HOT NEWS

Save the Date!
Oct. 24: MPA FAMILY TOWN HALL, 10-11:30AM. All MPA students and parents, including current and alumni parents, may attend. Virtual Event

Nov. 25: Students vacate campus housing at end of abbreviated fall housing term

Dec. 8: Last day of classes (remote learning)

Dec. 10-16: Final Exams

Dec. 17: Link to Commencement Information

COV ID-19 ALERT:
Please note that campus, state, and foundation business processes are significantly slowed due to COVID-19.

More Details on page 6

MPA Family Town Hall
October 24, 10-11:30am

As parents of Meyerhoff Scholars, you are also members of the Meyerhoff Parents Association. You’re invited to join us at the MPA Family Town Hall on Saturday, October 24 from 10-11:30am for a lively, informative virtual meeting. Invitations were emailed on October 8.

Some of our speakers include UMBC President Dr. Freeman Hrabowski, MPA Board President Veronica Bell, Dr. Katherine H. Cole, UMBC Vice Provost & Dean of Undergraduate Academic Affairs, and Earnestine Baker, Executive Director Emerita, Meyerhoff Scholars Program. We’ll also hear from Keith Harmon, Director of the Meyerhoff Scholars Program.

You’ll have an opportunity to gain perspective from Meyerhoff alumni about their struggles and paths to success, learn about the activities the MPA hosts for your students, and gain valuable information from Meyerhoff program staff and the Meyerhoff Council student president.

An election for officers to serve on the 2020-21 MPA Board for the coming academic year will also be held. Open Board positions include: President, Vice President, Assistant Vice President, Treasurer, Assistant Treasurer, Corresponding Secretary, Recording Secretary, Historian, Editor and all cohort representative positions, M1 to present (M32).

RSVP HERE
**UMBC Public Health Dashboard**

This dashboard provides timely data about the prevalence of COVID-19 within UMBC’s main campus, based on UMBC’s on-campus testing and reported results from off-campus testing among UMBC faculty, staff, and students who are approved to be on campus this fall.

Visit the dashboard at the Retriever Ready Fall 2020 site https://covid19.umbc.edu/. Please direct COVID-related questions to covid19@umbc.edu.

You can also visit this site for more information: https://covid19.umbc.edu/testing-tracking/umbc-public-health-dashboard/.

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**MPA Supports Students**

The Meyerhoff Parents Association’s (MPA) mission is to support and perpetuate the Meyerhoff Scholars Program by fostering unification among scholarship recipients (past and present), as well as their families.

Parents of Meyerhoff scholars are automatically members of the MPA and your participation is highly encouraged. The parent-elected Board of Directors provide support to Meyerhoff Scholars program activities and students.

In addition, the board works in conjunction with Meyerhoff Scholar Program staff, the Meyerhoff Student Council and Alumni Advisory Board, for this demonstrates support/trust in the Meyerhoff Staff and the overarching goals of the program.

A suggested giving level of $100 annually per member family funds student activities sponsored by the MPA and/or Meyerhoff scholars, along with conference registration and travel assistance. Donate at [https://gritstarter.umbc.edu/meyerhoff-parents](https://gritstarter.umbc.edu/meyerhoff-parents).

Regular communications to parents and scholars referencing the Meyerhoff Scholars program are normally disseminated via e-mail from the MPA.

Contact the Meyerhoff Parents Association Board Officers at umbcmpa@gmail.com or obtain additional information at [http://meyerhoff.umbc.edu/parents/meyerhoff-parents-association/](http://meyerhoff.umbc.edu/parents/meyerhoff-parents-association/).

For general scholarship questions, visit meyerhoff@umbc.edu or contact the Meyerhoff Scholars Program office at 410-455-3139.

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**Stay Connected**

Register for the UMBC Family Connection Newsletter to stay up-to-date on important deadlines, upcoming events, and campus happenings.

Families have this space where they can stay informed and connected.

It also provides a platform for families to connect with one another and with the Office of the Vice President for Student Affairs. No password is needed to access the page.

Visit [https://familyconnection.umbc.edu/](https://familyconnection.umbc.edu/) for more information.
Welcome to the Meyerhoff Parents Association!

As parents or guardians of Meyerhoff scholars, we know the experience of a scholar is unique, opening doors to new and novel experiences, forging lifelong relationships and propelling these scholars toward a fulfilling career. It is vitally important to support our scholars.

