cofer presented his research at the Undergraduate Research Poster Session with a poster entitled "Investigating the Binding of Essential and Non-essential Metals to a Series of Common Plant Secondary Metabolites". Mr. Old presented his research in the form of an oral presentation entitled "A Comparison of the Bonding Motifs in a Series of Alkali Metal-Syringate Complexes".

Dr. Kreider-Mueller, Evan Old, and Jackson Cofer at the 2025 ACS National Meeting in San Diego, CA.

Timothy Reichart, Elliott Assistant Professor of Chemistry, and three students jointly conducted research last summer. **Kaden Sawyer '27**, **John Hurt '26**, and **Garrett Regan '25** all worked on synthesizing the transmembrane domains corresponding to different proteins found on the surface of the SARS-CoV-2 virus, the causative agent for COVID-19. Garrett Regan continued this work as part of his Honors Capstone. Garrett and John will be presenting this work at the Annual Meeting of the American Society for Biochemistry and Molecular Biology (ASBMB) in Chicago in April.

Dr. Reichart presented a poster at the 37th European Peptide Symposium in Florence, Italy, and gave an oral presentation at a satellite meeting on "Embracing innovation and sustainability in peptide synthesis." He also, with several collaborators, wrote a book chapter entitled, "Peptide Discovery: Lead Generation" that will appear in Peptide Science: Chemical Ligation, Lead Generation, and Therapeutic Advances, which will be published by Wiley later this year.

Dr. Glenn Gilyot has been busy over the last year working with several students on research projects. During summer 2024, he worked with **Benjamin Gerber '27** on a project titled "Development of a near-infrared (NIR) fluorogenic probe for the detection of leucine aminopeptidase." In addition to that, he attended the National Science Foundation (NSF) Chemistry Early Career Investigator workshop in Alexandria, VA in May and co-presented a workshop titled "Facilitating Lesson Plan Development for Chemistry Outreach Opportunities" at the Biennial Conference on Chemical Education (BCCE) in July. Dr. Gilyot's co-presenter was John Himmelberg from the Department of Chemistry at the University of Missouri.

During the academic year, Dr. Gilyot had two advanced lab research students in Fall 2024, **Adam Dayag '26** and **Daniel Ludovico '25**. Adam worked to develop and synthesize a small molecule fluorogenic probe with a self-immolative linker for detection of neutrophil elastase. Dan's project explored synthesis of a small molecule fluorescent molecule with a self-immolative linker for detection of leucine aminopeptidase. In addition to advanced lab students, Dr. Gilyot supervised **Charles Redding '27** on an academic year project titled "Small molecule fluorogenic probe for visualization of fluorophore-protein interactions." This project was a collaboration with Timothy Glass' group at the University of Missouri Department of Chemistry.

2025 ACS National Meeting Crew. (Left to Right) Charles Redding, Dr. Gilyot, Evan Old, Benjamin Gerber, Jackson Cofer, Dr. Kreider-Mueller, and Marc Moroz.

Dr. Gilyot and Dr. Kreider-Mueller accompanied five H-SC students, **Jackson Cofer '27**, Benjamin Gerber '27, **Marc Moroz '26**, **Evan Old '26**, and Charles Redding '27, to the 2025 American Chemical Society (ACS) National Meeting in San Diego, CA in March. Ben and Charlie presented posters covering their research projects in the Gilyot lab at the undergraduate poster session. Dr. Gilyot loves taking students to the ACS meetings to show them the vast amount of research and career paths available to chemistry and chemistry-related majors.

Outside of research, Dr. Gilyot launched a 1 credit hour Chemical and Biochemical Toxicology course for upper-level chemistry, biochemistry and molecular biology, and biology majors. The course attracted 10 students for its first semester and the students have enjoyed learning about poisons, dose-response relationships, and the mechanism of action for some of the deadliest toxicants.

Finally, Dr. Gilyot was excited to unveil his group website and logo in January. If you want to check out the work happening in his lab, visit www.gilyotlab.com.

