

- Poster Presentations
 - Oral Presentations
- Research Roundtables
- Art, Music & Creative Works
 - Video Screenings
 - Public Speech & Debate

WEDNESDAY, APRIL 19, 2023

Sponsored by The Drinko Center for Undergraduate Research



WESTMINSTER COLLEGE

WELCOME TO URAC 2023!

Westminster College is proud to host the 2023 Undergraduate Research and Arts Celebration. This signature event allows the Westminster Community to share, discuss, and learn about hundreds of topics. Today, over 300 students will present their research and creative projects across campus via oral presentations, research roundtables, poster sessions, videos, public speeches, debates, performances, and art displays. Nearly every academic program on campus is represented in the outstanding work being showcased today, and students at all levels, from first years to seniors, will be engaged in the activities of the day.

The Westminster College mission statement includes eight essential outcomes: to reason logically and evaluate critically; to communicate effectively; to think creatively and appreciate aesthetic expressions; to demonstrate intellectual curiosity; to acquire knowledge of self, society, human cultures, the natural world, and human relationships to God; to apply knowledge to contemporary issues; to demonstrate moral and ethical commitments to neighbor, society, and the natural world; and to demonstrate commitment to lifelong learning and the acquisition of skills for careers and responsible service as world citizens. The student work being presented, performed, and displayed today embodies all of these outcomes and is a testament to the value of a Westminster education.

Our 2023 URAC participants are excited to share their work with the community today. Much of what you will see today is the culmination of years of study and countless hours of hard work. For some students, URAC 2023 will be their first formal presentation in college, and for others, participating in URAC 2023 is a final milestone before graduation. I am enormously proud of all of the students sharing their work today.

Today's artists, performers, and scholars were supported in their endeavors by Westminster College faculty, staff, administration, and campus offices, as well as by parents and friends. I would like to thank everyone for providing this support and helping Westminster students to shine. Special thanks go out to the members of the Undergraduate Research Advisory Council; their efforts made URAC 2023 possible.

I hope you enjoy today's events! Thank you for attending the Undergraduate Research and Arts Celebration.

Karen K. Resendes

Director, Drinko Center for Undergraduate Research

Kann K florends















SHARE YOUR MOMENT! TAG US IN YOUR POSTS









@westminsterpa | #wcurac



#WCURAC

9AM - 4 PM SCRAWL 2023 RELEASE TABLE Cultural Center

WHERE THEY ARE FROM: A POETRY COLLECTION BY THE CLASS OF 2026 Quad

9 - 9:15 AM BARBERSHOP CLUB McKelvey Tub

9 - 10 AM **POSTER SESSION A Witherspoon Rooms**

VIDEO SCREENINGS Mueller Theater

FOCUS GROUP: DOCUMENTARY PREVIEW McKelvey 275

10 - 10:30 AM ART GALLERY TALK Patterson Foster Art Gallery

CONCURRENT RESEARCH ROUNDTABLES 10 - 10:45 AM

Patterson 1st/2nd Floor

PANEL: HOW TO GET STARTED IN RESEARCH 10 - 11 AM

Berlin Lounge

CONCURRENT ORAL SPEAKERS Patterson 1st/2nd Floor 10 - 11:20 AM

11 - 11:15 AM PERCUSSION ENSEMBLE Orr Auditorium

11 AM - 12 PM VIDEO SCREENINGS Mueller Theater

POSTER SESSION B Witherspoon Rooms

FOCUS GROUP: DOCUMENTARY PREVIEW McKelvey 275

FEATURED PODIUM PRESENTATION SPEAKERS
Mueller Theater and Facebook Live 12 - 1 PM

POETRY SLAM Cultural Center

12 - 1:30 PM **PUBLIC SPEECHES** Berlin Lounge

1 - 2 PM POSTER SESSION C Witherspoon Rooms

ART DISPLAY McKelvey 3rd Floor Atrium

SCRAWL RELEASE PARTY Cultural Center

FOCUS GROUP: DOCUMENTARY PREVIEW McKelvey 275

1:30 - 2:00 PM READERS THEATER Berlin Lounge

1:30 - 2:15 PM CONCURRENT RESEARCH ROUNDTABLES

& SPECIAL PRESENTATIONS

Patterson 1st/2nd Floor

1:30 - 2:50 PM CONCURRENT ORAL SPEAKERS Patterson 1st/2nd Floor

3 - 3:15 PM MARKET STREET BRASS QUINTET McKelvey Tub

3 - 4 PM FEATURED PODIUM PRESENTATION SPEAKERS

Mueller Theater and Facebook Live

PARLIAMENTARY DEBATE Berlin Lounge

POSTER SESSION D Witherspoon Rooms

FOCUS GROUP: DOCUMENTARY PREVIEW McKelvey 275





Sigma Tau Delta and SCRAWL Present:

POETRY SLAM

URAC 2023 · April 19, 2023

CULTURAL CENTER 12:00-1:00

Come join us to hear original creations sponsored by SCRAWL and Sigma Tau Delta – the International English Honor Society!





SIGMA TAU DELTA
INTERNATIONAL ENGLISH HONOR SOCIETY



URAC•2023 RESEARCH EXPERIENCE PANEL

HOW TO GET STARTED IN RESEARCH

BERLIN LOUNGE 10:00-11:00 AM

COME HEAR STUDENTS FROM A VARIETY OF MAJORS AND CLASS STANDING AS THEY TALK ABOUT HOW THEY GOT STARTED IN RESEARCH AND THEIR EXPERIENCES IN A VARIETY OF RESEARCH PROJECTS.

ATTENDEES WILL HAVE THE OPPORTUNITY TO ASK THE PANELISTS QUESTIONS.

FIRST YEARS AND SOPHOMORES IN ATTENDANCE ARE ELEIGBLE FOR A DOOR PRIZE!

PANELISTS:

| ERIN DaRe | SOPHIA GALIETTA | HARRIS KOHL |
|-----------------|---------------------------------|----------------|
| First Year | Junior | Senior |
| History | Psychology & Art | Chemistry |
| LAUREN MILLHORN | JAMIE ROBERTSON | HARMONY WILSON |
| Senior | First Year | Sophomore |
| English | Environmental Science & Physics | Biology |



DO YOU WANT TO WIN A \$25 SHEETZ GIFT CARD?

Students and Attendees:

We want to hear from you!

Complete the URAC Experience Survey

and be entered for a chance to win a

\$25 Sheetz Gift Card!