Thus, the MPA encourages you to submit an annual family gift of $100 to fund student-centric activities sponsored by the MPA — this also provides funding for Meyerhoff scholars’ requests for financial assistance with conference and professional meeting registration fees. In short, 100% of your gift is invested in the students, and they are worth every penny we raise because they are all our sons and daughters.

The MPA operating fund does not receive money from the UMBC foundation, the university or the program office. Gifts from you provide a majority of the funding. Employee gift matching programs are an easy way to double your contribution.

Donations can be made either online using a credit card via the Gritstarter link https://gritstarter.umbc.edu/meyerhoff-parents or by returning the MPA Gift PDF form (Form), along with your check or money order. Please make your check/money order payable to the University of Maryland Baltimore County Foundation, Inc. (UMBC Foundation) and write in the memo field: MPA ACCT #05-20127 to ensure funds go to MPA. Your gift today is greatly appreciated.
Meyerhoff Scholars: Black Lives Matter

FROM THE MEYERHOFF ALUMNI ADVISORY BOARD (MAAB)

Excerpts from the MAAB Summer 2020 Updates

#BlackLivesMatter

As we continue to witness the tragic murders of African-Americans, including George Floyd, Amhaud Arbery, and Breonna Taylor, we mourn the loss of these individuals and stand in solidarity with the Black Lives Matter movement.

Over thirty years ago, the Meyerhoff Program, through the vision of Dr. Freeman Hrabowski and the financial support from Robert and Jane Meyerhoff, was built to increase the representation of Blacks committed to obtaining terminal degrees in math, science, and engineering. Thus, we encourage you to continually pursue the advancement of social justice, racial equality, diversity, and inclusion in all spaces.

The MAAB Executive Board has compiled a list of some helpful resources pertaining to this subject, which you can find below.

List of mental health resources for women
Maintaining professionalism in the age of Black death
General mental health resources (Page 1, Page 2)
How to get involved without going to a protest
Color and Learn
Assortment of resources
Explaining white privilege
Black-owned bookstores
Lessons about being Black in America from a bank executive
Stories from three generations of Black men in America

History Revisited

Read this recently published article, I’m Still Saying Her Name, by Dr. Freeman Hrabowski, UMBC President, as he recalls his young friend killed in the 16th Street Baptist Church bombing 57 years ago.

Announcements

The MPA extends our deepest condolences to:

The Harmon family on the loss of Ivan Blaine Harmon, brother of Mr. Keith Harmon, Director of the Meyerhoff Scholars Program.

Yaw Owusu-Boaitey Scholarship Fund

In memory of M29 Yaw Owusu-Boaitey, his family has established the Yaw S. Owusu-Boaitey Scholarship Fund at UMBC.

Yaw had a tremendous impact on UMBC, touching and inspiring everyone around him, as evidenced by the gifts and comments from current students, alumni, faculty and staff.

On July 18, 2020, the Meyerhoff Parents Association Board voted unanimously to donate the maximum allowable contribution of $150 on behalf of the MPA in tribute to Yaw.

Please consider supporting the Owusu-Boaitey family’s effort to sustain Yaw’s legacy of scholarship, research, service, civic engagement, and care for others by visiting this link —

Yaw S. Owusu-Boaitey Scholarship Fund

All contributions are administered by the UMBC Foundation, Inc., for the benefit of UMBC.

Assistance with Utility Bill Hardships

These are difficult times for many people. The Office of People’s Counsel produces community resource guides for every county in Maryland. If you are experiencing troubles with utility bill issues, these guides should be helpful to you. The annually updated resource guides offer information on utilities, energy assistance programs, energy efficiency programs, tax credit programs, telephone assistance programs, housing and mortgage assistance programs, and more.

The guides can be found on this website. Select your county to explore the resources that are available to you for assistance with your utility payments.
Announcements

MPA Board Election 2020-2021

The Meyerhoff Parent Body will vote in a new board — all positions — October 24, 2020 at our Town Hall Meeting, 10:00 – 11:30am. Balloting will begin promptly at 11:00am.

Out of an abundance of caution, the election will be virtual. All parents of currently enrolled Meyerhoff Scholars are eligible to run for office and to vote. We encourage your participation. Check your email for updates concerning the election, which will provide instructions to run for an office as well as voting guidelines (i.e. one vote per family is permitted; deadlines for nominations; ballot information; etc.).

