



URAC • 2019

UNDERGRADUATE RESEARCH & ARTS CELEBRATION

POSTER PRESENTATIONS,
ORAL SESSIONS, PERFORMANCES,
AND OTHER EVENTS

WEDNESDAY, APRIL 24, 2019

Sponsored by The Drinko Center for Undergraduate Research



WESTMINSTER COLLEGE

WELCOME TO URAC 2019!

Westminster College is proud to host the 2019 Undergraduate Research and Arts Celebration. Today, approximately 320 students will present their research and creative projects through oral presentations, poster sessions, films, music and theatre 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.

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 2019 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 or countless hours of rehearsal. For some students, URAC 2019 will be their first formal presentation in college, and for others, participating in URAC 2019 is a final milestone before graduation. We are 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. We 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, Library and Information Services, and Marketing and Communications. Their efforts made URAC 2019 possible.

We hope you enjoy today's events! Thank you for joining us at the Undergraduate Research and Arts Celebration.



*Karen K. Resendes and Pamela A. Richardson
Co-Directors, Drinko Center for Undergraduate Research*

URAC 2019

#WCURAC

EVENT SCHEDULE

| | |
|---------------------|--|
| 9 AM | COFFEE & PASTRIES <i>Carlson Atrium, 3rd Floor McKelvey</i> |
| 9 - 10 AM | POSTER SESSION A <i>Witherspoon Rooms</i> |
| 9 - 10 AM | PUBLIC SPEECH PERFORMANCES <i>Mueller Theater</i> |
| 9 - 10:55 AM | CONCURRENT STUDENT SPEAKERS SESSION I <i>Patterson Hall</i> |
| 9 - 11 AM | LIVE MUSICAL PERFORMANCES <i>Music Gallery, Patterson Hall</i> |
| 9:30 AM - 2 PM | LIVE MUSICAL PERFORMANCES <i>1st floor McKelvey</i> |
| 10 - 11 AM | THE NEWILMINGTONIAN <i>Berlin Lounge</i> |
| 10 - 11:20 AM | ART GALLERY TALKS <i>Foster Art Gallery, Patterson Hall</i> |
| 10:30 - 11:30 AM | POSTER SESSION B <i>Witherspoon Rooms</i> |
| 11:30 AM - 12:30 PM | POETRY SLAM <i>Berlin Lounge</i> |
| 11:45 AM - 3 PM | VIDEO PRESENTATIONS <i>Mueller Theater</i> |
| 12:30 - 1:30 PM | ART DISPLAY <i>Carlson Atrium, 3rd floor McKelvey</i> |
| 12:30 - 1:30 PM | POSTER SESSION C <i>Witherspoon Rooms</i> |
| 12:30 - 1:40 PM | LIVE MUSICAL PERFORMANCES <i>Music Gallery, Patterson Hall</i> |
| 12:30 - 2 PM | CONCURRENT STUDENT SPEAKERS SESSION II <i>Patterson Hall</i> |
| 2 - 3 PM | POSTER SESSION D <i>Witherspoon Rooms</i> |



POETRY SLAM

DATE // WEDNESDAY, APRIL 24

TIME // 11:30 AM - 12:30 PM

PLACE // BERLIN LOUNGE, MCKELVEY

[FREE COFFEE & BISCOTTI]



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#WCURAC



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URAC•2019 POSTER PRESENTATIONS



URAC•2019 POSTER PRESENTATIONS

SESSION A — 9-10 A.M.

| | | | |
|-----|--|--|---|
| A1 | Beer Run | Vincent Guerrieri, Darius Doty, Evan Vent | Robert Zullo |
| A2 | Costume Design for <i>Love's Labour's Lost the Musical</i> | Lauren Brooks | Karen Dabney |
| A3 | Introversion and Extroversion in Majors | Nathan Enterline, Kevin Hart, Zach Dublin | Robert Badowski |
| A4 | Characterization of Gill Pigmentation in <i>Acipenseriformes</i> | Erika Billman  | John Robertson |
| A5 | Risk Factors for Lyme Disease in Canines of Northwestern Pennsylvania and Northeastern Ohio | April Larrison  | Diana Ortiz |
| A6 | Analysis of the Degradation of the Allelochemical Juglone under Compost Conditions | Jessica Grady  | Ann Throckmorton |
| A7 | Investigating Microplastics in Macroinvertebrates Collected from the Little Neshannock Creek, Using Clean Air Processing Methods | Tia Kowalo, Justin Anuszek, Matthew Balczon, Andrew Kearney   | Helen Boylan |
| A8 | Diagnosis of La Crosse Encephalitis: A Quality Improvement Study | Zachary Fryda   | Diana Ortiz |
| A9 | Hydrophobic Deep Eutectic Solvents for the Extraction of Cobalt from Concentrated HCl Solutions | Emma Pollock  | Peter Smith |
| A10 | Athletes' Motivation to Comply with Physical Therapy and Return to Sport | Gianna Serignese | Sandra Webster |
| A11 | Feasibility Study of Recovered Minerals in AMD Sludge | Shae Cogley, David Durbin, Jake Gard, Brady Hogue, Brianna Papp, Emmitt Willis  | Helen Boylan, Alison DuBois, Brian Petrus |
| A12 | An Analysis of Worldwide Immunization Data | Jessica Booher | Carolyn Cuff |
| A13 | The Function of the Bone Mineralization Protein Osteocalcin on Hydroxyapatite Formation in a Crowded Environment | Troy Holden | Erin Wilson |
| A14 | Baseball Season Simulation | Daniel Jackson, David Windsor | John Bonomo |
| A15 | Foraging Decisions in Birds: Finding Novel Birdfeeders and Avoiding Predation | Elizabeth Temple  | Kerri Duerr |

