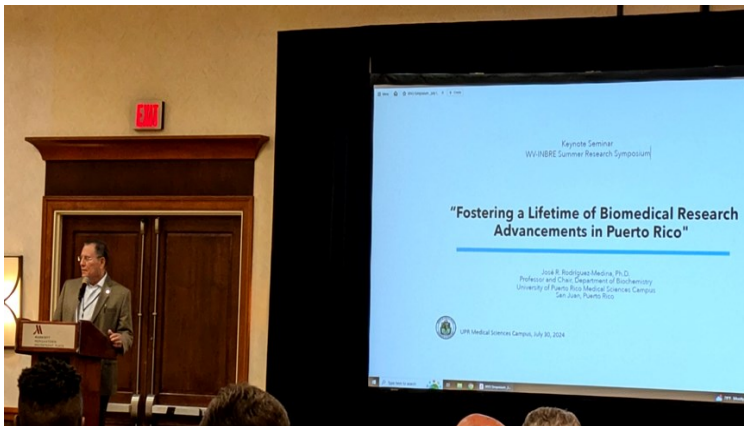
WV-INBRE NEWSLETTER

Volume 28

Winter 2024

2024 WV-INBRE Summer Research Symposium Was A Success

Undergraduate students, high school teachers, and faculty members from West Virginia higher education institutions gathered in Morgantown, WV on July 30, 2024 for the 22nd Annual WV-INBRE Summer Research Symposium. The Symposium, held at the Morgantown Marriott at Waterfront Place, featured research presentations from WV undergraduate students, a WV High School Science Educator, and a keynote address from Dr. José Rodríguez-Medina.



The morning session began with welcoming remarks from Dr. Clay Marsh, Chancellor and Executive Dean WVU Health Science, and Dr. Gary Rankin, Vice Dean for Basic Sciences and Chair of Biomedical Sciences at MU School of Medicine and the WV-INBRE Principal Investigator.

The first oral research presentation was from Gracie Oxley, a Summer Intern form Concord University. Gracie was followed by Tanner Richmond, a Summer

Intern from University of Charleston, Michelle Martinez, a Science Educator from Montcalm High School, Chance Berg, a Summer Intern from Fairmont State University, and Elaina Blickenstaff, a Summer Intern from Marshall University.

Pictured above, the keynote address was given by Dr. José Rodríguez-Medina, Professor and Chair of Biochemistry, Medical Sciences Campus of the University of Puerto Rico, and the Principal Investigator of Puerto Rico INBRE. Dr. Rodríguez-Medina spoke on "Fostering a Lifetime of Biomedical Research Advancements in Puerto Rico". His talk was highly inspirational, and featured the many advances in biomedical research made possible in Puerto Rico by the INBRE program.

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Inside this issue:

Network Partners of the WV-INBRE

Lead Universities

Marshall University
West Virginia University

Predominantly Undergraduate Institutions (PUIs)

Bluefield State University
Concord University
Davis & Elkins College
Fairmont State University
Glenville State College
Shepherd University
University of Charleston
West Liberty University
West Virginia School of Osteopathic Medicine
West Virginia State University
West Virginia Wesleyan College
Wheeling University

MESSAGE FROM THE PRINCIPAL INVESTIGATOR
Gary O. Rankin, Ph.D., ATS

I want to start this message with some good news. The WV-INBRE program was recently renewed for an additional five years, beginning August 1, 2024, and continuing through July 31, 2029! My thanks to everyone who contributed to our renewal for all their hard work putting together a successful application. With this renewal, we can continue the initiatives that we started during Phase IV plus adding some new ones.

There will be a few changes to the program during Phase V that I would like to highlight. Administratively, the structure of the Steering Committee will be changed to primarily be composed of senior leadership representatives from all partner institutions in the research network. This committee will help ensure that WV-INBRE is meeting the needs of our partner research network institutions and to generate new ideas on how to enhance the network. There will also be a new committee, the Executive Committee, which will include a faculty representative from each of the partner research institutions. This committee will help guide WV-INBRE concerning needs at the faculty and student levels and representatives will serve as contacts for disseminating information to their fellow faculty members. Another change will be that instead of the Bioinformatics Core, we will now have the Data Science Core, Dr. James Denvir (MU), Director. The Data Science Core will provide expanded services in managing and analyzing data and additional training opportunities. The previous Genomics Core is being replaced by the Sequencing, Molecular and Related Technologies (SMART) Core. The SMART Core, Dr. Travis Salisbury (MU), Director, will provide many of the services of the Genomics Core plus additional services including single cell analysis and spatial transcriptomics.

Developmental research projects for Y24 have been selected with awards being made to faculty members at Bluefield State University, Glenville State University, West Liberty University, West Virginia School of Osteopathic Medicine, and West Virginia Wesleyan College. All developmental research awards will be made to partner school investigators during Phase V, so everyone in the partner network should be thinking about sending in grant applications when we issue the next round of RFAs. Based on a competition held prior to submitting the competing renewal application, West Liberty University received the Alterations and Renovation project to convert marginally used space into research space.

