

## ALUMNI KEYNOTE SPEAKER

### STEFANIE MAVRONIS

DIRECTOR OF THE MAYOR'S OFFICE OF NEIGHBORHOOD SAFETY & ENGAGEMENT (MONSE), CITY OF BALTIMORE

B.A. UMBC, CLASS OF 2012, POLITICAL SCIENCE, MEDIA AND COMMUNICATION STUDIES

MPA, CLASS OF 2018, PRINCETON SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS, DOMESTIC POLICY - URBAN POLICY AND PLANNING

Stefanie Mavronis is a public servant, first-generation college graduate, and lifelong Baltimorean. She serves as Director of the Mayor's Office of Neighborhood Safety and Engagement (MONSE). In this role, Stefanie is working on the rollout of the city's community violence intervention ecosystem and implementation of the city's first-ever comprehensive violence prevention plan. She previously served as Director of Communication for Mayor Brandon M. Scott, and contributed to his election as Baltimore's youngest mayor in more than a century. Using her education in politics, public policy, and

media, Mavronis has built a career supporting social justice issues and progressive campaigns for change. Stefanie started her career in the legislative branch at City Hall, serving as Director of Civic Engagement for Councilmember Zeke Cohen, and previously worked in local public radio. Stefanie earned B.A. degrees in Political Science and Media and Communication Studies from the University of Maryland Baltimore County (UMBC), where she was a Sondheim public affairs scholar and a member of the Honors College. She was a Public Policy and International Affairs (PPIA) Junior Summer Institute Fellow in 2011. In 2018 she completed a Master's of Public Affairs at the Princeton School of Public and International Affairs in Domestic Policy with a certificate in Urban Policy and Planning.

At UMBC she was an Undergraduate Research Award (URA) Scholar, and supported by the School for International Training in Cochabamba and La Paz, Bolivia, she produced a documentary film that premiered at URCAD in 2012 titled, "Reclamation and Resistance: Audiovisual Tools in Bolivia," with Mentor, Dr. Jason Loviglio. She published her research 'Reclamation and Resistance in Bolivia: An Analysis of Media's Role in Decolonization' in the UMBC Review. As a lecturer in MCS and American Studies, she led a group of UMBC students to interview residents and examine important social, political, and economic issues in Baltimore City a year after the death of Freddie Gray and the Uprising that followed. The final product was a radio series that aired on The Marc Steiner Show on Baltimore NPR affiliate WEAA 88.9-FM. In 2022, she was named a UMBC Alumni "Rising Star".



## UNDERGRADUATE RESEARCH AT UMBC

Getting involved in research as an undergraduate student can help you network with faculty both on and off campus, strengthen your resume for graduate and professional school and employment, support your artistic vision, and help you apply what you've learned in the classroom to a research setting. UMBC has several programs that affirm UMBC's commitment to the twin goals of research and a distinctive undergraduate experience:

### UNDERGRADUATE RESEARCH AND CREATIVE ACHIEVEMENT DAY (URCAD)

URCAD features research, scholarship, and creative work carried out by UMBC undergraduates. Student work is shared through oral presentations, posters, artistic exhibits and performances, and film.

### UNDERGRADUATE RESEARCH AWARDS (URA)

URAs provide up to \$1,500 to undergraduate students to support their research or creative work with a UMBC faculty mentor on an original project. UMBC students of all years and disciplines are invited to apply. Applications are now open and are due by May 3, 2024.

### UMBC REVIEW (JOURNAL OF UNDERGRADUATE RESEARCH)

Published annually, this peer-reviewed journal features academic papers written by UMBC undergraduates. Pick up a free copy in the UC lobby today!

### TRAVEL AWARDS

Whether online or in person, students who are invited to present their work at a conference or festival may apply for funds to support their travel and registration.

### SUMMER RESEARCH

Assistance with finding and applying to summer research opportunities, including REUs.