 ENVIRONMENTAL PRIZE CANDIDATE

 LIBRARY INFORMATION TROPHY CANDIDATE

| | | | |
|-----|---|--|---------------------------|
| A16 | Misattribution of Arousal: The Impact of Exercise on Romantic Attraction in Friendship | Anna Muraca | Sherri Pataki |
| A17 | The Analgesic Effects of Methadone in the Presence and Absence of Acetaminophen | Joshua Wrightson | Deanne Buffalari |
| A18 | How Do Americans Discuss Food? | Olivia Withers | Brittany Rowe-Cernevicius |
| A19 | Fashion and the Perception of Personality Type Based on Emotion | Logan Wilson | Robert Badowski |
| A20 | Perceptions of Typical Romantic Relationships | Mikayla Williams | Jessica Rhodes |
| A21 | Influence of Friend or Non-friend on Children's Moral and Social Conventional Judgments | Tori Vaughan  | Mandy Medvin |
| A22 | Image Control for Electronic Arts | Kenneth Tumblison | Brittany Rowe-Cernevicius |
| A23 | Influence of Weather Variables on Timing of Breeding in American Kestrels | Hailey Tammaro  | Kerri Duerr |
| A24 | The Reliability and Validity of a Self-Report Measure of Procrastination | Sydney Kaboly, Chessie Stitzel | Jessica Rhodes |
| A25 | Effects of CB1 Agonist WIN55,212-2 on Anxiety Behaviors in Zebrafish Exposed to a Novel Environment | Anna Lish | Deanne Buffalari |
| A26 | What Motivates You? | Christopher Slater, Victoria Pezzuolo, Michael Hamiche | Robert Badowski |

SESSION B — 10:30-11:30 A.M.

| | | | |
|----|--|--|---------------------------|
| B1 | College Degrees in the Workforce | Vincent Guerrieri, Tyler Barnot | Robert Badowski |
| B2 | Does Personality/Career Have an Effect on Music Choice? | Haley Farmerie, Molly Parker | Robert Badowski |
| B3 | Cultures around the World | Erin Keich | Carolyn Cuff |
| B4 | ID On Me | Amber Burrows, Keely Flynn, Emily Irvine | Robert Zullo |
| B5 | "My Fellow Americans"- A Case Study in Presidential Image Preservation | Matthew Causer | Brittany Rowe-Cernevicius |
| B6 | Growth and Structure of Gill Rakers in Paddlefish (<i>Polyodon spathula</i>) | Jessica Garcia Ramirez | John Robertson |
| B7 | Host Preference of Mosquitoes Collected at the Lomas Barbudal Biological Reserve, Costa Rica | Tia Kowalo | Diana Ortiz |
| B8 | Anti-CD19 CAR T Cell Therapy | Zachary Fryda, Sarah Conn, Jensine Cou-driet | John Robertson |
| B9 | Passion for Sports: A Predictor of Performance in Student Athletes | Chelsea Gregley, Gianna Serignese | Sandra Webster |

 ENVIRONMENTAL PRIZE CANDIDATE

 LIBRARY INFORMATION TROPHY CANDIDATE



| | | | |
|-----|--|--|---|
| B10 | Association between Sensory Modulation Irregularities and Inhibitory Control in Preschool-Aged Children | Mackenzie Gruber | Mandy Medvin |
| B11 | Feasibility Study of Recovered Minerals in AMD Sludge | Brice Bokesch, Nick Burks, Yiannoula Katsadas, Blaine Sorrick, Emily Wilson | Helen Boylan, Alison DuBois, Brian Petrus |
| B12 | Does Your Vehicle Identify Introversion vs Extroversion? | Steven Knight, Tyler Nordby | Robert Badowski |
| B13 | A.N.M. Outdoor Home Services | Mia Magnotti, Nate Piocquidio, Aadil Mirza | Robert Zullo |
| B14 | Personal Space Point Charges | John Lima  | Craig Caylor |
| B15 | The Effects of the Cultural Focus on Female Empowerment and the Influence of Parents and Peers | Mackenzie Hupp  | Mandy Medvin |
| B16 | Generating Images of Exoplanets | Emilee Spozarski  | James Anthony |
| B17 | Effects of Campus Involvement on GPA | Kendall Graham, Ashley Chorney | Robert Badowski |
| B18 | Leadership Styles in the Workplace | Matthew Kwalick, Caitlyn Peace | Robert Badowski |
| B19 | Confidence Is Key: Measuring Self-confidence Among Undergraduate Students | Jordin McGehee, Alex Bowes, Maddie Morgan | Jessica Rhodes |
| B20 | Does Early Childhood Parenting Predict Adult Friendship Quality? | Kelly Avery | Sherri Pataki |
| B21 | They Sewed, They Stitched, They Conquered: A Case Study of Patagonia's "Worn Wear" Campaign | Brett Bartholomew | Brittany Rowe-Cernevicius |
| B22 | Characterizing System Spanning & Non-system Spanning Avalanches | Montana Ferita | Craig Caylor |
| B23 | HPLC and UV-VIS Analysis of a Co (II) Catalyst for Photo-Mediated Thiol-ene Click Reactions to Determine Catalytic Effectiveness | Matthew Ford | Zachary Rodgers |
| B24 | An Effective Image Management: A Case Study of How Ja Rule Preserved His Image Following Fyre Festival | Rebecca Gallace | Brittany Rowe-Cernevicius |
| B25 | Nonlinear Damping in a Resonant Circuit | Mark Leblanc | Craig Caylor |
| B26 | An Examination of the Relationship between the Free Exploratory Paradigm and the Open Field Test as well as the Effects of Diazepam on Anxiety-related Behavior in the Open Field Test | Christen Snyder | Deanne Buffalari |


SESSION C — 12:30-1:30 P.M.