Mathematics and Computer Science – by John Machacek

In August 2024 the Department of Mathematics and Computer Science welcomed **Dr. Dylan Domel-White** as a new Assistant Professor of Mathematics. Dr. Domel-White graduated from the University of Houston in 2020 with a PhD in Mathematics. In graduate school, he was an officer in the AMS Grad Student Chapter, a Grad Student Representative, and an organizer of the CHAMP outreach program to provide tutoring to local middle and high schools. After completing his PhD, he worked as a postdoctoral scholar at Vanderbilt University for three years, then stayed there one more year as a Senior Lecturer. His area of research encompasses parts of signal processing, high-dimensional probability, and error bounds for algorithms. Specifically, he has worked on proving error bounds for quantized phase retrieval algorithms which have applications in optics and diffraction imaging.

Dr. Domel-White has been focused on teaching during his first two semesters at Hampden-Sydney College, including leading a directed reading course in Mathematical Logic in the Spring for two advanced mathematics students. He was awarded summer research funds from the college this summer and looks forward to resuming research then. He also looks forward to supervising a pair of students, **Easton Crockett** and **Anthony Cortez**, on a summer research project involving denoising electron spin resonance spectra (in collaboration with **Dr. Herb Sipe** from Chemistry).

Dr. Dylan Domel-White joined as an Assistant Professor of Mathematics and Computer Science in August of 2024

Dr. Rebecca Jayne gave two talks this past fall. The first, "Iterating the Locker Problem," was a colloquium talk at Christopher Newport University. It was based on a paper of the same title co-authored by Professor Emeritus of Mathematics and Computer Science **Robb Koether**. The second, "Multiplicities of maximal weights of the $\widehat{sl}(n)$-module $V(k\Lambda_0)$," was given at a Quantum Groups and Representation Theory Conference in Raleigh, NC.

This past year, **Dr. Brian Lins** published two papers, "Bounded fixed point sets and Krasnoselskii iterates of Thompson metric nonexpansive maps", published in the *Journal of the Korean Mathematical Society* and "Inequalities on the essential joint and essential generalized spectral radius" which was co-authored with Dr. Aljoša Peperko has been accepted to appear in the *Journal of Mathematical Inequalities*. Dr. Lins also wrote a third paper over the summer, "Real analytic nonexpansive maps on polyhedral normed spaces" which has been submitted for peer review.

Dr. Sarah Loeb had three papers appear: "New Conditions for Graph Hamiltonicity" (with N. Bushaw, V. Gupta, C. E. Larson, M. Norge, J. Parrish, N. Van Cleemput, J. Yirka, G. Wu) in *Involve, a Journal of Mathematics*; "Decks of rooted binary trees," (with A. Clifton, E Czabarka, A. Dossou-Olory, K. Liu, U. Okur, L. Szekely, K. Wicke) in the *European Journal of Combinatorics*; and "Symmetry Parameters of Two-Generator Circulant Graphs" (with S. Cockburn) in the *Annals of Combinatorics*. In addition, she was accepted to the October 2024 workshop "Albertson Conjecture and Related Problems" at the American Institute of Mathematics.
Dr. John Machacek joined the Department of Mathematics and Computer Science in August 2024 after three years as a postdoctoral scholar at the University of Oregon. Dr. Machacek received a PhD in Mathematics from Michigan State University in 2018. He has previously held positions at York University in Toronto as a York Science Fellow and at Hampden-Sydney College as a Visiting Assistant Professor.

This year Dr. Machacek gave a talk titled "Gorenstein Toric Varieties from Posets" at the VCU Geometry & Topology Seminar and organized the "Special Session on Mutation and Cluster Algebras" for the American Mathematical Society's Spring Southeastern Sectional Meeting at Clemson University. Dr. Machacek has written the paper "A finite totally nonnegative Grassmannian" which has been submitted for peer review and has the paper "Graph-like scheduling problems and property B" accepted for publication in *Studia Scientiarum Mathematicarum Hungarica*.