In addition to funding research projects, WV-INBRE will be offering competitive Faculty Recruitment packages during Y24 and again in Y27. These packages will aid partner schools in hiring new or replacement faculty members whose research aligns with the goals of WV-INBRE by providing funds to aid in recruitment, salary and fringe benefits, and startup funds over two years. In our initial offering, we were able to fund one package at West Liberty University to hire a faculty member to support their new data science program and one package at West Virginia Wesleyan College to hire a replacement faculty member in biochemistry. We are currently investigating other new approaches to build infrastructure across the WV-INBRE network.

Our initiative in natural products research with the Puerto Rico INBRE is headed by Dr. Joseph Horzempa, West Liberty University and continues to grow. To date we have had three virtual symposia and student exchange programs the last two summers. Dr. Horzempa and Dr. Jose Rodriguez-Medina, PR-INBRE, PI, are working on a scientific meeting to be held in Puerto Rico focused on natural products research and open to all Southeast Region faculty and students. More details to come as plans are solidified.

Lastly, let me wish everyone a very Happy Holiday Season! I hope that you can be with family and friends at this special time of the year. Let's all make 2025 a real success!

2024 WV-INBRE Summer Research Symposium
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Following lunch, the Symposium continued with an afternoon poster session which included 69 presentations. These poster presentations included WV-INBRE funded research completed at WVU and Marshall over the summer by student interns representing primarily undergraduate colleges and universities across West Virginia. Presentations were also made by students who performed research at their own institutions during the school year, students who participated in the Puerto Rico/West Virginia INBRE summer exchange program, as well as students who participated in a variety of other undergraduate research programs across the State. Research topics were diverse, and included diabetes, cancer, cardiovascular disease, traumatic brain injury, drug abuse and addiction, infection, and stroke.

Elaina Blickenstaff, an American Heart Association (AHA) participant, directed by Dr. Nalini Santanam at Marshall University is seen here giving a presentation.

Procedure for Filing Grievance or Concern

The NIGMS is recommending that all INBREs have a formal pathway for reporting grievances or concerns about the program. We have recently developed a reporting system for grievances and concerns that can be used by any member of the WV-INBRE network. This policy will be posted on the WV-INBRE website for future reference.

If you have a grievance or concern about any component (other than the principal investigator) or action of WV-INBRE, please report your grievance or concern to the principal investigator, Dr. Gary Rankin, by email at rankin@marshall.edu or regular mail at Department of Biomedical Sciences, One John Marshall Drive, Marshall University, Huntington, WV 25755. Dr. Rankin and the Program Coordinator, Dr. Stan Hileman, will work to address the concern or grievance. If the grievance or concern is about the principal investigator, please report your issue to the Chair of the External Advisory Committee, Dr. Kenneth Tew at tewk@musc.edu. Dr. Tew will work with the External Advisory Committee to resolve the grievance or concern.

WV-INBRE Provides Biomedical Research Opportunities to HSTA Scholars and WV High School Science Educators

The partnership between WV-INBRE and the Health Sciences & Technology Academy (HSTA) program is focused on encouraging undergraduate students, who have demonstrated an interest in biomedical research through their participation in the HSTA program while in high school, to continue to develop this interest in biomedical research once they enroll at West Virginia University, Marshall University or one of the Partner Institutions (PUIs).

During the 2024-2025 academic year, 8 HSTA scholars are participating in this program with 1 intern at Bluefield State University, 1 intern at West Liberty University, 1 intern at Shepherd University, 1 intern at Marshall University, and 4 interns at West Virginia University. These students are: at West Liberty University, Shania Davis with Dr. Joseph Horzempa; at Bluefield State University, Jaida Rotenbery with Dr. Tesfaye Belay; at Shepherd University, Ja'el Thomas with Dr. Qing Wang; at Marshall University, Nevaeh Ellington with Dr. Emine Koc; and at West Virginia University, Trysten Hughes with Dr. Bradley Webb, Makel Galloway with Dr. Kathleen Morrison, Allison Kidd with Dr. Meenal Elliott, and Sabrina Thorn with Dr. Lizzie Bowdridge. All interns will present their research at the 23rd Annual WV-INBRE Summer Research Symposium in Huntington WV on July 29, 2025.

Another component of this joint program is to provide opportunities for high school science educators to participate in biomedical research for up to nine weeks during the summer with a mentor at West Virginia University, Marshall University, or one of the WV-INBRE funded PUI laboratories. Participation is open to high school science educators who teach in the state of West Virginia during the previous academic school year. The goal of this part of the program is to provide research opportunities to interested science teachers with the expectation they will take their research experience back into their classrooms and inspire their students to pursue biomedical research opportunities once they enter college. Additionally, it is anticipated that the techniques they learn from the research will enhance the scientific teaching experience in the classroom.

For summer 2024, 5 high school science educators were awarded 7 - 9 week research internships. These fellows were: Bailey Carney from University High School with Dr. Randy Nelson at West Virginia University; Irina Kukharskaya from Cabell Midland High School with Dr. Eugene Shakirov and Kiersten Potter from St. Albans High School with Dr. Louise Risher, both at Marshall University; and Michelle Martinez from Montcalm High School with Dr. Tesfaye Belay at Bluefield State University.