Complete by Wednesday, May 3rd!

https://www.surveymonkey.com/r/URAC2023

URAC • 2023

POSTER PRESENTATIONS

Witherspoon Rooms

URAC-2023 POSTER PRESENTATIONS

| POSTER NUMBER | TITLE | RESEARCHER(S) | FACULTY SPONSOR | |
|------------------|--|--|-----------------|----------|
| SESSI | ON A — 9-10 AM | | | |
| A1 | Putting on the Blitz: The NFL, Effort to Improve Environmental Sustainability | Morgan Byers, Tommy Howell | Robert Zullo | |
| A2 | ADHD and Nicotine: Sleep Quality and Activity Levels as Possible Mediators | Noah Crawford | Jessica Rhodes | 3 |
| А3 | Cold War Memory and the Russian Invasion of Ukraine | Joseph Armstrong | Angela Lahr | |
| A4 | ADHD and Smoking-Related Behaviors: An Examination of Emotional Intelligence as a Possible Mediator | Sadie Cunningham | Jessica Rhodes | |
| A5 | Happy Gilmore Wants You to Keep Green: Environmental Sustainability on Top Golf Courses | Sean Fitzpatrick, Aaron Alderette, Luca Botti | Robert Zullo | M. |
| A6 | The Effects of the Bombing of the Ho Chi Minh Trail During the Vietnam War | Jacob Forrest | Angela Lahr | |
| A7 | Comparing Deer-Related Crashes in a Rural and Urban County in Pennsylvania | Ashlyn Lang | Patrick Krantz | |
| A8 | Fast Foods Embrace of Sustainability | Keenan Heeter, Mikaela Crumlich, Gavin Hogue, William Levak | Robert Zullo | |
| A9 | Thirsty For Sustainability | Brooke Horvath, Gia Francisco, Dawson Yocum, Alessandra Zervanos | Robert Zullo | |
| A10 | Cartoon Cold War: The Power of Propaganda | lan Jackson | Angela Lahr | |
| A11 | Extraction of lithium using Osorb as the extraction media | | Peter Smith | V |
| A12 | The Effect of Niclosamide Lampricide on the Development of Zebrafish (Danio rerio) | Ava Krensky | Marosh Furimsky | S |
| A13 | Increase In Flu Vaccine Uptake Among College Students | Hannah Krofcheck | Melissa Baron | 3 |
| A14 | Endocarditis- A Case Study | Ashley Madasz | John Robertson | 3 |

| POSTER NUMBER | TITLE | RESEARCHER(S) | FACULTY SPONSOR |
|------------------|--|---|------------------|
| A15 | S.T.I.C.K. IV Infiltrate Bundle: Prevention of Pediatric IV Infiltrations | Camryn Marshall | Joni Darby |
| A16 | Acute Lymphocytic Leukemia and its Treatment | Owen Martin | John Robertson |
| A17 | For What Its Worth: Music and Counterculture During the Vietnam War | Jacob Medvitz | Angela Lahr |
| A18 | You Can't Sit With Us: An Update to Rejection Sensitivity Assessment | Katherine Mozelewski, Lindsay Cotton | Jessica Rhodes |
| A19 | 16 S ribosomal gene sequencing to determine diversity of bacteria from B flat trumpets. | Emily Hipolito | Joseph Balczon |
| A20 | Determining the diversity and host preference of mosquitoes collected at the Tabogas Forest Reserve, Costa Rica | Emma Parker, Harmony Wilson | Diana Ortiz |
| A21 | Effects of oxybenzone on reproduction in ramshorn snails and zooxanthellae count in Aiptasia pallida | Megan Strohmenger | Ann Throckmorton |
| A22 | The Role of Nicotine and Stress in Sucrose Preference in Rats | Morgan Tenney | Deanne Buffalari |
| A23 | Risk factors associated with health inequities in Arizona from 1950 to 1972 | Sam Ferguson | Diana Ortiz |
| A24 | Problems with Pregnancy: Preeclampsia | Macy Stoddard | John Robertson |

SESSION B — 11 AM-12 PM

| B1 | Insulin Required- A Look into Type 1 Diabetes | Sadie Cunningham | John Robertson | • |
|----|---|------------------|-----------------|---|
| B2 | The Plastic Problem: An Analysis of the Effects of Microplastics on Danio rerio Development | Marcus Diniaco | Marosh Furimsky | |
| В3 | Decreasing Catheter Associated Urinary Tract Infections | Adriana Emili | Joni Darby | 3 |







| POSTER NUMBER | TITLE | RESEARCHER(S) | FACULTY SPONSOR |
|------------------|--|------------------|------------------|
| B4 | Decreasing Mortality Risk in Emergency Department Boarding Patients | Marina Felasco | Joni Darby |
| B5 | Usher Syndrome: The Imbalance of Hearing and Vision | Mia Greco | John Robertson |
| B6 | The Soviet Withdrawal from Afghanistan and the Taliban Reign | Chloe Hudecki | Angela Lahr |
| В7 | GCS Scores and Neurological Assessments on Patients with Head or Spine/Spinal Cord Trauma | Kaitlyn Johnson | Joni Darby |
| B8 | King Presley Turned Private Presley: How the Media Portrayed Private Elvis Presley | Anthony Kamenski | Angela Lahr |
| В9 | The Effects of Pre-Exposure to Cannabinoids on the Susceptibility of Zebrafish to Scopolamine Associated Memory Deficits | Sophia Kaplan | Deanne Buffalari |
| B10 | Quality Improvement Project on Sublocade Injections | Emiley Kushner | Joni Darby |
| B11 | Television as an Unlikely Weapon During the Cold War | Franklin Manios | Angela Lahr |
| B12 | A Study of the Perceived Impact on Mental Health of College Students in Nature-Based Classes | Abigail McCardle | Kristin Park |
| B13 | The Personality Types and Associations Within Greek Life, Athletes, and Unaffiliated Men and Women/Non-Student Athletes College Students | Brooke McQuillan | Kristin Park |
| B14 | Replication of A 3D-Printed Ellipsometer | lan Wilt | Craig Caylor |
| B15 | Attitudes of Undergraduate Students at a Liberal Arts College Regarding the Covid-19 Vaccine | Madison Miller | Tricia Ryan |
| B16 | The Motion of Soap Film Bubbles & The Dynamic Viscosity of Air | Asia Morgenstern | Craig Caylor |
| B17 | Musculature of the Gill Arch of Paddlefish: A Role in Gill Raker- Based Filter Feeding | Jimmy Oberlin | John Robertson |