Physics and Astronomy – by Hugh O. Thurman III

Dr. Bloom recently had his article "Using EXCEL and VLC Player to Analyze the Takeoff of a Boeing 747-400 Airplane" published in *Physics Education*. This article considers the forces on an airplane at takeoff and the effects that has on the stretch of runway needed. It is based on exercises used in Physics 331 Mechanics. Similarly, an article he has submitted to *Physics Teacher* centers on comparisons between analytical and computational solutions for the rocket equation and applied to commonly known rockets of the past and present (Space Shuttle, various Space-X rockets). He is also working with students on observatory research projects related to the search for exoplanets and separately, analyzing the variability of blazars.
Dr. Stanley Cheyne continued his research on bubbly liquids with **Dr. Hugh (Trey) Thurman** and Dr. Glynn Holt. We have been working to improve the data of phase speed and sound absorption at the single bubble resonance.

During this academic year, we have gotten the best data to date and plan to submit a paper for publication this summer. Also, Dr. Cheyne continues to work on an ultrasonic hydrometer. This device simultaneously measures the temperature and sound speed of an ethanol/water mixture or a distilled spirit. These values are then used to calculate the percent alcohol in the liquid. In collaboration with Andersonics, LLC, a working prototype should be completed later this spring. Dr. Cheyne plans to use it this summer to do extensive testing on a variety of liquid mixtures.

Dr. Glynn Holt hooded his final PhD student, Victoria Doheny, at Boston University in May 2024. Dr. Doheny's thesis, "Characterization of Targeted Microbubbles for Adhesiolysis", discusses the application of experimentally determined inertial cavitation thresholds and acoustic attenuation as figures of merit for microbubble distributions to be used as agents to image and ultimately lyse nascent surgical adhesions. He co-authored a paper "Influence of Bubble Dynamics on Kelvin-Helmholtz-Type Interface Instability" which appeared in the Proceedings of the AIAA SciTech Forum 2024, which used computational methods to illustrate the role of bubble-collapse-shock-induced Rayleigh-Taylor and Faraday instability on the more slowly developing (but more destructive) Kelvin-Helmholtz instability in liquid drops subject to high Mach flows. He continues to consult professionally on a variety of projects, including a Navy-sponsored project to utilize inertial acoustic cavitation to produce graphite particles of tunable size distribution.

Dr. Jonathan Keohane has continued to maintain the Hampden-Sydney Observatory. Anyone associated with Hampden-Sydney may use the HSC Observatory by contacting Dr. Keohane. Dr. Keohane is continuing to work as part of a team of astronomy instructors and software developers, including John Torian (HSC 2024), to develop a second-year laboratory curriculum centered on the use of these automated observatories. There are multiple publications at various stages in the review process and should be officially published in the next academic year. Last summer three students worked with Dr. Keohane on various projects, which they are published in this journal.

Since returning to the Department of Physics and Astronomy after nearly eight years in the Dean's Office and a Spring 2024 sabbatical, **Dr. McDermott** has been focused on re-engaging with teaching, research, and the new role as department chair. One of his main priorities has been setting up his research lab, something he wasn't able to do when the department first moved into the Pauley Science Center. That's meant organizing equipment, configuring the space, and getting everything ready for research. Dr. McDermott has really enjoyed being back in the classroom full time—working directly with students on coursework, independent studies, and research projects. On the research side, his work focuses on applications of the Mössbauer Effect, specifically exploring its potential for stimulated emission of gamma radiation. This has been a long-term project for him, dating back to graduate school, and it remains both challenging and exciting. It ties into fundamental physics with possible applications in precision spectroscopy, nuclear science, and quantum optics. Over the past summer, **Kade Minton** has been helping Dr. McDermott with both a research project and getting the lab up and running. Kade's project is working to reproduce results from an experiment in Time-Domain Mössbauer Spectroscopy called a Gamma-Echo. Once this is up and running, they can utilize much of the same equipment and materials to look for stimulated emission.