Shania Davis, a HSTA Scholar from Dr. Joe Horzemp's lab at West Liberty State University, is seen here discussing her poster with Valerie Watson, the INBRE/HSTA Coordinator at West Virginia University.

All fellows presented their research at the 22nd Annual WV-INBRE Summer Research Symposium in Morgantown WV on July 30, 2024. The application for Summer 2025 high school science educator fellows will open in January 2025.

WV-INBRE Interns from West Virginia University

Front row: (L to R): Eulice Rosario, Puerto Rico Exchange Program; Ezra Myers, Shepherd University; Autumn Russell, West Virginia Wesleyan College; Skye Friel, Fairmont State University; and Tyler Hollis, Shepherd University.
Middle row: (L to R): Derek Gavilan, Puerto Rico Exchange Program; Patrick Fubio, Fairmont State University; Emilee Owens, Fairmont State University; Sydney Brooks, Fairmont State University; Cyrena King, Davis and Elkins College; and Mason Miller, Shepherd University.
Back row: (L to R): Gracie Oxley, Concord University; Jacob Doyle, Shepherd University; Nick Evans, West Virginia Wesleyan College; Sadie Nichols, West Virginia Wesleyan College; Georgia Thaler, Shepherd University; Srikiran Nandigama, West Virginia Wesleyan College; Jessica Lilly, Fairmont State University; and Chance Berg, Fairmont State University.

WV-INBRE Interns from Marshall University

Front row: (L to R): Nathan Johnson (Marshall, AHA); Bree Moll (WV Wesleyan, INBRE); Laura Delgado (Univ Charleston, INBRE); Elaina Blickenstaff (Marshall, AHA)

Back row: (L to R): Tanner Richmond (Univ Charleston, INBRE) Colby Cooley (Marshall, AHA) Robbie Jividen (Marshall, AHA) Brody Pinson

NIH Launches New Instrumentation Program for Resource-Limited Institutions

In 2023, the National Institutes of Health started a new program to aid resource limited higher educational institutions in acquiring instrumentation to support biomedical research and teaching. The goal of this program is to enhance biomedical research and education capacity at resource-limited institutions. The new program is entitled "Instrument Grant Program for Resource-Limited Institutions (RLI-S10)". Eligible institutions may apply for instrumentation between $25,000 and $250,000. Instruments may support basic, translational, clinical, or biomedically related behavioral science and may be used in research projects and/or upper-level and graduate courses. To be eligible, an institution must award undergraduate (BA or BS) and/or graduate degrees in biomedical sciences, have received no more than $6 million per year (total costs) from NIH Research Project Grants in each of the preceding three fiscal years at the time of application submission, and have enrolled at least 35% of undergraduate students supported by Pell grants based on the most recent two years or belong to the Historically Black Colleges and Universities (HBCUs) or Tribal Colleges and Universities (TCUs). The RLI-S10 Award program is described in full in PAR-23-138 (https://grants.nih.gov/grants/guide/pa-files/PAR-23-138.html) .

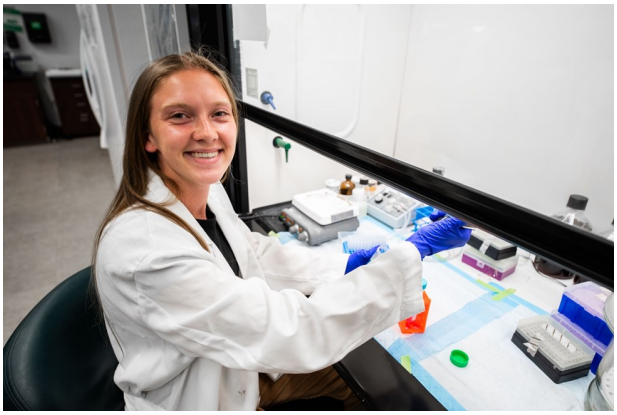
RLI-S10 applications are accepted once per year. The next application due date is July 3, 2025, and the earliest start date is April 2026. This program does offer the advantage of allowing INBRE partner institutions to apply for both research and educational equipment. It is also worth considering applying for this program to acquire instrumentation that would normally be beyond the reach of many of our institutional budgets. The current PAR will expire on July 4, 2025, and it is unclear if it will be re-issued. So, consider applying for the July 3, 2025, application due date to make sure you can take advantage of this program.