We will continue to receive nominations/self-nominations via mpanominationscommittee@gmail.com until Friday, October 16. In addition, to ensure that you receive a ballot, you must register for the Town Hall and complete the registration by midnight, October 16, 2020.

Open positions include:

President
Assistant Vice President
Assistant Treasurer
Recording Secretary
Editor

Vice President
Treasurer
Corresponding Secretary
Historian
All cohort representative positions, M1 to present (M32)

The MPA bylaws for qualifications and responsibilities can be reviewed at: https://meyerhoff.umbc.edu/files/2019/06/MPA-Bylaws-rev-10.6.18.pdf.
Congratulations, Class of 2020!

The pandemic has upended our lives—altering our routines, isolating us from friends and family, impacting our workplaces, and causing the delay or cancellation of countless gatherings and celebrations. While our UMBC 2020 graduates did not have a typical graduation ceremony, Senior Reception or the opportunity to attend the Meyerhoff Graduation Dinner, we held them close in our hearts and celebrated with them in spirit.

In addition, with an abundance of kind and generous donations from M29 parents, they raised $2775 which was used to purchase several commemorative items for the 2020 graduates. We thank you, M29 parents, for your generosity in helping the 2020 Meyerhoff graduates celebrate their many accomplishments!

Included in the package sent to the 2020 graduates were several tokens of congratulations:

- Meyerhoff Scholar Pin
- Meyerhoff Honor cord and where applicable, an HHMI cord.
- Bookmark with the Meyerhoff Scholar Alumni Pledge
- Photo of the M28 Cohort
- A link to a slideshow presentation for the M28 Cohort: https://app.box.com/s/gfj4t3reiq98bczmbdwm8w52ysbpgb06
- Forthcoming will be a copy of the “Ode to a Scholar” book.

Again, well done M28s! Congratulations!
Welcome, M32 Meyerhoff Scholars!

At the conclusion of Summer Bridge, the Meyerhoff Program welcomed 66 students as M32 Meyerhoff cohort members.

This year’s cohort was selected from a historical number of completed applications. While the modality of the 2020 Summer Bridge was virtual, students were still engaged in Race, Science and Society and Precalculus or Calculus courses; science, technology and engineering workshops; professional development seminars; academic and career advising; mentorship; and virtual site visits.

As the M32 cohort begins a freshman fall semester unlike any other, we know they have the talent, tenacity and grit to succeed.

We are so excited to welcome you and your families to the Meyerhoff Family.
Meyerhoff Student Council Updates
Contributed by Nidhi Naik M29, Meyerhoff Student Council President

Who We Are and What We Do

The Meyerhoff Student Council helps to facilitate the connection between the Meyerhoff staff and the scholars. We plan outreach events and communicate student interests, with the goal of creating a more cohesive community. Last semester, Council gained some new voices. M30’s Briah Barksdale and Ridhi Chaudhary were chosen in their cohort’s reelection; and the M32s elected Anya Viswanathan, Arjun Kanjarpane, Ryan Hoffman and Caylee Brown at the conclusion of their virtual Summer Bridge experience. We look forward to the innovative ideas they’ll contribute!

Another round of applause is due to the new Seniors! Congratulations to the M29s—may you continue to excel in your endeavors this semester and in the bright future ahead.

This summer Council developed several exciting new programs as part of our Social Justice Initiative. These included a socially conscious book club, a list of resources for people who want to get more involved in their communities, and a discussion group where everyone can share their truths. We saw great engagement in these programs this summer and hope that spirit carries into the coming semester.

Additional initiatives that Council will continue from previous years are the Meyerhoff yearbook, the mental health series, Fridays at the Office, as well as intra- and inter-cohort events. Moreover, Council is hard at work on creating new opportunities for the Fall semester. Novel initiatives we are working on implementing this semester are town halls, biweekly updates to the student body, and "Adulting 101" where students will be able to learn valuable skills not taught in a traditional classroom setting. Students should be sure to check their emails regularly for updates on these events and more!

Due to the COVID-19 pandemic, many students are not able to be on campus and experience the vibrant UMBC culture so many of us have come to know. This year the Meyerhoff Council and staff are working diligently to make sure students feel supported in this new virtual environment.
Nominate Students for Meyerhoff Program

The Meyerhoff Scholars Program at UMBC invites your nominations for our thirty-third class. We encourage you to nominate high school seniors who have exhibited high aptitude in Science, Technology, Engineering and/or Mathematics (STEM), even though some may have expressed an interest in attending other colleges or universities.