| POSTER NUMBER | TITLE | RESEARCHER(S) | FACULTY SPONSOR(S) |
|---------------|--|---|---|
| C1 | Making of a Star Drop | Ali Srour | Karen Dabney |
| C3 | Coupled Oscillations in Suspended Magnets | Jonathan Robison | Craig Caylor |
| C4 | Hop the Line | Molly Parker, Travis Lauster, Zach Medarac | Robert Zullo |
| C5 | Westminster Model UN at American Model United Nations | Matthew Causer, Derek Bakewell, Megan Beale, Kaylee Brosius, Jackson Gastmeyer, Cole Keister, Jess Reabe, Jacob Pittman, Bryer Cochenour, Natalie Sperlunto, Andrius Burnelis, Seth Zacherl, Garrett Garlock, Tyler Durbin, Christian Keegan, Sam Kelly, Alina Clough, Brianna Papp, Andrew Piatt | Michael Aleprete |
| C6 | Alemtuzumab: A Study of the Mechanisms and Effects in vivo | Justin Brandt, Bailey Dunks, Jake Staub | John Robertson |
| C7 | Westminster Personality Study | Jennifer Vogel, Evan Vent | Robert Badowski |
| C8 | Exploring Sustainable Communities with the New Wilmington Borough and the Sustainable Pennsylvania Community Certification | Justin Anuszek | Helen Boylan |
| C9 | Social Media: Does It Attract More Extroverts or More Introverts? | Christopher Hilbert | Robert Badowsk |
| C10 | Tispy Guru | Joshua Kaiser, Bradley Dickinson, Matt Blahnik | Robert Zullo |
| C11 | Feasibility Study of Recovered Minerals in AMD Sludge | Maria Wahal, Kaitlyn Fast, Brett Henderson, Travis Lawrence, Mike Stevens | Helen Boylan, Alison DuBois, Brian Petrus |
| C12 | Mindfulness for Preservice Teachers | Rachel Moore, Makena Baumgardner | Amy Camardese, Jane Dean |
| C13 | Presentation on the International Collegiate Programming Contest | Connor Byrnes, Alexander Michels, Sam Hockenberry, Aaron Signer, Alex Georgescu, Matt Bollinger | John Bonomo |
| C14 | PLAN - IT | Logan Wilson, Carina Burns, Theresa Tremmel | Robert Zullo |
| C15 | Soweto Throughout the Times | Christopher Bezek | Angela Lahr |
| C16 | Titan App | Reid Lutz, Alex Kennedy, Tristin Ireland | Robert Zullo |
| C17 | The Effects of N-Terminal Acetylation on the Membrane Binding Behavior of Alpha Synuclein | Judith Bond | Jessica Sarver |
| C19 | A Little Birdie Told Me...:Examining President Trump's Use of Twitter to Frame the Government Shutdown | Kaylee Brosius | Brittany Rowe-Cernevicius |
| C20 | An Electronic Simulation of Slow Light | Jessica Nelson | Craig Caylor |
| C21 | Structure of the Pyloric Cecum in <i>Acipenseriformes</i> | Alexander Cronin | John Robertson |
| C22 | PCID2 is Linked to Centrosome Duplication | Taylor Gatesman | Karen Resendes |

| POSTER NUMBER | TITLE | RESEARCHER(S) | FACULTY SPONSOR(S) |
|---------------|------------------------------|---|--------------------|
| C23 | Aggression between Majors | Paul Gonzalez, Tyler Greene | Robert Badowski |
| C24 | Meet & Eat | Kathryn Ludwig, Amanda McCreary, Taylor Moon | Robert Zullo |
| C25 | The Effects of Atezolizumab | Ashley Barker, Emily Fromknecht, Kyle Yatsonsky | John Robertson |
| C26 | WRTR: Networking for Writers | Michaela Bluedorn, Margaret Portmann, Caitlyn Peace | Robert Zullo |

SESSION D — 2-3 P.M.

| | | | |
|-----|--|---|---|
| D1 | Robots without Processors | Tsubomi Poley | Craig Caylor |
| D2 | A Physiologically Accurate Model of Neuronal Communication | Jacob Staub | Craig Caylor |
| D3 | Code to Fit Stellar Radial Velocity Data to a Curve | Catherine Stevens | Craig Caylor |
| D4 | The Northern Mission | Chessa Caylor | Patricia Clark |
| D5 | Mechanistic Analysis of Trastuzumab's Role in Cancer Treatment | Elaina Chapnell, Hunter Cox, Sara Morini | John Robertson |
| D6 | Westminster College Homecoming Market Research | Jordan Randall, Brett Steinmiller, Hunter Paff | Robert Zullo |
| D7 | Student Use of Accommodations in College Classes | Julianne Halmo | Sherri Pataki |
| D8 | Baseline Anxiety as an Indication of Sucrose Consumption in Rodents | Jensine Coudriet | Deanne Buffalari |
| D9 | I Have Potential? | Andruis Burnelis | Craig Caylor |
| D10 | Can Your Preferred Learning Style in School Suggest the Style of Management You Will Lean Toward after Graduation? | Meg McCarthy | Robert Badowski |
| D11 | Feasibility Study of Recovered Minerals in AMD Sludge | Maura Belding, Breanna Ferguson, Ian Miller, Evan Vent, Erin Ward | Helen Boylan, Alison DuBois, Brian Petrus |
| D12 | NCAA Division I Student-Athlete Academic and Financial Analysis | Casey Spieler, Maggie Monahan | Carolyn Cuff |
| D13 | Examining Attitudes Towards Mental Health Concerns in the Technology Workplace | Emily Wilson, Nicole Mackenstein | Carolyn Cuff |
| D14 | Sounds from the Guitar | Alan Waltenbaugh | Craig Caylor |
| D15 | Conquering the Challenges of Our Future: Declining Intramural Participation | Brett Henderson, Zach Dublin | Robert Zullo |
| D16 | Conquering the Challenges of Our Future - A Content Analysis of Division II Athletic Department Websites in Pennsylvania | Kevin Hart, Travis Lauster | Robert Zullo |
| D17 | Examining the Influenza Pandemic of 1918 in Lawrence County, Pennsylvania | Dominic Boston | Timothy Cuff |