| POSTER NUMBER | TITLE | RESEARCHER(S) | FACULTY SPONSOR |
|------------------|--|--|-----------------|
| B18 | Got Beer? Environmental Sustainability in the Beer Industry | Brady Page, Caden Rainey, Aidan Minnock, Sean Casey | Robert Zullo |
| B19 | Phosphorus Transport into Lake Brittain | Jacob Patton | Helen Boylan |
| B20 | The Cold War through the eyes of Joseph Stalin and George Kennan's Daughters | Bahiyyah Richards | Angela Lahr |
| B21 | Examining the binding of 3'Exo to the histone mRNA stem loop | Natalie Rose | Patrick Lackey |
| B22 | Generating Novel Chiplet Designs Utilizing the Wave Function Collapse Algorithm in Python | Jacob Trzcinski | Matteo Luisi |
| B23 | Saving the World One Shot at a Time: Sustainability in the Liquor Industry | Madison Utiss, Natalie Franke, Allison Dean, Elise Jordan | Robert Zullo |
| B24 | Get Fit with Environmental Sustainability in Recreation | Felix Zamborsky, Connor Dale, Katie Henningsen | Robert Zullo |
| B25 | Mechanisms of Aeromonas hydrophila Contributing to Antibiotic Resistance Determined by Whole Genome Sequencing and Bioinformatics Analysis | Jacob Miller, Daniel Blank, Michael Petronzio | Kristen Amick |

SESSION C — 1-2 PM

| C1 | Effects of Religiosity, Political Affiliation, and Gender Role Identity on Men's Attitudes Toward Abortion | Vanessa Tom | Kristin Park | |
|----|---|--|-----------------|---|
| C2 | Detecting Antibiotic Resistant Genes via Whole Genome Sequencing of Pseudomonas asiatica | Srioviya Deivaprakash, Kenzie Dunn, Julia Redilla | Kristen Amick | |
| C3 | A Realization of Rhabdomyolysis: Am I Eating Myself? | Marcus Diniaco | John Robertson | 3 |
| C4 | The Cold War, The Role of Nazi Scientists and Morality | Sean Casey | Angela Lahr | |
| C5 | Exposure to Butyl-paraben Results in Developmental Abnormalities in Zebrafish | Caroline Fox | Marosh Furimsky | |







| POSTER NUMBER | TITLE | RESEARCHER(S) | FACULTY SPONSOR | |
|------------------|---|---|------------------|---|
| C6 | Neural Networks | Shannon Geer | Natacha Merz | |
| C7 | Sustainable Drip | Joshua Glaser, John Menefee, Austin Stapleton, Connor Schmidt | Robert Zullo | V |
| C8 | Effect of Short-term Hormone Treatment on the Behavioral Anxiety Response in Adult Zebrafish when Exposed to Acute Stress | Aidan Guzma | Deanne Buffalari | |
| C9 | El Efecto Castro | Dalton Hamm | Angela Lahr | |
| C10 | Use of Acoustic Monitoring to Study Bats in New Wilmington Pennsylvania | KayLee Hankins | Helen Boylan | |
| C11 | Nuclear Attitudes of Cold War Americans | Victoria Harden | Angela Lahr | |
| C12 | Comparing Hemophilia A and B | Taylor Harman | John Robertson | 3 |
| C13 | Exercise as a modulator of behavior relevant to drug addiction in zebrafish | Ella Hildebrand | Deanne Buffalari | 3 |
| C14 | Can mushrooms save the earth? A new take on sustainable packaging. | Michael Orsi, Mark Armile, John Colella | Keith Bittel | 3 |
| C15 | Reducing the Incidence of Hypothermic Newborns following Vaginal Deliveries | Jessica Huff | Joni Darby | 3 |
| C16 | Assessing Westminster's Campus Nutrition and Food Insecurity | Abigayle Hvizdak | Joni Darby | 3 |
| C17 | Model United Nations Conference | Christina Loewe, Izayah Bojanac, Sean Casey, Erin Callahan-Cardin, Sarah Anil Cherian, Teddy Curcio, Gabriela Garza, Krysta Germanos- ki, Gabrielle DiDolce, Kent Dunn, Dalton Hamm, Caio Souza, Ma- teus Souza, Marcus Tokar, Kelsey Humes, Helen Moseley, Makyla Wheeler, Victoria Valcarcel Matos, Nicholas Smith | Michael Aleprete | |
| C18 | An Intersectional Approach to Understanding How Individual Biases are Related to Perceptions of Punitiveness | Lindsey Oliver | Jamie Chapman | |
| C19 | Monitoring and Understanding Early Stage Bone Mineralization | Kate Sharp | Erin Wilson | |

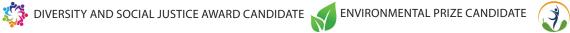
| NUMBER | TITLE | RESEARCHER(S) | FACULTY SPONSOR | |
|--------|--|---|------------------|-----|
| C20 | Pollution Sources and Mercury Contamination in the French Creek Watershed | Jonathan Sibeto | Patrick Krantz | |
| C21 | Determining the LC50 of octinoxate for Aiptasia pallida | Megan Strohmenger | Ann Throckmorton | |
| C22 | Walk Off Grand Slam, Going Green in Professional Baseball | Karen Swartzentruber, Michael Brilla, Erika Hoover | Robert Zullo | |
| C23 | Economic and Chemical Feasibility of Using Environmentally-Friendly Supercritical Carbon Dioxide in Solvent Applications. | Jacob Trzcinski, Adrian Jimenez, Xavier McDonald ,Marcel Smith-Austin | Peter Smith | |
| C24 | Genome Sequencing, Species Identification, and Investigation of Mechanisms of Antibiotic Resistance in Pseudomonas protegens | Lauren Turturice, Simone Izzo, Morgan Tenney, Emma Stewart | Kristen Amick | |
| C25 | Sustainability and the NBA: A Dynamic Duo of Best Practices in the National Basketball Association (NBA) | Jordan Zupko, Brendan Donnelly, Frankie Manios | Robert Zullo | N N |