The Meyerhoff Program is open to all high-achieving high school seniors who plan to pursue undergraduate studies in STEM. The Program’s merit scholarship awards range from $5,000-$15,000 per year for in-state students and $10,000-$22,000 per year for out-of-state students.

Nominees must:

- have at least a “B” average in college-preparatory mathematics and science courses,
- earn outstanding SAT scores (if provided - UMBC and Meyerhoff are test-optional for Fall 2021 admission),
- express a genuine interest in STEM,
- plan to pursue doctoral studies (Ph.D. or the combined MD-Ph.D.) in a STEM field, and
- have an interest in the advancement of underrepresented students in the sciences and related fields.

Please visit meyerhoff.umbc.edu to nominate students, view program achievements, and find additional information. We accept nominations on a rolling basis until December 1, when the nomination portal closes.

Please be sure to include a current mailing address, telephone number, and personal email address for each nominee. Due to the COVID-19 response, email will be our primary means of communication with students during this application cycle. We encourage you to submit your nominees’ personal email addresses (Gmail, Comcast, Verizon, Yahoo, etc.) as some high school email servers will not accept messages from our email service.

Please encourage students to submit their UMBC admissions application by the November 1 Early Action deadline and to complete their Meyerhoff application online at meyerhoff.umbc.edu by our December 1 Priority Application deadline. The Meyerhoff online application portal closes on January 15, 2021.

Feel free to email us at meyerhoff@umbc.edu with any questions. We appreciate your support and your willingness to assist us in identifying bright and enthusiastic students for our program.

Meyerhoff Scholars: Lending a Hand

Justyn Bunkley, an M31 Mechanical Engineering major, kept busy this summer even in the midst of the pandemic, by taking non-perishable food collected from family and friends to Laurel Advocacy & Referral Services (LARS) in August.

LARS’s mission is to enable homeless and low-income people in Laurel who are in crisis to achieve stability and long-term self sufficiency while treating all people with dignity and helps everyone meet their basic needs.

Justyn continues his passion of helping others in the UMBC community by volunteering monthly in Retriever Essentials.
Dear Members of the UMBC Community,

I am pleased to announce that UMBC has acquired the former Catonsville District Courthouse building on Walker Avenue, located on land designated as part of the original UMBC campus in 1965. The State of Maryland will transfer the building and surrounding land to the University System of Maryland for the use and benefit of UMBC. Once the District Court vacates the building, which is expected within six months, the property will be available to the University once again.

The building will provide us opportunity to expand our capacity in high-demand academic programs, including but not limited to computing, cybersecurity, and engineering. This will enable UMBC to continue supporting Maryland’s economy by producing additional graduates who will be ready to work in these growing fields, and to expand research.

I would like to thank Governor Larry Hogan, Comptroller Peter Franchot, State Treasurer Nancy Kopp, Secretary of General Services Ellington Churchill, and Speaker of the Maryland House of Delegates Adrienne A. Jones for their support throughout this process. I also want to thank Vice President for Administration and Finance Lynne Schaefer and especially Senior Associate Vice President for Administrative Services Terry Cook for their work to advance this transfer through the state’s property process.

This acquisition will help us continue to move UMBC forward and contribute to Maryland’s economy. We will keep the UMBC community updated as the plans for this building are finalized.

President Freeman Hrabowski

Recently Published and Noteworthy:

- **At a Crossroads: Reimagining Science, Engineering, and Medicine—and its Practitioners.**
  From the *Proceedings of the National Academy of Sciences*, written by Dr. Freeman Hrabowski and others: [https://www.pnas.org/content/early/2020/07/14/2013588117](https://www.pnas.org/content/early/2020/07/14/2013588117)

- **Coronavirus Updates featuring Meyerhoff Scholar Kizzmekia Corbett.**

- **Senior U.S. lawmaker wants National Academies to scrutinize racism in science.**
Student Services: Reach Out for Help

These are difficult times for many people. UMBC has several services available to students to help.

The Counseling Center:

Over the course of a student’s college years, they will encounter many challenges and opportunities, both academically and personally. The Counseling Center is there to help them successfully navigate those challenges and take advantage of opportunities to make the most of their experience.

Services are confidential and free for registered UMBC students and include individual and group counseling, as well as a variety of resources, including online screenings and programs, self-help materials, and information for off-campus community referrals.

Reach out for help and find it at the Counseling Center.