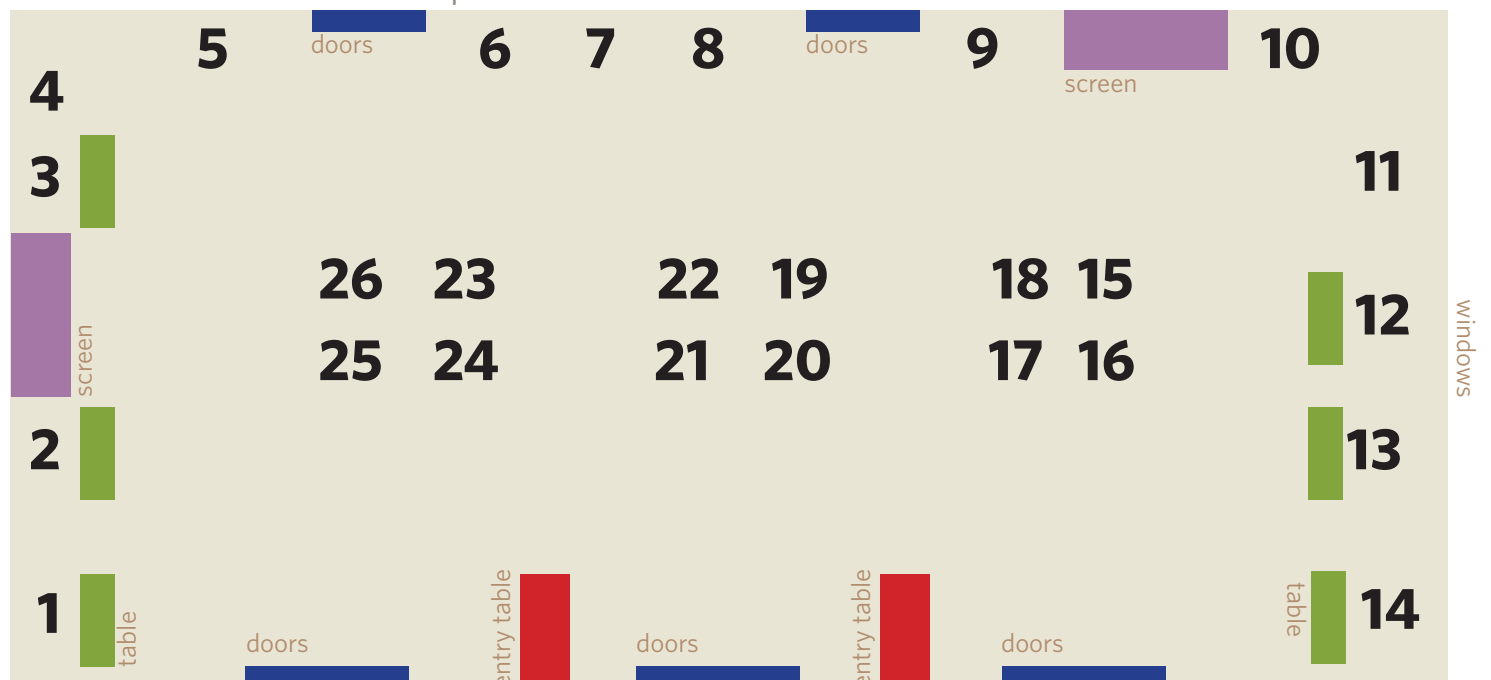
| | | | |
|-----|---|---|--------------------------|
| D18 | Parsing Addresses using Neural Networks | Aaron Signer, Sam Hockenberry | John Bonomo |
| D19 | The Effect of Health and Fitness in the Workplace | Connor Chirdon, Mia Bellante | Robert Badowski |
| D20 | Technology and its Effect on Student Career Choice | Frank Pantano | Robert Badowski |
| D21 | Student Involvement on Campus Based on Personality Type | Taylor Chuey, Dylan Wolford | Robert Badowski |
| D22 | Ahhh, Spiders!: A Novel Measure of Arachnophobia | Emily Grimes, Justin Mondry | Jessica Rhodes |
| D23 | What Type of Athlete Are You? | Kaelyn Puhalla, Brooke Lyczek | Robert Badowski |
| D24 | Diversity-Inclusive Advertising and Product Availability - Effect on Consumer Self-Perception | Hope Radvinski | Colleen Merrick |
| D25 | Generation Z Buyer Behavior and How It Impacts Marketing Communications | Haley Smith  | Colleen Merrick |
| D26 | If the Walls Could Tell Stories: Political Murals as a Strategic Public Relations Tactic in Changing Public Perception of Northern Ireland after the Troubles | Megan Simpson | Brittany Rowe-Cernevicus |