SESSION D — 3-4 PM

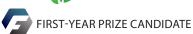
| D1 | Marketing & Sustainability in the Automobile Industry | Dayshawn Elliott | Robert Zullo |
|----|--|------------------------------|------------------|
| D2 | Studying the Effect of Exercise on Anxiety in Zebrafish | Kiera Callaway | Deanne Buffalari |
| D3 | The Cold War: Ballet's Cultural Effect | Erin DaRe | Angela Lahr |
| D4 | Move in Condition | Grace Deschand, Jad Jadallah | Jesse Ligo |
| D5 | The Shocking Facts of Anaphylaxis | Stacey Badman | John Robertson |
| D6 | High Altitude Cerebral Edema, a potentially life-threatening condition | Gage Hendrickson | John Robertson |
| D7 | The Effect of Embryonic Exposure to Ibuprofen on Visual System Development | Mia Greco | Marosh Furimsky |











| POSTER NUMBER | TITLE | RESEARCHER(S) | FACULTY SPONSOR |
|------------------|--|----------------------|-------------------------|
| D8 | The Change of Acid-Base Equilibrium relating to Metabolic Acidosis | Jacob Miller | John Robertson |
| D9 | Sex differences in the interactions of nicotine and food deprivation on anxiety-like behavior | Katherine Mozelewski | Deanne Buffalari |
| D10 | Boarding in the Emergency Department | Shae-Lynn Quinn | Joni Darby |
| D11 | Preliminary Analysis of Drinking Water Quality at Westminster College | Jamie Robertson | Ann Throckmorton |
| D12 | Method for Reducing the Number of Patients who Leave the Hospital Without Being Seen | Jonathan Shaffer | Joni Darby |
| D13 | The Effect of B-alanine on the Rate of Axolotl Wound Healing and Limb Regeneration | Madelyn Scarmack | Joshua Corrette-Bennett |
| D14 | Soviet Invasion of Afghanistan | Jacob Scarff | Angela Lahr |
| D15 | Soil Quality Analysis Before and After a Prescribed Burn | Morgan Straw | Jessica Sarver |
| D16 | Origins and Effects of the Term Brainwashing During the Cold War | Emma Sukal | Angela Lahr |
| D17 | The Effects of Aspartame on Survival and Behavioral Profiles of Fathead Minnows | Morgan Tenney | Joseph Balczon |
| D18 | Identifying Beta-lactam antibiotic resistant E.coli using Immunofluorescence with antibodies specific to Beta- lactamase | Lane Voytik | Joseph Balczon |
| D19 | Osteopathic Manipulative Medicine: Ideology and Application | Aryanna Weller | John Robertson |
| D20 | The Effect of Bisphenol F on Zebrafish Eye Development | Lindsey Wheaton | Marosh Furimsky |
| D21 | Chernobyl,Relationship to the Downfall of the Soviet Union and the Ending of the Cold War | Benjamin Williams | Angela Lahr |





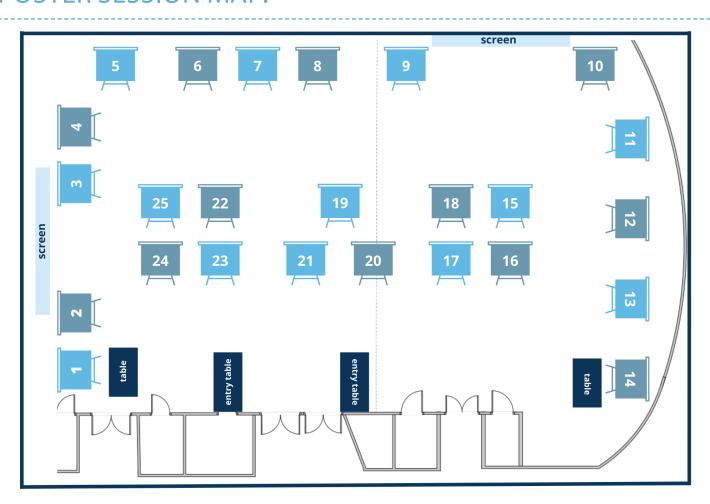






| POSTER NUMBER | TITLE | RESEARCHER(S) | FACULTY SPONSOR |
|------------------|--|-----------------------------|-----------------|
| D22 | Fogged Up: Effect of Covid-19 on the Cognitive Functioning in College Students | Brianna Williams | Eric Fields |
| D23 | Determining the diversity and host preference of mosquitoes collected at the Tabogas Forest Reserve, Costa Rica | Harmony Wilson, Emma Parker | Diana Ortiz |
| D24 | Functionalization of Carbon Nanotubes by 1,3-Dipolar Cycloaddition and their use in Electrodeposited Metal Matrix Composites for Reinforcement of Metal Contacts in Space Photovoltaic Cells | lan Wilt | Peter Smith |
| D25 | Longterm Analysis of Implementing a Protocol to Reduce CAUTIs Within a Healthcare System | Megan Routch | Joni Darby |

POSTER SESSION MAP:



INDEX OF POSTER PRESENTERS

Kelsey Humes

C17

| PRESENTER | POSTER # | PRESENTER | POSTER # | PRESENTER | POSTER# |
|-----------------------------------|--------------|----------------------|----------|--------------------------|---------------|
| Aaron Alderette | A5 | Abigayle Hvizdak | C16 | Bahiyyah Richards | B20 |
| Sarah Anil Cherian | C17 | Simone Izzo | C24 | Jamie Robertson | D11 |
| Mark Armile | C14 | lan Jackson | A10 | Natalie Rose | B21 |
| Joseph Armstrong | A3 | Jad Jadallah | D4 | Megan Routch | D12 |
| Stacey Badman | D5 | Adrian Jimenez | C23 | Jacob Scarff | D25 |
| Daniel Blank | B25 | Kaitlyn Johnson | B7 | Madelyn Scarmack | D13 |
| Izayah Bojanac | C17 | Elise Jordan | B23 | Connor Schmidt | C7 |
| Luca Botti | A5 | Anthony Kamenski | B8 | Jonathan Shaffer | D14 |
| Michael Brilla | C22 | Sophia Kaplan | B9 | Kate Sharp | C19 |
| Morgan Byers | A1 | Harris Kohl | A11 | Jonathan Sibeto | C20 |
| Erin Callahan-Cardin | C17 | Ava Krensky | A12 | Nicholas Smith | C17 |
| Kiera Callaway | D2 | Hannah Krofcheck | A13 | Marcel Smith-Austin | C23 |
| Sean Casey | B18, C4, C17 | Emiley Kushner | B10 | Caio Souza | C17 |
| John Coleĺla | C14 | Ashlyn Lang | A7 | Mateus Souza | C17 |
| Lindsay Cotton | A18 | William Levak | A8 | Austin Stapleton | C7 |
| Noah Ćrawford | A2 | Christina Loewe | C17 | Emma Stewart | C24 |
| Mikaela Crumlich | A8 | Ashley Madasz | A14 | Macy Stoddard | A24 |
| Sadie Cunningham | A4, B1 | Franklin Manios | B11, C25 | Morgan Straw | D15 |
| Teddy Curcio | C17 | Camryn Marshall | A15 | Megan Strohmenger | A21, C21 |
| Connor Dale | B24 | Owen Martin | A16 | Emma Sukal | D16 |
| Erin DaRe | D3 | Abigail McCardle | B12 | Emma Sukal | D16 |
| Allison Dean | B23 | Xavier McDonald | C23 | Karen Swartzentruber | C22 |
| Srioviya Deivaprakash | C2 | Brooke McQuillan | B13 | Morgan Tenney | A22, C24, D17 |
| Grace Deschand | D4 | Jacob Medvitz | A17 | Marcus Tokar | C17 |
| Gabrielle DiDolce | C17 | John Menefee | C7 | Vanessa Tom | C14 |
| Marcus Diniaco | B2, C3 | Jacob Miller | B25, D8 | Jacob Trzcinski | B22, C23 |
| Brendan Donnelly | C25 | Madison Miller | B15 | Lauren Turturice | C24 |
| Kenzie Dunn | C2 | Aidan Minnock | B18 | Madison Utiss | B23 |
| Kent Dunn | C17 | Asia Morgenstern | B16 | Victoria Valcarcel Matos | |
| Dayshawn Elliott | D1 | Helen Moseley | C17 | Lane Voytik | D18 |
| Adriana Emili | B3 | Katherine Mozelewski | A18, D9 | Aryanna Weller | D19 |
| Marina Felasco | B4 | Jimmy Oberlin | B17 | Lindsey Wheaton | D20 |
| Sam Ferguson | A23 | Lindsey Oliver | C18 | Makyla Wheeler | C17 |
| Sean Fitzpatrick | A5 | Michael Orsi | C14 | Benjamin Williams | D21 |
| Jacob Forrest | A6 | Brady Page | B18 | Brianna Williams | D22 |
| Caroline Fox | C5 | Emma Parker | A20, D23 | Harmony Wilson | A20, D23 |
| Gia Francisco | A9 | Jacob Patton | B19 | lan Wilt | B14, D24 |
| Natalie Franke | B23 | Michael Petronzio | B25 | Dawson Yocum | A9 |
| Gabriela Garza | C17 | Shae-Lynn Quinn | D10 | Felix Zamborsky | B24 |
| Shannon Geer | C6 | Caden Rainey | B18 | Alessandra Zervanos | A9 |
| Krysta Germanoski | C17 | Julia Redilla | C2 | Jordan Zupko | C25 |
| Joshua Glaser | C7 | | | \wedge | |
| Mia Greco | B5, D7 | | | W | |
| Aidan Guzma Dalton Hamm | C8 | | | J/ | |
| | C9, C17 | | | E | |
| KayLee Hankins Victoria Harden | C10 C11 | | | . /(| |
| Taylor Harman | C12 | C | Sal Fuar | | |
| Keenan Heeter | A8 | Commerci | iai Free | | |
| Gage Hendrickson | D6 | | | | |
| Katie Henningsen | B24 | | | | |
| Ella Hildebrand | C13 | | | | |
| Emily Hipolito | A19 | | | | |
| Gavin Hogue | A8 | | | | |
| Erika Hoover | C22 | | | | |
| Brooke Horvath | A9 | | | | |
| Tommy Howell | A3 | | | | |
| Chloe Hudecki | B6 | | | | |
| Jessica Huff | C15 | TIT | AN RA | ADIO | |
| Valandilina a | C13 | | | | |

www.titanradiolive.com

URAC•2023

ORAL PRESENTATIONS & RESEARCH ROUNDTABLES

Mueller Theater and Patterson Classrooms

PATTERSON CLASSROOMS

CONCURRENT MORNING SESSIONS — 10:00-11:20 AM

| | 10:00 AM | 10:20 AM | 10:40 AM | 11:00 AM |
|---------------|---|---|--|--|
| PATTERSON 105 | HERE'S THE DIRT ON HYDROPONICS YOU DON'T EVEN NEED IT. Noah Sofran | RUST BUCKET VS SHINER Andrew Heider | CENTRIN2 EFFECTS THE NUCLEAR EXPORT AND CENTROSOMAL LOCALIZATION OF BRCA1/BRCA2 IN HS578T BREAST CANCER CELLS Lauren Turturice | THE EFFECT OF ASCORBIC ACID ON THE RATE OF WOUND HEALING, LIMB REGENERATION, AND EXPRESSION OF TGFB-1 AND COL1A1 IN AMBYSTOMA MEXICANUM Haleigh Paolucci |
| PATTERSON 107 | ENVIRONMENTAL AND ECONOMIC IMPACT OF BITCOIN Jonas Clark | MITIGATING WATER RUNOFF: THE ENVIRONMENTAL AND ECONOMIC IMPACTS OF GREEN ROOFS Breanna Becker | THE ECONOMIC AND ENVIRONMENTAL IMPACT OF MINING CRITICAL MATERIALS Kellen Frazer | DOES STIMULANT HISTORY AFFECT ACUTE NICOTINE RESPONSE Taylor Harman |
| PATTERSON 110 | DETERMINING YOUR LOCATION USING WI-FI Michael Tripp | A PILOT STUDY ON THE POTENTIAL REMEDIATION OF PFOA FROM WATER SOURCES Christopher Dombrowski | THE EFFECTS OF EXTERNAL SHORT- TERM ESTRADIOL HORMONE TREATMENT ON REWARD SEEKING BEHAVIORS IN MALE RATS EXPOSED TO NICOTINE Aidan Guzma | BIRTH CONTROL, COMPLEMENTS OF YOUR CPA Tiwan Jones |

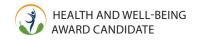
PATTERSON CLASSROOMS

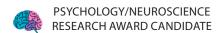
CONCURRENT MORNING SESSIONS — 10:00-11:20 AM

| | 10:00 AM | 10:20 AM | 10:40 AM | 11:00 AM |
|---------------|---|--|---|---|
| PATTERSON 205 | A GAME WITH SHADOWS AND KNOTS Grace Bell | THE CHALLENGE OF BEAUTY WITHIN HORROR Hannah Burtner | MARKETING STRATEGIES IN DIVISION III INTERCOLLEGIATE ATHLETICS: A CASE STUDY OF A PENNSYLVANIA LIBERAL ARTS INSTITUTION Riley Lewis | COLOR THEORY Kylee Shannon |
| PATTERSON 207 | STEELERS VS. COMMANDERS VS. RAMS (IN A CPA'S EYES) Stephanie Cimini | SPORTS MANAGEMENT COMPETES IN NATIONAL CASE STUDY COMPETITION Kimberly Cora | THE EXPRESSION AND PURIFICATION OF 3' HEXO Braydon Gardner | PRODUCTION OF MUTANT SAMPLES OF ALPHA SYNUCLEIN FOR ELECTRON SPIN RESONANCE STRUCTURAL STUDY THROUGH PROTOCOL REFINEMENT. Emma Parker |
| PATTERSON 210 | THE RECOVERY OF CRITICAL ELEMENTS FROM MAGNETS USING OSORB Ethan Cunningham | THE NEW ERA OF FNB FIELD Gia Francisco | TITAN WORKOUT TRACKER Jayneil Latham-Mason | PENNSYLVANIA INTERCOLLEGIATE HONORS BAND, THE PROCESS, THE PRODUCT Shelby Pocono |