### PRESTIGIOUS SCHOLARSHIPS

Support for students applying to prestigious scholarships such as Rhodes, Gates-Cambridge, Knight-Hennessy, Marshall, Truman, Goldwater, and others.



Consistent with its commitment to academic freedom, UMBC does not restrict the topics of inquiry that can be accepted for URCAD, the conclusions that are reached in student work, or the representations chosen by the student and mentor for that work. With the approval of their mentors, students may apply to present any mentored research, scholarship, or creative work completed while they are UMBC undergraduates. A mentor-approved and committee-approved abstract describing the work and its intellectual context is required. Approval to present work at URCAD is given by the faculty of the URCAD committee.

[ur.umbc.edu](http://ur.umbc.edu)

#### UNDERGRADUATE RESEARCH

Division of Undergraduate Academic Affairs  
216 AOK Library  
UMBC, 1000 Hilltop Circle  
Baltimore, MD 21250

#### FOR MORE INFORMATION, CONTACT:

Dr. April Householder  
Director of Undergraduate Research and Prestigious Scholarships  
[aprilh@umbc.edu](mailto:aprilh@umbc.edu)

# PROGRAM

## URCAD



## UNDERGRADUATE RESEARCH AND CREATIVE ACHIEVEMENT DAY

Featuring Research, Creative Work, Performances, and Exhibits by UMBC Undergraduate Students

April 10, 2024  
9:45 am - 4:00 pm  
University Center

[urcad.umbc.edu](http://urcad.umbc.edu)



## AGENDA

TIME	EVENT	LOCATION
9:45 am - 1:00 pm	<b>1<sup>st</sup> Concurrent Oral Presentations</b>	UC 310, 312, 204
10:00 am - 11:30 am	<b>Poster Session I</b>	UC Ballroom
10:00 am - 3:00 pm	<b>Video Game Exhibits</b>	UC Ballroom
10:00 am - 11:45 pm	<b>Film Festival</b>	UC Ballroom Lounge
12:00 pm - 1:00 pm	<b>Alumni Keynote Speaker: Stefanie Mavronis</b>	UC 312
1:00 pm - 2:30 pm	<b>Poster Session II</b>	UC Ballroom
1:15 pm - 4:10 pm	<b>2<sup>nd</sup> Concurrent Oral Presentations</b>	UC 310, 312, 204
1:00 pm - 2:30 pm	<b>Film Festival</b>	UC Ballroom Lounge

\*URCAD will follow UMBC's masking policy. Please keep in mind that there will be many people in close proximity at this event. Masks are highly encouraged.

## SPECIAL EXHIBITS

### INTERACTIVE VIDEO GAMES (UC BALLROOM)

#### MOLD

Kiersten Snyder. Additional team members: Joey Kihn, Kaoru Naung, Max Emil, Zach Nelson, Myles Jones, Ian Yaider

#### NUBBLE'S ADVENTURE

Zach Brown. Additional team members: Keonte Wilson-Robinson, Hazel Basden, Marly Acevedo Soto, Nahili Lemu, Thomas McCormick, Alena Kowalewski

#### SPELLDOWN

Al Smith. Additional team members: Abi Lehr, Mariel Chavez-Barragan, TJ Colligan, Gabe Doersam, Lukas Proctor, Brian McKenzie, Katerina Vasilou

#### STITCH QUEST

Jenny Claudet. Additional team members: Jessica Jung, Kyle Williford, Stephen Bollinger, Sydnee Conigland, Brent Macek, Felicia Edet

### PHOTOGRAPHY EXHIBIT (UC 3RD FLOOR, ALL DAY)

**INFINITE SPECTRUM: A QUEER SELF-PORTRAIT EXHIBITION, ECHOES OF MAPPLETHORPE, MUHOLI AND MANY OTHER QUEER ARTISTS**

#### Ousmane Diop

Oral Presentation: UC 312 (10-10:15 am)