Learning Resource Center (LRC):

The Learning Resource Center offers small group tutoring to UMBC students (by appointment) for first and second-level classes, drop-in tutoring for Math and Science classes at the Math and Science Tutoring Center, drop-in tutoring for Spanish 101-201 courses at the Spanish Tutoring Lab, and support with writing assignments (appointments, drop-ins, and online) at the Writing Center.

Students will also find help through the Chemistry Tutorial Center, the Biology Learning Center, and the Physics Tutorial Center.

Retriever Courage:

Retriever Courage is UMBC’s initiative to strengthen campus prevention and response efforts related to incidents of sex discrimination and sexual violence/misconduct. UMBC encourages those who have observed or experienced sexual violence/misconduct to seek support as needed at any time.

There are many resources available on campus and in the community that offer confidential medical support, confidential psychological/emotional support, and interim protective measures (e.g., no-contact orders, housing adjustments, academic concerns).

For emergency situations, contact campus police via 410-455-5555 or local police via 911.
Retriever Essentials:
The Retriever Essentials Food Pantry aims to combat food insecurity in the UMBC community. Under the COVID-19 guidelines issued by the UMBC campus, the Retriever Essentials Food Pantry is closed for visitors. However, students can pick up pre-packed bags of nutritionally balanced nonperishable food and travel size toiletry items at the UMBC Campus Police Department.

How You Can Help — A ‘no contact’ pantry donation process is in place. Families can donate items by visiting the Retriever Essentials Amazon shopping lists to select items to be delivered to the campus pantry!

Just click on the links below:

- Pantry Items
- Toiletry Items

Please use the following contact information and address for the orders:

Deveraux Smith, Retriever Essentials
Sherman Hall 205
University of Maryland Baltimore County
1000 Hilltop Circle
Baltimore, MD  21250

Delivery Instructions: Please have items delivered to UMBC (on campus).

Donations — Donations are also accepted by check or credit card. Please make checks payable to the UMBC Foundation, Inc. and note “Retriever Essentials” in the memo line. Mail checks to:

UMBC Foundation, Inc.
1000 Hilltop Circle
Baltimore, MD  21250

Secure credit card donations may be made through the university’s giving site: http://support.umbc.edu. Note “Retriever Essentials” in the Other Designation field.

All contributions are administered by the UMBC Foundation, Inc., for the benefit of UMBC.

For more information, please visit https://retrieveressentials.umbc.edu/ or email retrieveressentials@umbc.edu. We thank you for your kindness and generosity.
The fight to treat and find a cure for COVID-19 has challenged and perplexed scientists and medical professionals throughout the world. The Meyerhoff Alumni Advisory Board — MAAB — has members on the front line, developing, researching, treating and testing to find a way to move past this insidious disease. Here are some of the Meyerhoff alumni who are putting their talents to work to treat and find solutions for the COVID-19 virus. We thank you all for your efforts.

Meyerhoff Alumni Accomplishments Related to COVID-19 Response (as of May 2020):

**Avery Posey, M13:** In the Posey laboratory, we are investigating the role of SARS-CoV-2 glycans in viral infectivity and evaluating anti-glycan antibodies for viral neutralization.

**Monique Foster Hankins, M18:** I work for Inovio Pharmaceuticals Inc. INO is in the middle of its Phase I trial of its DNA vaccine candidate to treat COVID-19. The trial is being funded by the Coalition for Epidemic Preparedness Innovations (CEPI). I am the manager of global regulatory affairs there so I am working closely with the FDA on their rules and regulations for the trial.

**Catrina Johnson, M24:** I’m a volunteer firefighter and EMT with the Wheaton Volunteer Rescue Squad in Montgomery County, MD. My station is providing emergency medical and fire/rescue services to our community. We are increasing our staffing to respond to more calls as the pandemic is causing a surge of patients requiring evaluation for COVID-19, and for patients who need to go to the hospital due to COVID-19 complications. I volunteer for about 30 hrs a week, in addition to my full-time job at a biopharmaceutical company.

**Natasha Powell, M8:** As an emergency medicine physician at George Washington University, I am providing direct patient care to residents of Washington, DC and others who have become infected with COVID-19. Through GW, I have also been helping to staff the DC Department of Health COVID hotline and providing telemedicine services to help triage residents to the appropriate level of care and testing centers. Globally, I have continued working with our international partners to help increase the pandemic preparedness of the emergency medicine workforce currently training through GW’s international emergency medicine residency programs across multiple sites in India.