PATTERSON CLASSROOMS

CONCURRENT AFTERNOON SESSIONS — 1:30-2:50 PM

| | 1:30 PM | 1:50 PM | 2:10 PM | 2:30 PM |
|---------------|--|---|---|---|
| PATTERSON 105 | THE ANTIMICROBIAL AND ANTIOXIDANT PROPERTIES OF KOMBUCHA Brynn Shetterly | A MINTY FRESH TAKE ON BUDGETING Paige Williams | ETNA'S GILDED AGE: FROM STREET TO SCREEN Stephen Adametz | MODELING FAULTS IN PHASOR MEASUREMENT UNITS USING LEAKY POWER DOMINATION Asia Morgenstern |
| PATTERSON 107 | ELECTRIFICATION: GETTING YOU TO YOUR DESTINATION. Tyler Salvatore | AN ECONOMIC AND ENVIROMENTAL PERSPECTIVE REGARDING PLASTIC RECYCLING: COMMENTARY ON FEASIBLE AND PROBABLE MEASURES. Felix Zamborsky | AI GETS ITS DRIVER'S LICENSE - ANALYZING MACHINE LEARNING TECHNIQUES TO OPERATE AUTONOMOUS VEHICLES Brandon Hunsinger | REDUCTION OF STAPHYLOCOCCUS AUREUS BIOFILM USING SIHYBRIDS Kendra Trimbach |
| PATTERSON 110 | FORGET JALEN HURTS AND PATRICK MAHOMES: THE REAL MVP IN THE NFL IS ENVIRONMENTAL SUSTAINABILITY Noah Yates | AUTOBIOGRAPHICAL EPISODIC MEMORY AND PERSONALITY Maranda Kline | TACKLING BASIC KLONDIKE AGENTS Adam Silvis | 5-FU INDUCES CALPAIN MEDIATED DISRUPTION OF NUCLEAR TRANSPORT IN CANCER CELLS. Emma Stewart |

PATTERSON CLASSROOMS

CONCURRENT AFTERNOON SESSIONS — 1:30-2:50 PM

| | 1:30 PM | 1:50 PM | 2:10 PM | 2:30 PM |
|---------------|--|--|--|---|
| PATTERSON 205 | COMMON CORE AND CHILD CENTERED EDUCATION Zion Posey | BURNING SPIDERS WITH MATH Michael Tripp | RESTAURANT SUSTAINABILITY IN THE UNITED STATES MID- ATLANTIC REGION: A PARTNERSHIP WITH THE TAVERN ON THE SQUARE NEW WILMINGTON KayLee Hankins | "MY GENES MADE ME DO IT": A HISTORY OF BIOLOGICAL THEORIES OF CRIME Lily Hefner |
| PATTERSON 207 | THE BEAUTY OF NATURE THROUGH LAND ART Sophia Galietta | GBY12-COUPLED SIGNALING IN GLIOBLASTOMA CELLS Emma Rudolph | CLONING SLBP FOR EXPRESSION IN MAMMALIAN CELL EXTRACT Miguel Joseph | TICKET AGGREGATOR WEBSITE Joseph Kozlina |













URAC-2023 FEATURED PODIUM PRESENTATIONS

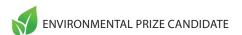
MUELLER THEATER AND FACEBOOK LIVE

MORNING SESSION — 12:00-1:00 PM

| 12:00-12:25 PM | INVESTIGATING BREAKDOWN OF HISTONE MRNA USING ADVANCED MOLECULAR DYNAMICS Izayah Bojanac |
|----------------|--|
| 12:30-12:55 PM | USING DIFFERENTIAL EQUATIONS TO MODEL A MASS ON A SPINNING WHEEL Austin O'Hara |

AFTERNOON SESSION — 3:00-4:00 PM

| 3:00-3:25 PM | "WHAT MANNER OF MAN IS THIS?:" REPRESENTATIONS OF VAMPIRIC 'OTHERS' IN NINETEENTH-CENTURY LITERATURE Lauren Millhorn |
|--------------|--|
| 3:30-3:55 PM | AN ESG ANALYSIS OF STARBUCKS AND THE GLOBAL COFFEE INDUSTRY Cherise Schultz, Michael Phillips, Kent Dunn, Ryan Armstrong, Ashlyn Lang |









URAC-2023 RESEARCH ROUNDTABLES

PATTERSON FIRST AND SECOND FLOORS

CONCURRENT MORNING ROUNDTABLES — 10:00-10:45 AM

| PATTERSON 108 | PUBLIC MEMORY IN THE EARLY 20TH CENTURY Faculty Moderator: Shannon Smithey REAGHAN WILKERSON, ISABELLA BUETTNER, AMBER CEPEC, GAVIN JONES |
|---|--|
| PUBLIC MEMORY AND AFRICAN-AMERICAN ACTIVISM Faculty Moderator: Angela Lahr KEVIN WALKER, CHARLIE BAREFIELD, CASSANDRA EVANS | |

CONCURRENT AFTERNOON ROUNDTABLES — 1:30-2:15 PM

| PATTERSON 108 | JUSTICE FOR MINORITY INDIVIDUALS Faculty Moderator: Kristianne Kalata CHLOE SMITH, ABIGAIL GUISTE, KEVIN WALKER |
|---------------|---|
| PATTERSON 208 | SOCIETAL COLLECTIVE MEMORY SURROUNDING SCIENCE IN US HISTORY Faculty Moderator: Angela Lahr EMMA PARKER, NATALIE ROSE, VICTORIA KATTLER, HALEY SIMCIC |