Dr. Thurman has continued his work with Dr. Cheyne and Dr. Holt in trying to measure the phase speed and attenuation of sound in a bubbly liquid. This research project has been active for over seven years now and most recently has produced some promising results. Dr. Thurman worked with three research students last summer: **Harry Kardian**, **Ross Roberts**, and **Cooper York**. Harry continued a research project started by **Davis Ferguson** on measuring the viscosity of motor oils. Ross worked on a computational quantum mechanics project aimed at studying the Ehrenfest Theorem for highly excited states in different potential wells. Cooper worked on studying the physical properties of ferrofluids with the ultimate application toward developing a new type of resistive exercise equipment. Beyond this work, Dr. Thurman had the opportunity to teach two special topics courses: Introduction to Material Sciences in the spring of 2024 and Applied and Environmental Geophysics in the fall of 2024.

Psychology – by Jennifer E. Vitale

In 2024-2025, the Department of Psychology was excited to welcome our newest member, **Dr. Matt Locey**. Dr. Locey joined us following 10 years as a faculty member at the University of Nevada, Reno. His research program on the quantitative analysis of irrational decision-making includes a recent publication on "Altruism, reciprocity, and probability: Examining relations through a discounting framework" in Behavioral Processes as well as a

Southeastern Association for Behavior Analysis conference presentation on “Person Who? Social Distance Specificity & Social Discounting” – both with his former PhD student, Natalie Buddiga.

Dr. Matt Locey, Assistant Professor of Psychology, joined in 2024-2025

Dr. Locey is excited about opportunities to share his research interests with students in courses like his recent Special Topics course on the Science of Self-Control and his upcoming Advanced Lab in the Fall of 2025. Dr. Locey is currently in the process of constructing his rat lab for regular integration in lab courses – including his behavioral neuroscience lab this Spring (2025) and Learning (Fall 2025) and Behavioral Economics (2026) courses in upcoming semesters. He and his students are also currently developing plans for behavioral pharmacological studies in rats for the upcoming school year (2025-2026).

Supporting student research continued to be a priority within the department this year. Three students will be presenting their research at the annual meeting of the Southeastern Psychological Association (April 2025) in Atlanta, GA. This includes **Luke Lindquist ’26** and Dr. Vitale’s poster “Risk and Religiosity in Rodeo Roughstock Riders,” **Dylan Robbins ’25** and Dr. Bauer’s poster “How Does Engaging in Pretense Affect Scientific Perseverance in Children?”, and **Nate Jones ’25** and Dr. Bauer’s poster “How Do Depression, Anxiety, and Mind-Wandering Impact Creativity Performance?”.

In addition, **Dr. Rebecca Bauer** took on the role of Institutional Review Board Chair and was the recipient of an Elliot professorship, a merit-based award emphasizing scholarship. In the past year Dr. Bauer and her students collected data from over 75 children at various YMCA locations in Farmville and Lynchburg examining how pretend play may impact children’s scientific creativity. Additionally, Dr. Bauer currently has two articles under review. In Early Education and Development, an article entitled “Evaluating qualities of pretend play: Classroom observations and teacher perceptions,” evaluates how play themes of fantastical, sociodramatic, and realistic are rated and endorsed differently by both observers and preschool teachers with co-authors L. Held, E. Bray, T. Crone, and A. Gilpin. In the Psychology of Creativity, Aesthetics, and the Arts entitled “The Creativity in Play Scale: Examining the role of imagination and self-regulation in childhood creativity” explores a new observational measure of creativity in a free-play context with preschoolers with co-authors A. Gilpin, R. Thibodeau-Nielsen, F. Palermo, and R. White.

In addition to Dr. Jennifer Vitale's supervision of student research and wrapping up her final months as an Assistant Dean of the Faculty, Dr. Vitale co-authored "Contributions of the PCL/-R to the Construct Validation and Mechanistic Understanding of the Cleckley Psychopath" with R. Hamilton and J.P. Newman, which is in press at The Journal of Psychopathology and Behavioral Assessment.

As Dr. Vitale looks forward to returning to full-time teaching, **Dr. Ivo Gyurovski** looks back in satisfaction at his first full year in administration, as both Assistant Dean for Grants and Faculty Development and as Department Chair. He is excited to continue in these new roles in the coming academic year.