**Olubukola Ibiyemi, M16:** I’m working as a hospitalist taking care of COVID positive patients.

**Meghan Kirksey, M8:** I’m an anesthesiologist & critical care doc in NYC, treating COVID ICU patients. I also have a PhD in infection biology & helping a bit to educate colleagues & trainees about the epidemiology, disease, & management.

**Christy Gray, M8:** I work in healthcare as an anesthesiologist. Thus far, I remain working in the OR. I have volunteered to pick up extra calls, intubate COVID patients, attend in the ICUs, and do whatever else needs to be done (e.g., work in areas that are short of providers/employees).

**Tiffany Fleet, M17:** I am currently an Internal Medicine Resident at the University of Pennsylvania. A part of my job includes working in the COVID units and the emergency rooms.
Philip Adejumo, M26—Olympic Hopeful and MD/PhD Candidate. Adejumo, a UMBC biology and statistics major, is hard at work pursuing a spot in the upcoming Olympics. In addition, Adejumo achieved his dream of being accepted into an MD/PhD program at Yale University School of Medicine, where he began his studies this fall.


M19 Scholar Uchenna Osia was selected as a recipient of the 2020 – 2021 Fulbright U.S. Student Program awards. Osia’s assignment is in Malaysia as an English Teaching Assistant.

M26 Anna Gifty Opoku-Agyeman recently wrote an article for Newsweek titled Academia Won’t Survive Without Black Scholars. Read it here:

https://www.newsweek.com/academia-will-not-survive-without-black-scholars-1530915

M25 Samantha Furman has been awarded the NIH F31 Ruth L. Kirschstein Predoctoral Individual National Research Service Award through the NCI.

Her project is titled, Quantifying heterocellular communication and spatial intratumoral heterogeneity from high dimensional spatial proteomics data.
Howard Hughes Medical Institute Gilliam Fellowships for Advanced Study

Tolu Omokehinde M24 shared information about HHMI Fellowships for interested Meyerhoff students. You’ll find details here:

https://www.hhmi.org/science-education/programs/gilliam-fellowships-advanced-study

or


Omokehinde is happy to offer assistance to Meyerhoff students to help them navigate through the application. Reach out to the Meyerhoff Office to get Omokehinde’s contact information.

On Being a Black Scientist
by Kaf Dzirasa

This commentary, *For Black Scientists, the Sorrow Is Also Personal*, was published in *Cell* in June 2020:

https://www.cell.com/cell/fulltext/S0092-8674(20)30805-9
How I Spent My Summer: Meyerhoff Stories

Internships are an integral part of the scholar’s experience. Many students find their passion through hands-on work solving real-world problems. Here, several Meyerhoff students share their insights.

Joshua Slaughter M30, Computer Engineering

Princeton University, Princeton NJ — At the Princeton Neuroscience Institute, I worked towards training convolutional neural networks (CNN) to be more ‘human’ in making similarity judgments. For example, a human would never believe that a dog and an airplane are similar whereas a CNN may make that mistake because they extract different features from objects than humans do. What I found is that if we adjust the labels on the training data to be more general than specific it will help the CNN correspond with human biases and pattern of activity in the human central visual stream in the brain.

Keren Herrán M29, Individualized Study—Global Health Considering Environmental Factors

Brown University, Providence RI (remote research) — With Dr. Omar Galárraga, I assessed the effects of interactive technology-based sexual education platforms on the sexual behavior and sexual reproductive health knowledge of adolescents. Gained substantial competency in forming research questions using the Cochrane Handbook PICO model, conducting searches within the NIH PROSPERO, PubMed, Web of Science, and EBSCOhost databases, spearheading international collaborations to form a systematic review, designing a PRISMA model, evaluating RCT studies using the Jadad scale, and comparing distinct gamification and Serious Games theories. Lead the creation of an IRB proposal, two mixed methods digital surveys, and two consent forms (all in Spanish) for the study of sexual health knowledge among adolescents in Cotacachi, Ecuador correspond with human biases and pattern of activity in the human central visual stream in the brain.