URAC•2023 ART, MUSIC, & CREATIVE WORKS

McKelvey and Patterson

URAC•2023 ART, MUSIC & CREATIVE WORKS

MCKELVEY AND PATTERSON HALL

ART

| Patterson Foster Art | 10:00 -10:30 AM |
|-------------------------|--|
| Gallery (Talk) | SENIOR CAPSTONE IN CERAMICS Kara Hutchinson |
| McKelvey 3rd Floor | 1:00 - 2:00 PM |
| Atrium (Display) | THE UNNATURAL IN NATURE Ryan Wasilko |

| | 9:00 AM - 4:00 PM |
|----------------------|---|
| MAIN QUAD | WHERE THEY ARE FROM: A POETRY COLLECTION BY THE CLASS OF 2026 |
| | 9:00 AM - 4:00 PM |
| | SCRAWL SPRING 2023 RELEASE TABLE |
| CULTURAL | 12:00 - 1:00 PM |
| CENTER (McKelvey) | SIGMA TAU DELTA POETRY SLAM |
| | 1:00 - 2:00 PM |
| | SCRAWL RELEASE PARTY |

URAC•2023 ART, MUSIC & CREATIVE WORKS

MCKELVEY AND PATTERSON HALL

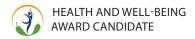
MUSIC

| McKelvey Tub | 9:00-9:15 AM | |
|-------------------|---|--|
| | WESTMINSTER COLLEGE BARBERSHOP CLUB Charles Lisella, Tim Mulcahy, Max Smith, Kole Alcorn, Liam Chute, Michael Everhart | |
| Orr Auditorium | 11:00-11:15 AM | |
| | WESTMINSTER COLLEGE PERCUSSION ENSEMBLE Ian Herr, Ryan Bramson, Jada Brown, Stephen Kaib, Dylan Kresak, Katie Lyons, Lauren McTiernan, Madison Mueller-Howell, Ryan Shaw, Shannon Witkouski | |
| Patterson 210 | 1:30-2:15 PM | |
| | ONE-MAN BAND (WHAT I'VE LEARNED MY FIRST YEAR AT WESTMINSTER COLLEGE) Michael Everhart | |
| McKelvey Tub | 3:00-3:15 PM | |
| | MARKET STREET BRASS QUINTET Charles Lisella, Timothy Mulcahy, Alayna Ford, Jeremy Beckinger, Isabella Dienes | |











TRIO Helps Students:

- Achieve goals
- Overcome obstacles
- Succeed in class
- Prepare for life after graduation
- And much more!

Contact us today and learn why
TRIO Works!



418 Thompson Clark Hall
www.westminster.edu/TRIO
WestminsterTRIO@westminster.edu

Follow us on Social Media! facebook.com/TRIOatWestminster Instagram- @TRIOatWestminster

URAC•2023

VIDEO SCREENINGS

McKelvey

URAC-2023 VIDEO SCREENINGS

MCKELVEY

VIDEO SCREENINGS — 9:00-10:00 AM

| | VIDEO SCREENINGS — 9.00-10.00 AM | | | | |
|--------------------|--|--|--|--|--|
| | 9:00-9:30 AM | | | | |
| Mueller Theater | CREATIVE MEDIA PRODUCTION'S SHORT CUTS FILM FESTIVAL Brittany Marburger, Kevin Ivany, Adrienne Offutt, Hamish Mathwin, Rob King, Noah Wolford | | | | |
| | 9:30 AM | | | | |
| | BUNKER Hamish Mathwin, Bethany Edwards, Emma Gurley, Sabrina Slagle, Kevin Ivany, Mason Peck, Dani Soloski, Max Robinson, Ryan Thibault | | | | |
| | 9:45 AM | | | | |
| | SANCTUARY Kevin Ivany, Hamish Mathwin, Saige Heigel, Riley Lewis, Vincent Funari, Brett Willcox, Marcus Tokar | | | | |
| | 9:55 AM | | | | |
| | ENCORE Cody Vetter, Bethany Edwards, Jack Mickle, Reid Sanderson, Emily Reed | | | | |
| | | | | | |

FOCUS GROUPS: DOCUMENTARY PREVIEWS

| | 9:00-10:00 AM | 11:00 AM-12:00 PM | 1:00-2:00 PM | 3:00-4:00 PM |
|-----------------|-------------------------------|--|---|---|
| McKelvey 275 | Saige Heigel, Marcus Tokar | Ashley Baldwin, Bethany Edwards, Riley Lewis | Maxwell Robinson, Alex Marinski, Mark Mangino | Ryan Thibault, Andrew Tedesco, Alex Nyiri |

URAC-2023 VIDEO SCREENINGS

MCKELVEY

BIRDTOK VIDEOS —11:00 AM-12:00 PM

| Mueller Theater | | TWO BEGINNER BIRDERS CONNECT MINDFULNESS TO BIRDING Danielle Soloski | 3 |
|--------------------|-----|--|---|
| | No. | THE BIRDING EXPERIENCE Nathan Kacey | 3 |
| | | SAVE YOURSELF AND HELP SAVE THE BIRDS Kendra Granchi | 3 |
| | M | STUDENT-ATHLETE TURNS BIRDER Jordan Zupko | |
| | | WONDERS OF AN INVISIBLE SOCIETY: BIRDS Connor Dale | 3 |
| | | MORE THAN JUST A HOBBY Malia Duffy | |
| | M | LEAVING A "MARC"-US ON ORNITHOLOGY Patrick Ekeu, Marcus Diniaco | 3 |
| | | THE BEST WAY TO LEARN IS TO GET OUTSIDE AND BIRD Saige Heigel | 3 |
| | | BIRDING: THE IMPACT ON EVERYDAY (AND NOT JUST RETIRED) LIFE Olivia Herman | |
| | | THE BENEFITS, BEAUTIES, AND BENEVOLENCE OF BIRDING Daniel Horgan | |
| | M | THE BIRD WORLD, PEACE, AND CONSERVATION AWARENESS Ashlyn Lang | |
| | M | LINDSEY GOES BIRDING FOR FIRST TIME WITH WC BIRDER NOAH Noah Sofran | 3 |
| | M | CHANGING YOURSELF, SOCIETY, AND THE PLANET BY BIRDING Paige Williams | 3 |
| | | BRING MY BUDDY BIRDING Kaylee Madey | |
| | | BIRDING BUDDIES Payton Waight, Mike Roman | |