LIBRARY INFORMATION TROPHY CANDIDATE

POSTER LOCATION MAP

WITHERSPOON ROOM | MCKELVEY CAMPUS CENTER



INDEX OF POSTER PRESENTERS

| PRESENTER | POSTER # | PRESENTER | POSTER # | PRESENTER | POSTERer # |
|------------------------|----------|---------------------|----------|--------------------|-------------|
| Justin Anuszek | A7, C8 | Jake Gard | A11 | Maddie Morgan | B19 |
| Kelly Avery | B20 | Garrett Garlock | C5 | Sara Morini | D5 |
| Derek Bakewell | C5 | Jackson Gastmeyer | C5 | Anna Muraca | A16 |
| Matthew Balczon | A7 | Taylor Gatesman | C22 | Jessica Nelson | C20 |
| Ashley Barker | C25 | Alex Georgescu | C13 | Tyler Nordby | B12 |
| Tyler Barnot | B1 | Paul Gonzalez | C23 | Hunter Paff | D6 |
| Brett Bartholomew | B21 | Jessica Grady | A6 | Frank Pantano | D20 |
| Makena Baumgardner | C12 | Kendall Graham | B17 | Brianna Papp | A11, C5 |
| Megan Beaulé | C5 | Tyler Greene | C23 | Molly Parker | B2, C4 |
| Maura Belding | D11 | Chelsea Gregley | B9 | Caitlyn Peace | B18, C26 |
| Mia Bellante | D19 | Emily Grimes | D22 | Victoria Pezzuolo | A26 |
| Christopher Bezek | C15 | Mackenzie Gruber | B10 | Andrew Piatt | C5 |
| Erika Billman | A4 | Vincent Guerrieri | A1, B1 | Nate Piocquidio | B13 |
| Matt Blahnik | C10 | Julianne Halmo | D7 | Jacob Pittman | C5 |
| Michaela Bluedorn | C26 | Michael Hamiche | A26 | Tsubomi Poley | D1 |
| Brice Bokesch | B11 | Kevin Hart | A3, D16 | Emma Pollock | A9 |
| Matt Bollinger | C13 | Brett Henderson | C11, D15 | Margaret Portmann | C26 |
| Judith Bond | C17 | Christopher Hilbert | C9 | Kaelyn Puhalla | D23 |
| Jessica Booher | A12 | Sam Hockenberry | C13, D18 | Hope Radvinski | D24 |
| Dominic Boston | D17 | Brady Hogue | A11 | Jordon Randall | D6 |
| Alex Bowes | B19 | Troy Holden | A13 | Jess Reabe | C5 |
| Justin Brandt | C6 | Mackenzie Hupp | B15 | Jonathan Robison | C3 |
| Lauren Brooks | A2 | Tristin Ireland | C16 | Gianna Serignese | A10, B9 |
| Kaylee Brosius | C5, C19 | Emily Irvine | B4 | Aaron Signer | C13, D18 |
| Nick Burks | B11 | Daniel Jackson | A14 | Megan Simpson | D26 |
| Andrius Burnelis | C5, D9 | Sydney Kaboly | A24 | Christopher Slater | A26 |
| Carina Burns | C14 | Joshua Kaiser | C10 | Haley Smith | D25 |
| Amber Burrows | B4 | Yiannoula Katsadas | B11 | Christen Snyder | B26 |
| Connor Byrnes | C13 | Andrew Kearney | A7 | Blaine Sorrick | B11 |
| Matthew Causer | B5, C5 | Christian Keegan | C5 | Natalie Spurlunto | C5 |
| Chessa Caylor | D4 | Erin Keich | B3 | Casey Spieler | D12 |
| Elaina Chapnell | D5 | Cole Keister | C5 | Emilee Spozarski | B16 |
| Connor Chirdon | D19 | Sam Kelly | C5 | Ali Srour | C1 |
| Taylor Chuey | D21 | Alex Kennedy | C16 | Jacob Staub | C6, D2 |
| Ashley Chorney | B17 | Steven Knight | B12 | Brett Steinmiller | D6 |
| Alina Clough | C5 | Tia Kowalo | A7, B7 | Catherine Stevens | D3 |
| Bryer Cochenour | C5 | Matthew Kwalick | B18 | Mike Stevens | C11 |
| Shae Cogley | A11 | April Larrison | A5 | Chessie Stitzel | A24 |
| Sarah Conn | B8 | Travis Lauster | C4, D16 | Hailey Tammaro | A23 |
| Jensine Coudriet | B8, D8 | Travis Lawrence | C11 | Elizabeth Temple | A15 |
| Hunter Cox | D5 | Mark Leblanc | B25 | Theresa Tremmel | C14 |
| Alexander Cronin | C21 | John Lima | B14 | Kenneth Tumblison | A22 |
| Bradley Dickinson | C10 | Anna Lish | A25 | Tori Vaughan | A21 |
| Darius Doty | A1 | Kathryn Ludwig | C24 | Evan Vent | A1, C7, D11 |
| Zach Dublin | A3, D15 | Reid Lutz | C16 | Jennifer Vogel | C7 |
| Bailey Dunks | C6 | Brooke Lyczek | D23 | Maria Wahal | C11 |
| David Durbin | A11 | Nicole Mackenstein | D13 | Alan Waltenbaugh | D14 |
| Tyler Durbin | C5 | Mia Magnotti | B13 | Erin Ward | D11 |
| Nathan Enterline | A3 | Meg McCarthy | D10 | Mikayla Williams | A20 |
| Haley Farmerie | B2 | Amanda McCreary | C24 | Emmitt Willis | A11 |
| Kaitlyn Fast | C11 | Jordin McGehee | B19 | Emily Wilson | B11, D13 |
| Breanna Ferguson | D11 | Zach Medarac | C4 | Logan Wilson | A19, C14 |
| Montana Ferita | B22 | Alexander Michels | C13 | David Windsor | A14 |
| Keely Flynn | B4 | Ian Miller | D11 | Olivia Withers | A18 |
| Matthew Ford | B23 | Aadil Mirza | B13 | Dylan Wolford | D21 |
| Emily Fromknecht | C25 | Maggie Monahan | D12 | Joshua Wrightson | A17 |
| Zachary Fryda | A8, B8 | Justin Mondry | D22 | Kyle Yatsonskey | C25 |
| Rebecca Gallace | B24 | Taylor Moon | C24 | Seth Zacherl | C5 |
| Jessica Garcia Ramirez | B6 | Rachel Moore | C12 | | |

URAC•2019 ORAL PRESENTATIONS

**Student
Presenters
and all URAC
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.






<https://www.surveymonkey.com/r/URAC2019>

Survey must be completed by Friday May 3rd to be
eligible for prize drawing.