### PAINTING EXHIBIT (UC 3RD FLOOR, ALL DAY)

**AN EXPLORATION OF THE NATURAL WORLD THROUGH ART: SERIES OF LANDSCAPE PAINTINGS MADE WITH ALL NATURAL PIGMENTS**

#### Jenna Beshara

Oral Presentation: UC 310 (1:15-1:30 pm)

### MUSIC PERFORMANCE

**FINDING ACCESSIBLE PERFORMANCE OPTIONS IN THE INSTRUMENTAL THEATER CANON**

#### Brandon Gouin

Music Performance/Oral Presentation: UC 312, 2:15-2:30 pm

### FILM FESTIVAL (UC BALLROOM LOUNGE)

#### MORNING

#### CELEBRATING SOUTH ASIAN CULTURE AT UMBC

Mashaal Awan, Meghna Chandrasekaran, Manav Vaishnav, Shawn Abraham

#### THE POLITICS OF UNWANTED PREGNANCY: A SOCIAL WORK PERSPECTIVE

Tessa Cone

#### CONTEXT OF HELLENISTIC EQUINE REMAINS IN HUMAN BURIALS

Jolie Greer

#### A LEGACY OF COURAGE: MINNIE LEE AND MARY ALICE RELF

Scherrie Newton

#### "THE AMISH PROJECT": THE MAKING OF

Renata Taylor-Smith

#### AFTERNOON

#### WHAT MAKES LIFE WORTH LIVING: THE PALESTINIAN CONDITION

Salma Abushi

#### MISOPHONIA THROUGH THE CHOREOGRAPHIC LENS: VISUALIZING COMPLEX FIGHT OR FLIGHT RESPONSES

Eva McLaughlin

#### REDEFINING WHAT IT MEANS TO BE A SPECIAL EDUCATION STUDENT"

Tasnim Rushdan

## ORAL PRESENTATIONS SCHEDULE

TIME	UC 312 DR. JULIE OAKES MODERATOR	UC 310 PETER DECRESCENZO & COREY CARTER MODERATORS	UC 204 DR. STEPHEN MILLER MODERATOR
9:45-10:00am	<b>Monica Richardson-Mitchell</b> <i>Shakespeare and Gender</i>	<b>Samara Pyfrom</b> <i>Flood Patterns and Community Engagement: Mapping Flood Perceptions in a Coastal Belizean Community</i>	<b>Arian Nyandjo</b> <i>Characterizing the Distribution of GADD45B, A Candidate Mediator of Hypoxia-Adaptation</i>
10:00-10:15am	<b>Ousmane Diop</b> <i>Infinite Spectrum: A Queer Self-Portrait Exhibition, Echoes of Mapplethorpe, Muholi and Many other Queer Artists</i>	<b>Jameelah Destry</b> <i>The Effect of Urbanization on Macroinvertebrates in Freshwater Aquatic Ecosystems</i>	<b>Caly Ferguson</b> <i>Decoding Hand Movements from Electromyographic Signals Toward a Near-Natural Prosthesis</i>
10:20-10:35am	<b>Michaela Clark</b> <i>Healthcare in the Korean Joseon Dynasty</i>	<b>Nyla Howell</b> <i>Equity in the Eye of the Storm: Unveiling Environmental Injustices and Cultivating Resilience in Harlem Park, Baltimore</i>	<b>Ajeetha Arudchandran</b> <i>Transcriptional Characterization of Nephrogenic Adenoma</i>