NIH Support for Research Excellence (SuRE) Program (R16)

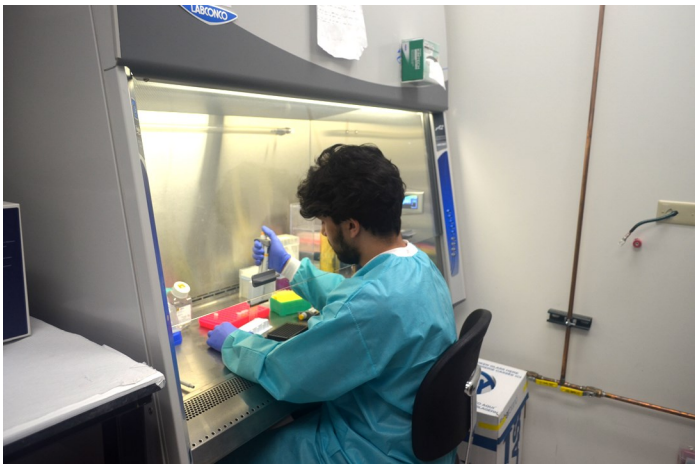
The National Institutes of Health launched a new program to support research at higher educational institutions receiving small amounts for NIH funding called the Support for Research Excellence (SuRE) Program. Successful applications are awarded under the R16 mechanism. To be eligible, an institution must award undergraduate (BA or BS) and/or graduate degrees in biomedical sciences, have received no more than $6 million per year (total costs) from NIH Research Project Grants in each of the preceding two fiscal years at the time of application submission, and have either enrolled at least 25% of undergraduate students supported by Pell grants based on the most recent two years, or belong to the Historically Black Colleges and Universities (HBCUs) or Tribal Colleges and Universities (TCUs). The SuRE Award program is described in full in PAR-24-144 (https://grants.nih.gov/grants/guide/pa-files/PAR-24-144.html).

In a recent visit from NIGMS leadership to Marshall University, the program was promoted as an excellent opportunity for INBRE partner institution faculty to apply for and receive extramural research funding for their biomedical research projects from NIH. Applications are accepted twice a year with the next application due date being May 28, 2025. Applicants may request up to $100,000 per year in direct costs and may request up to four years of support. R16 funded projects are eligible for renewal through submission of a competitive renewal application. We would encourage our partner institution researchers to investigate the SuRE (R16) program to fund your research projects.

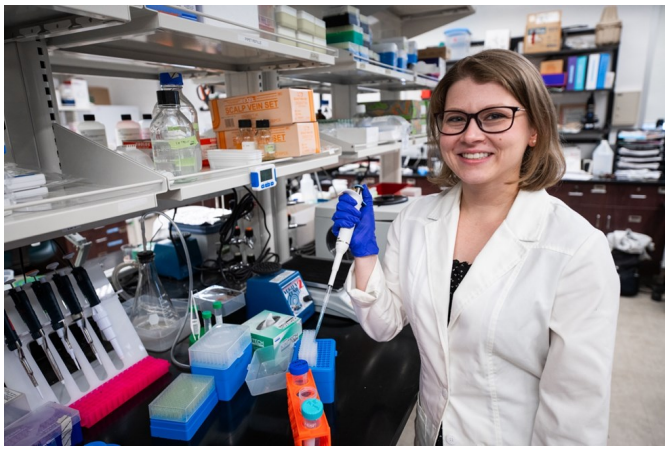
WV-INBRE Participants Working In The Labs



Bree Moll, from West Virginia Wesleyan College, is seen working on her project in Dr. Chris Risher's lab at Marshall University. Bree was a returning student from the 2023 Summer Program.

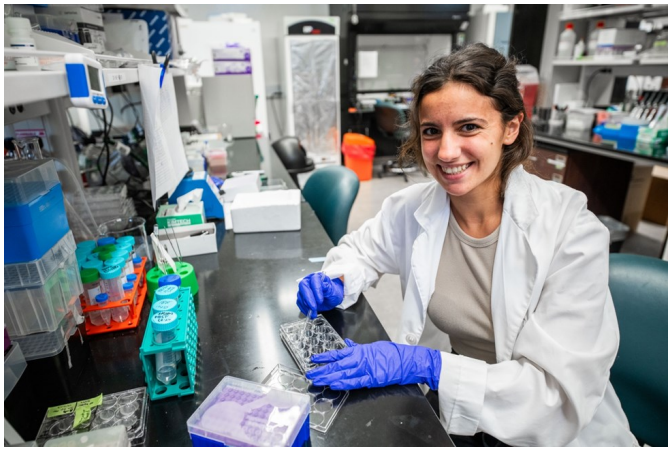


Hamza Sohrab, from Shepherd University, is seen working on his project in Dr. Paul Lockman's lab at West Virginia University.

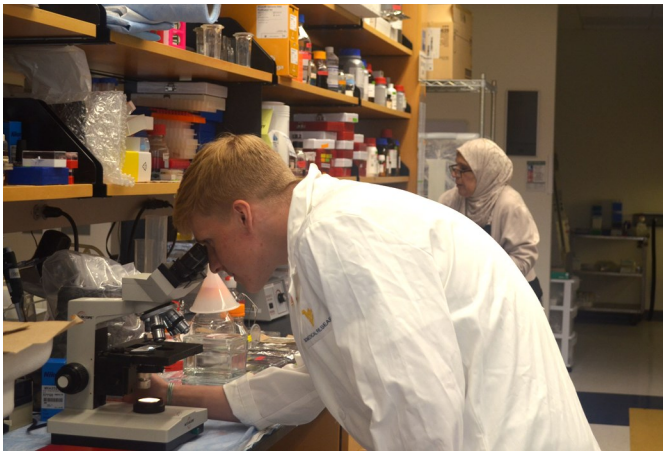


Kiersten Potter, a HSTA Science Educator from Saint Albans High School, is seen working on her project in Dr. Louise Risher's lab at Marshall University.