URAC•2019 ORAL PRESENTATIONS



PATTERSON HALL ROOMS 105, 107, 108, 110

| TIME | PATTERSON 105 | PATTERSON 107 | PATTERSON 108 | PATTERSON 110 |
|---------------|---|---|--|--|
| 9:00 - 9:15 | EVE TERWILLIGER Thapsigargin Counteracts the Effect of 5-Fluorouracil on Nuclear Transport During Apoptosis in HeLa Cells | MICHAELA BLUEDORN  "Which Way to Jump, or Fall": The Future of Literature in a Technological Age | SAMUEL HOCKENBERRY Investigation of Ohio Adjudicated Youth Through Cluster Analysis | M. KARDASZ, A. SENATORE, H. ZEITLER, C. DAVIDUK PMEA Convention Review: Applications of Music in Education |
| 9:25 - 9:40 | AYLA CHAPMAN, MEHMET ICLEK Lack of Involvement Due to Commuting | EMILY EYLER Folklore of the Monongahela | SAMUEL HOCKENBERRY Songs in the Key of Mathematics | M. KARDASZ, T. SAVAGE, S. EVANICK The Relationship between Performers, Composers, and Conductors during Rehearsal and Performance |
| 9:50 - 10:05 | ASHLEY BARKER  The Sex Differences in the Reinforcement Enhancement Ability of Nicotine in Rodents | MARGARET PORTMANN <i>Invisible: Identity Development, Character Devolution, and Rhythmic Motifs in Ralph Ellison's Invisible Man</i> | JAMIE THOMPSON, MARISSA BOWERS Swimming through the History of the Summer Olympic Games | LAUREN FABER Seasons of Opera |
| 10:15 - 10:30 | ALEXANDER MICHELS Capturing the Predictive Power of Cortical Learning Algorithms | SHAMON WALKER, BRETT STEINMILLER, ZACH DUBLIN SeatSanity | SAMUEL HOCKENBERRY, JAMIE THOMPSON Improving Accessibility to Westminster College's Field Station Weather and Solar Data | NOAH STEINER  Analyzing the Portrayal of the United States by the U.S.S.R. through Cartoon Propaganda during the Cold War |
| 10:40 - 10:55 | ANNA FALUSZCZAK Look Me in the Eyes: Psychopathic Traits Reduce Facial Cues Effect on Emotion Identification | SARAH HARRIS Uridylated Histone mRNA Degradation Intermediates Bind SLBP and 3'hEXO Individually and Together | PETER MCMASTER  Honor, Respectability, and the Cultural Climate at Nuremberg: Nuremberg Trial Defenses of Karl Doenitz and Albert Speer | DELANEY SAXTON  Probation: How Race, Gender, and Monetary Sanctions Impact Who Recidivates |


PATTERSON HALL ROOMS 205, 207, 208, 210

| | | | | |
|--|---|--|--|--|
| | <p>HANNAH MCMICHAEL</p> <p>The Effect of Ethanol on Staphylococcus aureus Biofilm Production</p> | <p>EMILY RUSSELL</p> <p>Student Teaching and Studying Abroad in Seville, Spain</p> | <p>MAGGIE LONG</p> <p>The Effects of Acute and Prolonged Flavonoid Exposure on the Memory Performance of Zebrafish</p> | <p>ALEXANDER MICHELS</p> <p>Computational Fact-Checking through Relational Similarity-Based Path Mining</p> |
| | <p>JACOB STOYER, GABE ROMAN</p> <p>Analyzing Effectiveness of the SCI:100 Hacking STEM Classes Workshop</p> | <p>M. GRUBER, A. BOWELL, C. SEBEST, J. TOPORCER</p> <p>Medical Mission Trip in the Dominican Republic</p> | <p>KENDALL GRAHAM</p> <p>"You're in America - Speak English": A Fantasy Theme Analysis of YouTube Video Confrontations of Non-Native "Others" in the United States</p> | <p>CHRISTOPHER MAZUR</p> <p>Genetic Algorithm Evolution of Walking Gaits of Robots with 8 Axes of Symmetry Using Minimalistic Physical Simulations</p> |
| | | <p>V. RESTIFO, E. RUSSELL, R. MOORE, H. GRIPPO, E. MCLAUGHLIN</p> <p><i>Education in the Dominican Republic: Past, Present, Future</i></p> | <p>MOLLY PARKER</p> <p>Empathy, Social Desirability and Political Affiliation and its Relation to Views on Current Events</p> | <p>ALEXANDRU GEORGESCU</p> <p>Trinity Fire Fighting Home Robot Contest Presentation</p> |
| | <p>R. MOORE, D. GRECO, M. BAUMGARDNER</p> <p>The Power of Influence: Cultivating Tomorrow's Educational Leaders</p> | <p>VANESSA RESTIFO</p> <p>Student Travel: The Key to College Recruitment Success?</p> | <p>MARIA WAHAL</p>  <p>Parameterization of DPA Using the Force Field Toolkit</p> | <p>NEBAL BARHOOME</p> <p>Single Page Web Application to Manage Inventory</p> |
| | <p>MICHELLE YASENKA</p> <p>The Representation of Migration in Spanish Film: An Analysis of María Jesús "Chus" Gutiérrez's Films</p> | <p>VANESSA RESTIFO</p> <p>Study Abroad Opportunities</p> | <p>EMILY EYLER</p> <p>Set Design for <i>Hamlet</i></p> | <p>DEVIN CHEPLIC</p> <p>Creation of a Portable Attendance Logging Device</p> |

PATTERSON HALL ROOMS 105, 107, 108

| TIME | PATTERSON 105 | PATTERSON 107 | PATTERSON 108 |
|---------------|---|---|--|
| 12:30 - 12:45 | MADISON HUFF Improving Size and Habitability Estimates of Exoplanets | ANNIKA ERDELY Assessing the Need for a Forensic Database of Feline Mitotypes in Budapest, Hungary | MORGAN MILLER Conscientiousness and Disgust Sensitivity Predicting Distress in Undergraduate Students |
| 12:55 - 1:10 | MACKENZIE MARINO  Missionaries in China During the 1918 Influenza Pandemic | VICTORIA CIDOR Righteousness is Reaching for Self-Actualization: How Good and Evil In <i>Les Miserables</i> Adhere to Maslow's Hierarchy of Needs | PATRICIA LOUGHNEY Synthesis and Comparative Light Emissions of Mixed Europium/Terbium Silicates |
| 1:20 - 1:35 | MARISA STEPHENSON  The Effects of Rumination and Ego Depletion on Procrastination and Mood | NICHOLAS LUTZ War of the Spanish Succession | HANNAH LOVE The European Union: Identity and Immigration |
| 1:45 - 2:00 | DAKOTA MCFALL Creating a Side-Scrolling Platform Video Game | EMILY D'AMICO Thapsigargin Has No Effect on the Ability of 5FU or gem to Induce Apoptosis in HeLa Cervical Cancer Cells | RACHEL MOORE Study on the Effectiveness of Computer Programming Instruction for Third Grade Students |