10:40-10:55am	<b>Jamie Mamana</b> <i>Japanese Knitting: Understanding the Style and Migration into America</i>	<b>Maya Hunn</b> <i>Campus Food Insecurity: Maryland Public 2- and 4-year Colleges</i>	<b>Arjun Kanjarpane</b> <i>Elucidating Possible Interactions Between HIV-1 Rev And Gag On Stem 1 Of The Rev Response Element</i>
11:00-11:15am	<b>Polina Kassir</b> <i>Reading the Library: An Ethnography of Place in one Baltimore City Library</i>	<b>Khoa Tran</b> <i>Fishing for Social Inequities: An Exploration of the Sexual and Oriental in Les Pêcheurs De Perles</i>	<b>Shoyab Shaik</b> <i>Using Fluorophore Quantum Yield as an Indicator of Determining Plasmonic Current</i>
11:20-11:35am	<b>Karla Press-Porter</b> <i>Maryland Perspectives on the use of the Phrase "Defund the Police"</i>	<b>Grace Morris</b> <i>Family Abolition and Mythologized Motherhood in Jesmyn Ward's Bois Sauvage Series</i>	<b>Aiden Mihalik</b> <i>Enhancing Plasmonic Current Using Gold Colloids and Reducing Fluorescence Quenching</i>
11:40-11:55am	<b>Tristan Diaz</b> <i>From Trash to Treasure: Toxic Tourism, Subjunctive Measures of Safety, and Redevelopment in the Baltimore Inner Harbor</i>	<b>Anna Adelstein</b> <i>Structural Studies of an HIV-1 Packaging Inhibitor that Targets the Viral RNA</i>	<b>Evalynn Ellison</b> <i>A Synthetic Data Generator to Accelerate Machine Learning Algorithm Development</i>
12:00-12:15pm	<b>KEYNOTE SPEAKER</b>	<b>Ayeoritse Tuedon</b> <i>Developing an In Vitro Model for Asthma Pathogenesis</i>	<b>Meklit Yante</b> <i>Can Posterior AFOs Be 3D Printed with Optimized Mechanical Performance and Lower Cost Compared to Traditional AFOs?</i>
12:20-12:35pm		<b>Cielo McClain</b> <i>Left Behind: Misrepresented Afro-Latinas</i>	<b>Andrew Opincar</b> <i>The Role of Heparan Sulfate Proteoglycans in Mediating Cell Migration in Drosophila Melanogaster Egg Chambers</i>
12:40-12:55pm		<b>Leonardo Swafford</b> <i>Locating the Orient in Irish Musical Traditions</i>	<b>Rachel Fischer</b> <i>The Role of Feedback and Attention in Learning During Educational Instruction</i>