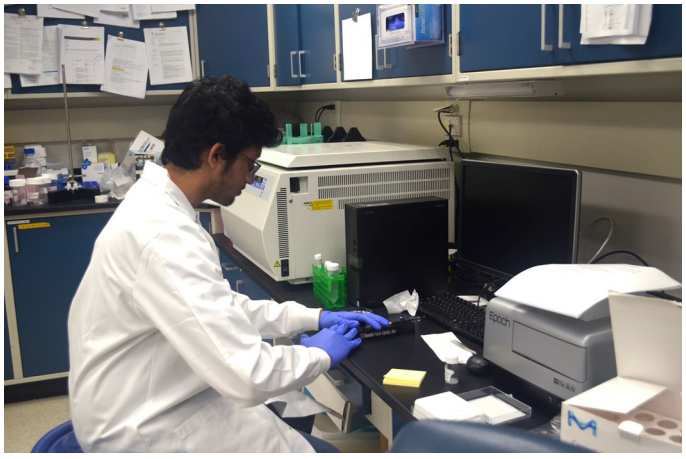
WV-INBRE Participants Working In The Labs *continued*



Laura Delgado, from the University of Charleston, is seen working on her project in Dr. Louise Risher's lab at Marshall University.



Patrick Fubio, from Fairmont State University, is seen working on his project in Dr. Candice Brown's lab at West Virginia University.

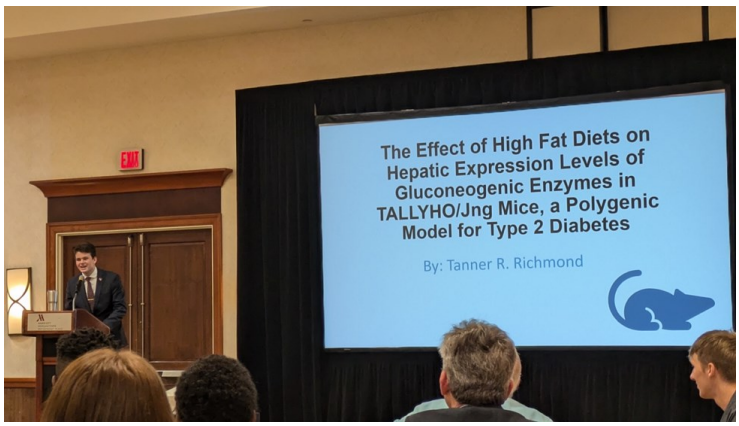


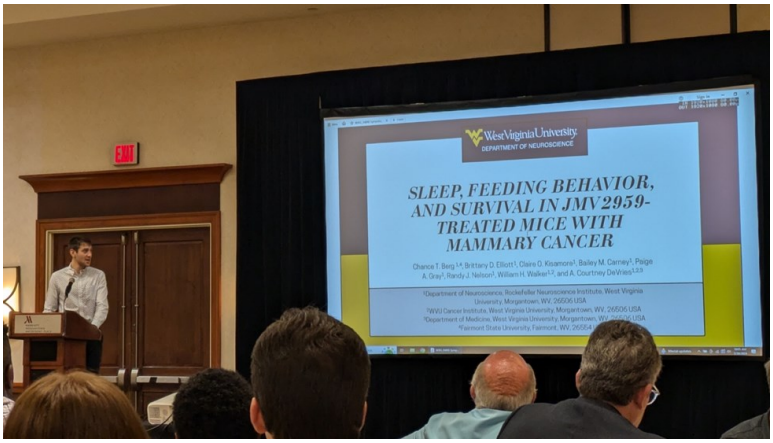
Srikiran Nandigma, a student from West Virginia Wesleyan College, is seen working in Dr. Sharan Bobbala's lab at West Virginia University.

Summer Participants Present At The 2024 WV-INBRE Symposium

Pictured Left: Gracie Oxley, Concord University, presents her poster entitled "Toxicity of Road and Tire Wear Particles." Gracie worked in Dr. Salik Hussain's lab at West Virginia University.