PATTERSON HALL ROOMS 205, 207, 208

| TIME | PATTERSON 205 | PATTERSON 207 | PATTERSON 208 |
|-------------|---|--|--|
| 12:30-12:45 | T. KOWALO, J. GRADY, H. MORRIS, A. MOBERG, I. MILLER, V. LISBON, E. BRADY, S. PARSONS, Z. KEMMER Westminster Students Participate in Merry Lea's Sustainability Summit | KEELY KENNEDY, ERIN MCLAUGHLIN, EMILY CORNMAN Moments: Living and Learning in Samaná, Dominican Republic | AUTUMN CEJER Fantasy's Female: Representing Femininity in Fantasy Literature in J. R. R. Tolkien and George R. R. Martin |
| 12:55-1:10 | J. GRADY, E. POLLOCK, E. WARD, V. LISBON, S. SMALL ALLARM Team Collaborates with Local Brewery on Wastewater Effluent | ANNA BROCK Breaking Boundaries in Israel | EVE KAMMERDIENER  HPLC and GCMS Analysis of Photo-degraded Organic Pollutants |
| 1:20-1:35 | BENJAMIN KOTCH Creating Adaptable Displays for Spatial Data | M. GRUBER, J. GARCIA RAMIREZ, O. WRIGHT Structure-Function Analysis of TLR9 agonist and anti-OX40 | ZACHARY HERNDON Crime Severity's Effect on Facial Recognition in Pristine Lineups |
| 1:45 - 2:00 | KYLE YOUMANS The Ins and Outs of Running an Online Orchestra | EMILY RUSSELL The Influence of Different Teaching Methodologies on Second Language Acquisition in the United States and Spain | |



URAC•2019 PERFORMANCES & EVENTS

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COM 205 Mass Comm: Comics & Superheroes (HC)
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ECO 150 Economic Reasoning (ST)
ENG 130 Native American Lit & Film (HC)
MTH 110 Mathematical Perspectives (QR)
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PS 104 International Politics (ST)
PSY 101 Intro to Psychology (ST)
REL 170 Intro to Religion in the World (RP)
SOC 101 Principles of Sociology (ST)
Writing 111 Writing

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SED 201C Foundations Special Edu (ST)

Blended:

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ES 160 Concepts Environ Sci + Lab (SD)
MTH 150 Calculus I (QR)

On Campus:

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EDU 266 Exploring Literacy Connections

On Campus Cluster:

(Cluster courses must be taken together)
THE 102C Intro to Acting (VP)
BC 112C Digital Moviemaking (VP)

* Housing is available in Berlin Village.



Register for classes at
MY.WESTMINSTER | ACADEMICS | COURSE REGISTRATION
Sign up for housing at the Student Affairs Office in McKelvey.

URAC•2019 MORE PERFORMANCES & EVENTS

MUSICAL PERFORMANCES - Music Gallery, Patterson Hall

- 9:00-9:30 AM** **SAMANTHA CONNELL**
"A World Turned Upside Down"
- 9:35-9:45 AM** **MAGGIE DANKO**
A Taste of Bach and Debussy
- 9:50-10:05 AM** **ANDREW FERENCE AND MAGGIE DANKO**
Ference-Danko Duo
- 10:10-10:15 AM** **JOHN DANIELS AND BRADEN STESIAK**
Cello and Bass Duet
- 10:35-10:40 AM** **NATHANAEL FLEMING, JOSHUA BARTOSH, AND BRADEN STESIAK**
"The Cathedral"
- 10:50-11:00 AM** **ERIN AHEARN**
Musical Theatre Intensive Audition Material
- 12:30-12:40 PM** **JOSHUA BARTOSH**
"Kaddisch," by Maurice Ravel
- 12:45-12:55 PM** **VINCENT BUELL**
Concerto en Ré Majeur
- 1:00-1:10 PM** **COURTNEY LABRITZ**
"Rustiques"
- 1:15-1:25 PM** **KATELEN SHULER**
Violin Performance - Beethoven's Romance in G Major
- 1:30-1:30 PM** **VANESSA SIVIE AND GIER CHEN**
Clarinet and Piano Duet


MUSICAL PERFORMANCES - 1st Floor McKelvey

- 9:30-9:40 AM** **SHENANDOAH BRASS QUINTET**
Courtney Labritz
Emily Lamark
Ian Ollila
Benjamin Patosky
Allison Savage
- 9:50-10:05 AM** **WESTMINSTER COLLEGE CLARINET QUARTET**
Samantha Douglas Nina Silver
Abbey Senatore Vanessa Sovie

MUSICAL PERFORMANCES - 1st Floor McKelvey

| | | | |
|-------------------------|--|--|---|
| 10:15 - 10:30 AM | WESTMINSTER COLLEGE NASTURTIUM SAXOPHONE QUARTET Abby Grabigel Liam Horgan | Angela Renninger Timothy Savage | |
| 10:40-10:55 AM | LAKE BRITAIN BRASS QUINTET Vincent Buell Sean Evanick George Huncik | Greer Wardlaw Heather Zeitler | |
| 11:30-11:40 AM | CEÒL NA TEUD Truman Antah Joshua Bartosh John Daniels | Katelen Shuler Cassie Zimmerman | |
| 12:30-12:50 PM | THE SWEET TREBLES Chrissy Cannella Samantha Connell Lauren Faber Rachel Henry | Ashlinn Meechan Zoey Povlick Taylor Powell Allison Savage | Allison Sherman Jenna Toohey Rebecca Zanaglio |
| 1:30-2:00 PM | THE JAZZ CATS Truman Antah John Daniels Maggie Danko Christian Daviduk | Nikolas Guadagnino Timothy Hering Patrick Raymond Samuel Sherlock | Tyler Snodgrass Scott Wignall |