Sean Jordan M30, Major: Statistics, Minors: Computer Science, Judaic Studies

Northwestern University, Evanston IL (remote research) — Dimensionality Reduction (DR) is a widely used machine learning technique when analyzing different types of datasets. There are many different DR techniques that all have different algorithms and therefore output different embeddings in low dimensions. However, scientists tend to go with whichever DR technique "looks better" for their particular dataset. My research group developed a quantitative and qualitative measure of how well a dimensionality reduction technique performs on a set of data. Thus, scientists can now make a scientifically sound conclusion based on empirical measurements that tells them which technique to use for their data.
Chiad Onyeje M31, Major: Chemical Engineering, Minor: Creative Writing
UMBC, Baltimore MD — I was given an online project to review the state of nanoparticles and their impact on traumatic brain injuries (TBI). It’s an ongoing project where I’ll be continuing to understand the subject matters more in preparation for an invited review manuscript I’ll be writing. So far, the work has taken me from the specific clinical symptoms and therapies already in place for those with long-term TBI, to the near immediate damages that continue to cascade throughout the brain as secondary molecular effects that ultimately lead to neuronal death. However, I am definitely excited to continue seeing what can be done via nanoparticles to taper off these effects.

Justyn Bunkley M31, Mechanical Engineering
University of Maryland, College Park MD — I worked to design a pan and tilt camera/light system that can be mounted on the servicers that would overcome these limitations, and significantly increase its overall performance. Using motors, sprockets, rods, and sprocket chains, this system could pan two cameras and two miniature lights 60 degrees left and right, as well as 90 degrees up and down. This would allow the controller to have an enhanced field of view on the satellite using a single camera system.

D’Juan Moreland M31, Majors: Biology and Music Composition
UMBC, Baltimore MD — This summer I worked in the Omland lab assisting with a grad student’s (Michelle Moyer) project. In this project we studied female bird song in Orchard Orioles and how frequently it is used in comparison to males. I mainly worked in helping annotate recordings and running statistical tests between males of different ages.
How I Spent My Summer: Meyerhoff Stories

Nomso Ashiogwu M31, Major: Computer Engineering, Minor: Finance

Rochester Institute of Technology, Rochester NY — The goal for this summer was to explore multiple technologies for doing runtime analysis of Java Programs.

I studied and worked with Java Pathway Finders (JPFs) as well as serialization in security. I also researched the early implementation of listeners and implemented rules to verify whether an execution was triggered by a normal software or an attacker’s use.

We also researched and worked with property checking as well.

Nithya Navarathna M31, Majors: Biology and Computer Science

UMBC, Baltimore MD — This summer, I studied the over-expression of the transcription factor Zinc Finger Protein 217 (ZNF217) in metastatic ovarian cancer.

Specifically, I performed experiments to establish a stable ovarian cancer cell line expressing ZNF217 tagged with Red Fluorescent Protein to better understand ZNF217’s regulatory pathways.

Ellen Gulian M29, Majors: Physics and Mathematics

Ohio State University, Columbus OH — I participated in the Univ. of IL Urbana-Champaign Physics REU program, working with Professor Taylor Hughes on a theoretical project about the topological stability of inversion-symmetric topological insulators. Topological insulators are an interesting class of materials because they act as insulators in the bulk of the system, but have robust topologically-protected conducting states localized on the edges. In recent years, studies of 1-D topological insulators (modeled as a chain of atoms) that have both inversion symmetry and lattice translation symmetry revealed many unique properties and features encoded within the full entanglement spectrum, the energy spectrum, and the charge density of the system. We used MATLAB to explore how these features change when one violates translation symmetry and preserves only inversion symmetry by coupling a pair of orbitals to the inversion center of the chain. We showed that by introducing this local deformation, the topological properties of the system become destabilized.
How I Spent My Summer: Meyerhoff Stories

Kayla Lyons M31, Major: Biological Sciences, Minor: Spanish
National Oceanic and Atmospheric Administration, Silver Spring, MD — Over the summer at NOAA, I researched the climatology of soil moisture from historical data provided by Howard University Beltsville Campus and Maryland Department of the Environment. Using the programming language R, I completed atmospheric data processing and programmed time series plots to highlight the change in soil moisture data over time. At the end of the program, I created a presentation on soil moisture data analysis and the application of soil moisture data to climate change and presented at a virtual poster and power point presentation.

Teni Ogunsan M29, Bioinformatics
UMBC, Baltimore MD — I continued to work on developing automatically generated phase portraits for understanding biological systems. Originally, we applied this framework to two dimensional systems (systems of two differential equations).
Currently, we are applying this diagram to three dimensional systems. In future, we aim to apply this model to further dimensional systems.