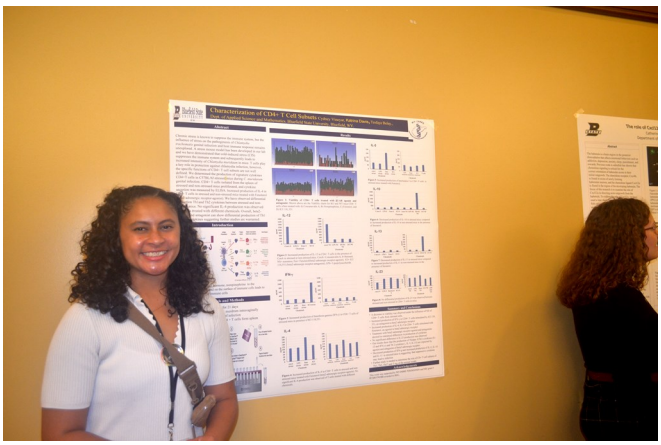
Pictured Right: Tanner Richmond, University of Charleston, presents his poster entitled "The Effect of High Fat Diets on Hepatic Expression Levels of Gluconeogenic Enzymes in TALLYHO/Jng Mice, a Polygenic Model for Type 2 Diabetes." Tanner worked in Dr. Jung Han Kim's lab at Marshall University. Tanner was a returning student from the 2023 Summer Program.





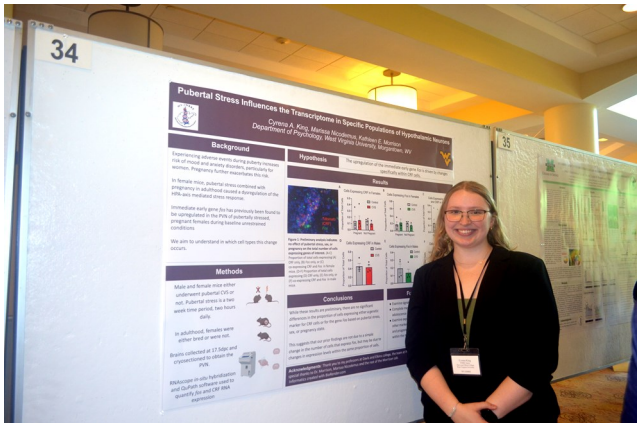
Pictured Left: Chance Berg, Fairmont State University, presented his poster entitled "Sleep, feeding behavior, and survival in JMV2959-treated mice with mammary cancer." Chance worked in Dr. Randy Nelson's lab at West Virginia University. Chance was a returning student from the 2023 Summer Program.

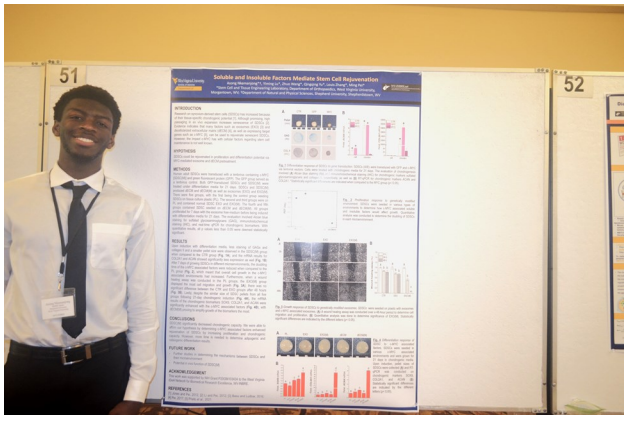
Summer Participants Presenting Posters At The 2024 WV-INBRE Symposium



Pictured Left: Cydney Vineyard, a HSTA Scholar from Bluefield State University, presented her poster entitled " CD4+ T cell subset profiles in a stressed mouse model during Chlamydia muridarum genital infection." Cydney worked in Dr. Tesfaye Belay's lab at Bluefield State University.

Pictured Right: Cyrena King, a returning participant from the 2023 Summer Program from Davis and Elkins College, presented her poster entitled "Pubertal Stress Influences the Transcriptome in Specific Populations of Hypothalamic Neurons." Cyrena worked in Dr. Kathleen Morrison's lab at West Virginia University.





Pictured Left: Neghue Asong Nkemanjong from Shepherd University, presented his poster entitled "Soluble and Insoluble Factors Mediate Stem Cell Rejuvenation." Neghue worked in Dr. Ming Pei's lab at West Virginia University.