ART GALLERY TALKS - Foster Art Gallery, Patterson Hall

| | |
|-----------------------|--|
| 10:00-10:20 AM | MY TIME, THUS FAR, AT WESTMINSTER  Alana Moberg |
| 10:30-10:50 AM | TOMORROW'S TRENDS: DESIGNED BY LOGAN Logan Wilson |
| 11:00-11:20 AM | WOMEN OF TRAGEDY Emily Eyler |

ART DISPLAY - Carlson Atrium, 3rd Floor McKelvey


| | |
|----------------------|--|
| 12:30-1:30 PM | I USED TO BE CLEAN, BEFORE I WAS A TEEN Natalie Compel |
|----------------------|--|



PUBLIC SPEECH PERFORMANCES - Mueller Theater, McKelvey

| | |
|---------------|--|
| 9:00-9:05 AM | EXTEMPORANEOUS SPEECH (DRAW) Bryer Cochenour |
| 9:05-9:15 AM | IMPROMPTU SALES PRESENTATION John Karson |
| 9:20-9:30 AM | EXPOSITORY SPEECH: THE BROWN MARMORATED STINK BUG Lauren Seelbaugh |
| 9:35-9:45 AM | EXTEMPORANEOUS SPEECH Bryer Cochenour |
| 9:50-10:00 AM | Roe Emily Gellatly Hannah Westwood |

VIDEO PRESENTATIONS - Mueller Theater, McKelvey

| | |
|---------------------|---|
| 11:45 AM - 12:00 PM | BEA ON LOCATION: AWARD OF EXCELLENCE Tyler Helvin |
| 12:05-12:20 PM | SPREADING SMILES FOR MANY MILES: HOW ONE PERSON CAN CREATE A KINDER WORLD Mackenzie Basalla  |
| 12:25-12:40 PM | ENDING THE CYCLE OF VIOLENCE Madeleine Craig |
| 12:45-1:00 PM | THEATRE BEHIND THE SCRIPT Katarina Braun |
| 1:05-1:20 PM | CAPSTONE - NIGHT TERRORS Lucas Turner |
| 1:25-1:45 PM | NAGZZ21: SPARK OF A COMMUNITY Tyler Helvin |
| 1:50-2:10 PM | UNCONVENTIONAL ART: THE ART OF COSPLAY CONVENTIONS Kayla Ammons |
| 2:15-3:00 PM | FIRST LOOK: CAPSTONE DOCUMENTARY TRAILERS Jace Armentrout Atit Amin Rachael Angermeier Jaclyn Bleggi Dwayne Brown Hannah Erdmann Tori Zabo |



SPECIAL EVENTS - Berlin Lounge, McKelvey

10:00-11:00 AM

THE NEWILMINGTONIAN

| | |
|-----------------------|---------------------|
| Brooke Acklin | Martin Koegler |
| Kenneth Boeringer | Emily Krinos |
| Dominic Boston | Tomas Maielli |
| Frank Cinicola | Morgan Miller |
| Molly Frank | Jacob Pittman |
| Alyssa Gavlek | Elisabetta Pontillo |
| Biyanca Gavlek Oliver | Alainna Romeo |
| Madysen Hackwelder | Lauren Seelbaugh |
| Christian Keegan | Megan Simpson |
| Shania Kennedy | Kaitlin Travis |
| Julie Kerlin | Angeline Vick |
| McKenzie Kobbe | Brittany Watson |

11:30 AM - 12:30 PM

2019 POETRY SLAM

Margaret Portmann
John Karson
Emily Krinos
Krislina Mercer
Tsubomi Poley
Amanda Young





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ResPAC hosts regular workshops in such topics as:

- Applying to graduate school
- Writing your resume or *curriculum vitae*
- Writing a personal statement
- Finding a research internship

VISIT:

<https://www.westminster.edu/academics/respac/index.cfm>

EMAIL:

Deanne Buffalari
buffald@westminster.edu
ResPAC Co-chair

Jessica Sarver
sarverjl@westminster.edu
ResPAC Co-chair



The Year of the 19th Amendment

Commemorate the 100th anniversary of the ratification of the 19th amendment with Westminster College in 2019-2020.

The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any state on account of sex.

Ratified on August 18, 1920

- A Suffrage Tea
- Speakers
- Contests
- A Birthday Party

... And More!

Contact Angela Lahr, Associate Professor of History, at lahram@westminster.edu for more information.

NHD NATIONAL HISTORY DAY®

National History Day at Westminster College is organized by Dr. Patricia Clark and the History Department and held each spring. Students in grades 6-12 present their historical research in an attempt to win regional honors and progress to the state and national contests.

- Middle and high school students conduct and present original research projects
- Forms of projects include papers, performances, websites, documentaries, and exhibits
- Participants are judged by and receive constructive feedback from teams of Westminster faculty and students
- The top students in each category receive awards and advance further through the competition with the goal of reaching the national contest in June
- Students have the opportunity to produce original historical research, create a project, and present their work
- Students also get the chance to spend the day and tour Westminster College

Contact Patricia Clark, associate professor of history, for more information.
Email: historyday@westminster.edu

2019 STUDENT SYMPOSIUM ON THE Environment

SPONSORED BY WESTMINSTER COLLEGE &
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Thursday, December 5th, 2019
5:30–7:30 p.m. Networking & Poster Session
7:30– 9:00 p.m. Oral Presentations
Westminster College

The Student Symposium on the Environment is held each December at Westminster College to highlight environmental study, research, artistic expression, and service work being done by students in the region. Students from all disciplines, ranging from high school through graduate school, are encouraged to participate. Research posters, art work, oral presentations, and even performances are welcome.

Call for participants available in October
www.westminster.edu/environment



Professional Networking Symposium

Saturday, September 21,
2019

Network with alumni for
internship, career, graduate
school, and professional
development opportunities.

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WESTMINSTER COLLEGE

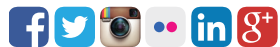
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