Briah Barksdale M30, Majors: Biochemistry and Molecular Biology, Minor: Psychology
UMBC, Baltimore MD — As we age, immune functions begin to decline, or immunosenesce, posing a serious risk to human health due to the reduced ability to fight infections. Age-related changes influence aspects of killing damaged cells that are important for maintaining an adequate immune response; however, little is known about the genetic basis of cellular based immunosenescence. The goal of our project is to characterize the role of previously identified candidate genes in regulating age-specific changes in phagocytosis, to better understand the mechanisms that give rise to immunosenescence.
Nahum Arefeayne M29, Biochemistry

Emory University (virtually) — This summer I had the privilege of working in the lab of Dr. Anita Corbett identifying and analyzing novel histone missense mutations that promote tumorigenesis termed ‘oncohistones’. Using predictive modeling programs such as Missense3D and mCSM-PPI2, I observed the predicted structural effects of our mutations of interest.

Along with this I did some preliminary work in determining the functional role of the mutations in vivo. The goal is to understand the role of these ‘oncohistones’ in cancer formation and identify targets in these histones for cancer therapy.

Jessica Christian M29, Majors: Mathematics and Physics

Ohio State University, Columbus OH — I worked on developing a mathematical model to represent the condensation of excitations in Levin-Wen systems. Levin-Wen systems are used to represent the error code of quantum computers, where energetic excitations represent errors in the computer.

Our team developed on previous work to integrate existing models which condense or eliminate energetic excitations to the Levin-Wen models which model quantum computer systems.

Eden Beyene M31, Biology

Harvard Medical School, Boston, MA — I worked virtually in the lab of Dr. Matthew Meyerson. My project studied mutations in the epidermal growth factor receptor to determine their ability to cause cancer.

I was able to watch lab experiments as well as conduct data analysis virtually. I also participated in numerous professional development sessions where I wrote an NSF grant, learned more about the graduate school admissions process, gave multiple research presentations, and more.
How I Spent My Summer: Meyerhoff Stories

Karis Barnett M29, Major: Chemistry, Minor: Creative Writing
UMBC, Baltimore MD — In Dr. William LaCourse’s analytical chemistry lab group, I worked on optimizing a novel high-pressure liquid chromatography (HPLC) method for separating antiparasitic medication compounds in water. The method can contribute to regulating pharmaceutical waste in water. I ultimately conducted seven experiment trials to achieve the most quality separation of the two compounds. I reached success after conducting thorough literature searches, testing different HPLC columns, and carefully altering the HPLC mobile phase.
I presented my research at URCAD 2020, SURF 2020, and at the #BlackInChem Elevator Speech Competition.

Ridhi Chaudhary M30, Major: Biological Sciences, Minor: Writing
HHMI Institute at UMBC, Baltimore, MD | Dr. Michael F. Summers’ Lab — The research was focused on understanding the selective packaging mechanism of the HIV-1 genome during virus assembly. Packaging is mediated by interactions between the dimeric 5’-leader of the unspliced viral RNA and the nucleocapsid (NC) domains of a small number of assembling viral Gag poly-proteins.
In our research we used isothermal titration calorimetry (ITC) to identify NC binding sites in the dimeric 5’ leader and found that of the more than two dozen NC binding sites, all high affinity sites resided within the three way junction bottom of the core encapsidation signal, (ΨCES). We then used nuclear magnetic resonance spectroscopy (NMR) to locate the precise nucleotides involved in this process, and discovered that the high affinity binding is likely due to concomitant unwinding of a weakly base-paired [UUUU]:[GGAG] helical element in the identified region.
Our findings suggest a sequential NC binding mechanism for Gag-genome assembly and identify a potential RNA Achilles’ heel to which HIV therapeutics may be targeted.
This work has been published in the Proceedings of the National Academy of Sciences (PNAS) and can be found at the following link: https://www.pnas.org/content/pnas/early/2020/07/08/2008519117.full.pdf
Contact Us!

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Helping Our Students Hold Fast to Their Dreams...

We thank the photographers, parent volunteers, MPA members, Meyerhoff students, alumni, UMBC staff and many others whose contributions continue to make this newsletter possible.

Don’t Miss Out!

Don’t miss out on important information that affects you and your student. Make sure you’re receiving the most current information about the Meyerhoff Program by keeping your contact information up-to-date.

Parents, please update your contact information via this link:

Update contact information

Photos provided courtesy of Dr. Antonios Seas