URAC•2023

PUBLIC SPEECH & DEBATE

Berlin Lounge

URAC•2023 PUBLIC SPEECH & DEBATE

BERLIN LOUNGE

PUBLIC SPEECHES — 12:00-1:30 PM

| 12:00-12:10 PM | 12:10-12:20 PM | 12:20-12:30 PM | |
|---|--|---|--|
| FREE THE SLAVES, AGAIN Erin Fosgreen | ESCAPING THE RADICAL CAGE: A PERSASUSIVE Iris Davis Hall | JUST SAY NO TO DRUG ADVERTISING Krysta Germanoski | |
| 12:30-12:40 PM | 12:40-12:50 PM | 12:50-1:00 PM | |
| AUTISM SPEAKING: A POETRY PROGRAM Tyler Hunter | THE NOTORIOUS RBG AND THE RHETORIC OF FASHIONABLE DISSENT Katie Magee | FOSTERING IDENTITY Alyjah McHugh | |
| 1:00 PM- 1:10 PM | 1:10-1:20 PM | 1:20-1:30 PM | |
| NON-FICTIONAL HEROES Jaden Sowers | I'M JUST A BILL: THE AMERICAN LEGISLATIVE EXCHANGE COUNCIL EXPOSED Makyla Wheeler | WAR TOLD IN WORDS: EXPLORING THE MINDS OF CONSCRIPTED MEN THROUGH PROSE INTERPRETATION Izayah Bojanac | |



URAC-2023 PUBLIC SPEECH & DEBATE

BERLIN LOUNGE

GROUP EVENTS

1:30-2:30 PM

READERS THEATER: BANNED IN THE USA: GIVING VOICE TO THE VOICELESS



Jaden Sowers, Iris Davis Hall, Tyler Hunter, Makyla Wheeler, Ellis Moore, Katie Magee, Kent Dunn, Alyjah McHugh

3:00 -4:00 PM

PARLIMENTARY DEBATE

Iris Davis Hall, Izayah Bojanac, Sean Casey, Kent Dunn, Ellis Moore, Alyjah McHugh, Krysta Germanoski, Katie Magee











WESTMINSTER BEE COMPANY

Our Mission

We provide sustainable, natural, and local honey and bee products from Westminster College's Apiary. This venture and your purchase supports students, a hands-on education, and the environment.

Student-Led Business Venture

Students gain real-life business experience and entrepreneurial skills. Students from all majors come together to showcase their own unique skills and run a small business.

Hands-On Education

Students get their hands a little...sticky while learning the process of how honey is made, and taking the honey from farm to table. Students get to do everything from opening the hives and extracting the honey and putting it into jars, to designing labels and managing profits.





Congratulations to all undergraduate researchers, performers, and artists presenting today!

What a great day to BEE a Titan!

Follow us on Instagram @wc_bee_company



SCHOM/SHUPS-OPEN THE DOOR

With each new experience at Westminster, I become more thankful for alumni and those who donate to the college, opening the door to this amazing education. I truly love it here at Westminster and donors are the ones who have made it possible for me - it's an amazing gift. Thank you for investing in my education!

Krysta Germanoski '24

Finance & Accounting Major



The Office of Institutional Advancement is honored to work with alumni and friends to help advance the mission of Westminster College.









Proud sponsor of URAC 2023 Environmental Prize

The mission of the Center for the Environment is to connect people with each other and the natural world. We strive to create an understanding of the dynamic relationships among society, our environment, and the economy. We offer programming and resources to foster critical thinking, creative expression, data collection and analysis, ethical judgements, and entrepreneurial endeavors, and human wellbeing. We embrace diverse perspective and thought consistent with Westminster College's liberal arts heritage.

Academic Programs:

- · Environmental Science
- · Environmental Studies

Data Collection:

- · Robert (Bob) V. Travis Weather Station
- · Solar Panel Array
- Successional Plots
- · Water Quality



Other Educational Programs:

- · Modules in liberal arts courses
- · Outdoor STEM camp
- · Summer community programming

Outdoor Facilities:

- · Field Station
- · Nature Center
- · College Woods
- Brittain Lake

Outdoor Educational Resources:

- Apiary
- Arboretum
- · Bill and Virginia Offutt Microforest
- · Bird Blind
- · Composting

- Edmiston Labyrinth
- · Lucile B. Frey Nature Trail
- "Meg" Rankin Garden
- Tiny House Project
- · Wind Turbine

Applied Liberal Arts Education with Transferrable Skill Set

- Challange students outside their comfort zones
- Collaborate on real-world problems
- Apply a cross-disciplinary approach
 Cultivate community & comparting to a
- Cultivate community & connections to nature
 Foster entrepreneurial mindset

Follow us on Instagram @center.forthe.environment.wc

Congratulations to all undergraduate researchers, performers, and artists presenting today!

Mark your calendars now for the Symposium on the Environment, December 7, 2023





All-College Honors at Westminster

College

Instagram @wchonors





Covering your campus & community!

Join us for live coverage of
Baccalaureate &
Commencement
Saturday, May 13th, 2023









TITAN INVESTMENT

PRACTICUM



LEARN TO INVEST IN YOUR FUTURE TODAY.

Course Code ECO 399

This is a 1 credit practicum which meets weekly and is open to all! Aquaint yourself with the fundaments of investing with Westminster business faculty and students

Celebrate everything we love about Titan sports!



Monday, May 1, 2023

LIVE on



WESTMINSTER COLLEGE | School of Business

MBA

Finish in as little as 1 year

Online courses allow you to work while completing your degree

All undergraduate majors welcome!



for more information, contact Dr. Badowski at badowsr@westminster.edu

WESTMINSTER COLLEGE

PROFESSIONAL NETWORKING SYMPOSIUM



SAVE THE DATE!

FRIDAY, SEPTEMBER 29, 2023

Opportunities for students, alumni, and friends of Westminster College to meet and network with others in their field.

TITAN RADIO

View song history, news, sports, social media, weather and more within the sidebar

Commercial Free Titan Radio

ARCANE

ARCANE

INACINE DEAGONS X JID

ENEMY

IMAGINE DEAGONS X JID

Record and send a shoutout to Titan Radio

Song/artist info and social links

Listen to _ Titan Radio's podcasts Email Titan Radio

Request a song

APP









WESTMINSTER



FOUR EXCELLENT ENSEMBLES CONCERT CHOIR CHAMBER SINGERS MEN'S CHORUS WOMEN'S CHORUS

Contact Dr. Keeling Director of Choral Activities keelinra@westminster.edu

OPEN INTERVIEWS

Titan Guide/ Student Influencer

- Provide campus tours to daily visitors
- Support large Admissions Events
- Engage prospective students utilizing the ZeeMee social app



CONTACT:
ALLISON ILLIG
ASSISTANT DIRECTOR
OF ADMISSIONS

illigam@westminster.edu

WESTMINSTER COLLEGE

Drinko Center for Undergraduate Research Patterson Hall | Room 315 319 S. Market Street New Wilmington, PA 16172-0001

JOIN THE CONVERSATION