TIME	UC 312 DR. CAROLYN FORESTIERE MODERATOR	UC 310 ZOE BROWN MODERATOR	UC 204 DR. FERNANDO VONHOFF MODERATOR
1:15-1:30 pm	<b>Kira Ng</b> <i>Mapping from the Heart Out: Digital Storytelling and Interracial Asian American Narratives</i>	<b>Jenna Beshara</b> <i>An Exploration of the Natural World through Art: Series of Landscape Paintings Made with All Natural Pigments</i>	<b>Samuel Barnett</b> <i>Structural and Procedural Confirmation of Saccharomyces Cerevisiae RAS G19C for Modeling KRAS G12C Cancers</i>
1:35-1:50 pm	<b>Katelyn O'Connor</b> <i>Dance as Language: A Choreographic Exploration of the Interpretation of Idiomatic Phrases in the English Language</i>	<b>Peter Wilschke</b> <i>The Political Economy of State Fiscal Cyclicity</i>	<b>Sarah Chen</b> <i>A Hyperbolic Variant of Tic-Tac-Toe</i>
1:55-2:10 pm	<b>Amina Thiam</b> <i>Medieval West Africa and its Influence on Cross-Cultural Interactions in the Early Modern Atlantic Region</i>		<b>Molly Quinn Walker</b> <i>Community Investment in Baltimore Hospital Systems</i>
2:15-2:30 pm	<b>Brandon Gouin</b> <i>Finding Accessible Performance Options in the Instrumental Theater Canon</i>	<b>Khady Wade</b> <i>Depression, Community Connectedness and Sense of Support in College Students: Comparing Different Student Groups</i>	<b>Erica Koenig</b> <i>A <u>unt</u> by Any Other Name - Where Has It Been and Where Can It Go from Here?</i>
2:35-2:50 pm	<b>Julie Do</b> <i>Spatiotemporal Variations in Ethnic and Racial Disparities of U.S. Heart Disease Mortality</i>	<b>Juelle Lee</b> <i>Checked Out: Public Libraries as Sites of Assimilation</i>	<b>Gina Khan</b> <i>Identity Formation of Half-Korean Biracial Individuals Living in South Korea</i>
2:55-3:10 pm	<b>Beatrice Ieronimo</b> <i>With Love, Elio: An Artist's Path to Happiness</i>	<b>Ren Reiter</b> <i>Navigating Gender Identity in Dance</i>	<b>India Kelly</b> <i>When Puigpardines was Lord of Karditsa</i>
3:15-3:30 pm	<b>Mare Chavez</b> <i>Spinning Poetry, Weaving Tales: Latin Literature and the Reconstruction of Roman Textile Techniques</i>	<b>Alexis Tyson</b> <i>Designing Dialogue: Exploring the Intersection of Graphic Design and Community Preservation</i>	<b>Dinaz Hasim</b> <i>Education in the Xinjiang the Uyghur Autonomous Region (XUAR)</i>
3:35-3:50 pm	<b>Andy Quach</b> <i>Experiencing Grants Research Administration: Two Students' Journeys in Research Administration</i>	<b>Moanillia Miller</b> <i>An Ethnographic Exploration of Diversity and Connection on a Multicultural University Campus</i>	<b>Jada Gross</b> <i>A Tale of Two Cities: An Autoethnographic Exploration of Spatial Apartheid in Baltimore and Cape Town</i>
3:55-4:10 pm	<b>Joy Ware</b> <i>Enhancing Representation in Educational Technology and Multimedia Strategies</i>	<b>Julia Palmer</b> <i>Pushed to the Edge: Homeland Outcasts</i>	

## A MESSAGE FROM THE DEAN

Dear Participants and Guests,

It is with great pleasure that I welcome you to UMBC's 28th annual Undergraduate Research and Creative Achievement Day (URCAD). We are very excited to offer this inspiring experience that means so much to the UMBC community.

URCAD is a celebration of the work of our students by showcasing their achievements; it also recognizes the mentorship and encouragement that inspire these students to be their best. We are delighted the 340 URCAD participants, who have worked so diligently all year, are able to present the culmination of their efforts to the UMBC community through poster presentations, oral presentations, exhibits, and performances. Today you will experience outstanding films, musical performances, paintings, dances, innovative and cutting-edge research in all STEM fields, and much more. This showcase event not only exemplifies UMBC's commitment to our students from all disciplines, but defines our commitment by providing them the opportunity to engage in mentored projects, and, through creative thought and focused inquiry, to discover in themselves their passion. Supporting our students' applied learning experiences is central to our mission at UMBC as it develops creative thinking skills, the ability to communicate effectively, analyze information, share stories, and connect with people from diverse cultures, disciplines, and ideologies. These are the skills our students will take forward as leaders of the future.

Our students' achievements today are a tribute to their enthusiastic imaginations, their diligence, and their unwavering commitment in the face of challenges. Their success is also due to the tremendous effort and remarkable guidance provided by their mentors and our faculty and staff across the campus who support and engage these students along their journey. Please accept my heartfelt gratitude to all of you who work with these incredible students and help them reach their goals.

I welcome you and encourage you to enjoy the enlightenment you will receive today, listening to and learning from our remarkable and inspiring students.

Welcome to URCAD 2024!

Katharine H. Cole, Ph.D.  
Dean and Vice Provost of Undergraduate Academic Affairs



READ THE PRESENTERS' ABSTRACTS AT  
**URCAD.UMBC.EDU**