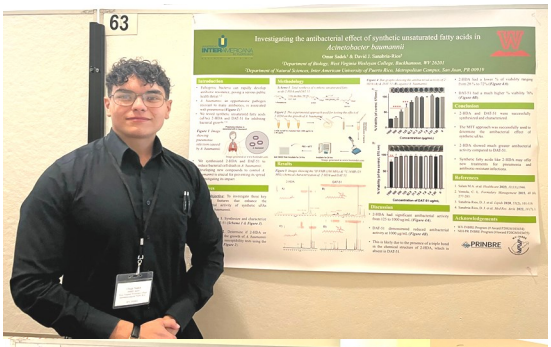
Puerto Rico Exchange Program

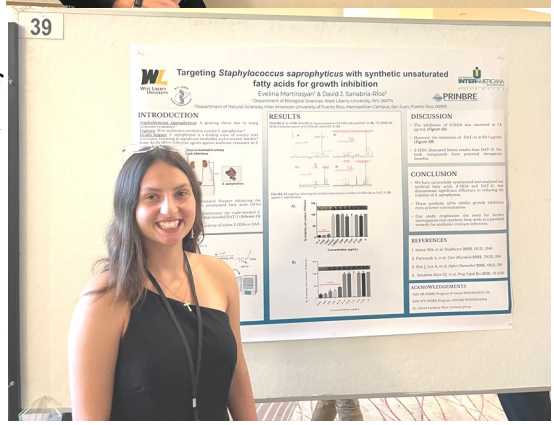
West Virginia and Puerto Rico are both regions that boast beautiful & lush landscapes rife with diverse flora that produce medically relevant phytochemicals. Accordingly, researchers in both respective IDeA programs share a passion for research involving the utilization of natural products as new sources of medicine. Therefore, Drs. Rankin and José Rodriguez-Medina (PI of the PR-INBRE) explored the benefit of establishing a collaboration between our programs. To help facilitate collaborative projects, WV and PR investigators organized three virtual natural products symposia featuring research presentations and networking sessions from 2020-2023. Several collaborations were established as a direct result of these symposia. Perhaps most notably, the idea to establish a West Virginia-Puerto Rico student research exchange emerged from these interactions.

This student research exchange was piloted during the summer of 2023. During this time, two students from West Virginia (Reagan Gray and Kaitlyn Bailey of West Liberty University) conducted research in the laboratory of Dr. Claudia Ospina at the Interamerican University of Puerto Rico - Bayamón. Correspondingly, two students from Puerto Rico (Maria Milanés-Russi and Patricia Hiciano-de la Cruz) conducted their summer research at West Liberty University, WV under the direction of Dr. Joseph Horzempa. At the culmination of these programs, these students presented their work at the WV- and PR-INBRE summer research symposia. In addition to the experience of conducting cutting edge research focusing on natural products, all participants in the research exchange elevated their cultural awareness and an appreciation for different parts of the world.

Because of the success that was experienced in the summer of 2023 (see group picture above), the WV- and PR-INBRE programs decided to support the research exchange once again in the summer of 2024. In this second year, applicants from the primarily undergraduate institutions in West Virginia were reviewed and Omar Sadek of West Virginia Wesleyan College (pictured to the right), and Evelina Martirosyan of West Liberty University (pictured at the bottom right), were selected to travel to Puerto Rico to conduct research under Dr. David J. Sanabria-Rios at the Interamerican University of Puerto Rico – Metro. From Puerto Rico, Derik Amely-Gavilan and Eulices M. Castrodad-Rosario traveled to West Virginia University to conduct research under the mentorship of Dr. Sharan Bobbala.

The West Virginia and Puerto Rico INBRE programs plan to continue to support the research exchange in 2025 and beyond. If you are an undergraduate student interested in participating in this program, please contact Dr. Joseph Horzempa at joseph.horzempa@westliberty.edu with any questions.





HIGHLIGHT: Dr. Tesfaye Belay from Bluefield State University

Dr. Tesfaye Belay, pictured above, is a Professor of Biology in the Department of Applied Sciences and Mathematics at Bluefield State University. He received his BS in Biology from Addis Ababa University, Ethiopia, and then completed his MS in Microbiology and PhD in Botany and Pathology from Michigan State University. Before he started his career at Bluefield State University in 2005, he was a postdoctoral researcher at Georgia State University, Morehouse School of Medicine, and Clark Atlanta University. He has a broad background in biology with specific training and expertise in microbiology and immunology. Dr. Belay enjoys teaching in several fields, including general biology, chemistry, and upper-level courses in medical microbiology and immunology. Being a first-generation graduate, Dr. Belay greatly desires to teach first-generation students at BSU.

In addition to his excellence in instruction, Dr. Belay is a successful researcher who has received several grants from the West Virginia-IDeA Network of Biomedical Research Excellence (WV-INBRE). His current research explores stress and immune system function that may profoundly impact several public health concerns, such as the prevalence of chlamydia genital infection. There is evidence that stress affects individuals of lower socioeconomic status (SES) more than those of higher SES, raising increased health concerns for that population. His laboratory research focuses on understanding the mechanism(s) by which stress increases the intensity of genital infection by altering the immune response in a mouse model to mimic studies in human subjects. He has developed a stress mouse model for chlamydia genital infection and immune response analysis in his laboratory. In addition to being the PI of several pilot projects, he is a major award recipient from WV-INBRE.

Most importantly, Dr. Belay has been interested in involving undergraduate students in biomedical research for several years. Grants from WV-INBRE awarded to his laboratory have allowed over 90 INBRE fellows to gain training in biomedical science research at Bluefield State University under his supervision. Dr. Belay has long encouraged his students to participate in the Summer Research programs of WV-INBRE, HSTA, and McNair Scholars. Dr. Belay works tirelessly to ensure that each of his research students can travel to a national conference to present their research. For students who have lived their whole lives in the tri-county region or have never been on an airplane, this has been a transforming experience, teaching them that they have access to the world beyond their community and the opportunities that lie within. They have presented posters and oral presentations at local and national conferences to gain experience in communication. He has the practice of taking several BSU students to present posters at the Annual Biomedical Research Conferences for Minority Students, ASM Microbe, and the American Society for Gravitational and Space Research held in places such as Santiago, San Jose, Los Angeles, Anaheim, Phoenix, Austin, San Antonio, Tampa, Orlando, Charlotte, Atlanta, St. Louis, Indianapolis, Philadelphia, and Pittsburgh. His research students always present posters at the annual Research Day in the Capitol, WV Academy of Sciences, and McNair Research Day at Concord University. So far, 19 BSU research students have co-authored three peer-reviewed research findings published in scientific journals.

Dr. Belay is one of the first WV-INBRE fellows to receive a Research Enhancement Award (AREA) grant from NIH in 2016. Dr. Belay has the second AREA grant from NIH, awarded in 2023-2026. Additionally, his lab has recently been awarded a pilot project the WV-INBRE Center for Natural Product Research Program and HSTA from WV-INBRE awards. He has received research awards from the WV Space Grant Consortium instrument grant awards through WV-INBRE and STaR. Because of his success in teaching and research efforts, the Faculty Merit Foundation named him one of the five finalists in the 2019 West Virginia Professor of the Year. His accomplishments at Bluefield State earned him the Faculty of the Year award in 2015 and an Outstanding Researcher award from the Thurgood Marshal College Fund in 2009.

Dr. Belay feels these accomplishments would never have happened without the opportunities and support provided both externally and internally and is so grateful to the WV-INBRE administration and leadership.

ANNOUNCEMENTS

Summer Program 2025

WV-INBRE is pleased to announce its 2025 Summer Research Program. The program is nine weeks of research in the field of biomedical sciences. Interns will conduct mentored research projects at West Virginia University and Marshall University. Participants will receive formal research training while expanding their learning experience through workshops, seminars on current topics, mentoring and use of state-of-the-art core facilities. A stipend of $6,000 will be provided to each intern for the 9-week period. The application deadline is February 5, 2025. More details and a link to the online application form are available on our web page:

https://www.wv-inbre.net/summer-program-students

HSTA Program 2025

SUMMER 2025 PAID RESEARCH OPPORTUNITY FOR HIGH SCHOOL SCIENCE EDUCATORS

WV-INBRE program will provide funding for nine-week biomedical science research internship positions for WV high school science educators. A maximum of 5 internships will be available. HSTA teachers or teachers from HSTA-affiliated schools may be given preference in the selection process. Internships run from May 27 through July 29, 2025. Based on the high school's academic calendar, start dates are flexible; however, employment dates end July 29, 2025. Compensation of $9,000 ($1000/week) will be provided for the full nine weeks, or $1000 for each 40 hour week worked. For more information, go to the WV-INBRE website at: https://www.wv-inbre.net/summer-program-hseducators

More information will be provided about the program and you will be able to view the Mentors Abstract Directories for researchers at WVU and Marshall University and at the WV-INBRE's partner institutions. These directories can be viewed online at their appropriate link and the application can be filled out online under the "Apply Now" tab. Application link is now open. Deadline for application is March 7, 2025.

For more information, contact: Valerie Watson, vwatson@hsc.wvu.edu or (304) 293-4120.

SUMMER RESEARCH PROGRAM 2025

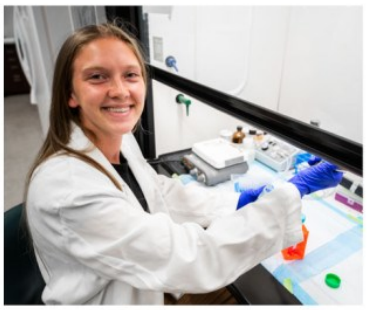
Participation is open to all students who are enrolled full-time at the Primarily Undergraduate Institutions participating in the WV-INBRE Network who will have not graduated by August 2025.

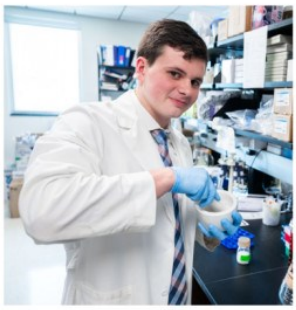
Research Opportunities:

- Addiction
- Cancer Biology
- Cardiovascular Disease, Obesity and Diabetes
- Molecular Mechanisms of Pathogenesis
- Neuroscience and Developmental Biology
- Toxicology and Environmental Health Sciences

Evaluation Criteria:

- Academic record, particularly in science courses
- Laboratory experience
- Stated interest in biomedical research and career goals, and why would like to participate in the program
- Recommendations of two faculty members at the applicant's institution and others, if relevant





♦ $6,000 stipend

♦ Conduct research in state-of-the-art facilities at Marshall University or WVU

♦ Present results of the research project at the WV-INBRE Summer Research Symposium

Application Process:

- Completed application form (https://wv-inbre.net/summer-program-students)
- Transcripts from all institutions of higher learning attended
- Two letters of recommendation

♦ Dates of Summer Internship are May 27 through July 29

♦ **Applications and supporting documents must be received on or by February 5, 2025**

♦ Contact Dr. Grover for more information or questions at grover@marshall.edu