



# URAC•2017

UNDERGRADUATE RESEARCH & ARTS CELEBRATION

POSTERS PRESENTATIONS,  
ORAL SESSIONS, AND PERFORMANCES

**WEDNESDAY, APRIL 26, 2017**

*Sponsored by The Drinko Center for Undergraduate Research*



WESTMINSTER COLLEGE



# URAC•2017 SCHEDULE

8:30 AM:	Coffee & pastry ( <i>Carlson Atrium</i> )
8:30 - 9:30 AM:	Poster Session A ( <i>Witherspoon Room</i> )
9 - 10 AM:	Theater Performances ( <i>Beeghly Theater</i> )
9 - 10:55 AM:	Concurrent Student Speakers Session I ( <i>Patterson Hall</i> )
9:15 - 10:45 AM:	Live Musical Performances ( <i>1<sup>st</sup> floor McKelvey and Orr Auditorium</i> )
9:45 - 10:45 AM:	Poster Session B ( <i>Witherspoon Room</i> )
11 AM - NOON:	Remarks and Keynote Speaker ( <i>Will W. Orr Auditorium</i> ) <b>Opening Remarks:</b> President Kathy Brittain Richardson <b>Keynote Speaker Introduction:</b> Dr. Helen Boylan, professor of chemistry <b>Keynote Speaker:</b> Mallory Lichwa '09, "From Westminster to Washington: A Professional Journey" A special event for Westminster students, faculty and staff.
12:15 - 1:15 PM:	Travel Mug ( <i>3<sup>rd</sup> floor McKelvey</i> )
12:15 - 3:15 PM:	Live Musical Performances ( <i>1<sup>st</sup> floor McKelvey, Berlin Lounge, Wallace Memorial Chapel</i> )
12:30 - 1:30 PM:	Poster Session C ( <i>Witherspoon Room</i> )
12:30 - 2 PM:	Concurrent Student Speakers Session II ( <i>Patterson Hall</i> )
1 - 2 PM:	Video Presentations ( <i>Mueller Theater</i> )
1:45 - 2:45 PM:	Poster Session D ( <i>Witherspoon Room</i> )
2 - 2:30 PM:	Art Presentations ( <i>Outside of Foster Art Gallery</i> )

#WCURAC

WESTMINSTER COLLEGE

# URAC

KEYNOTE SPEAKER



# MALLORY LICHWA '09

Biochemistry major  
Criminal Justice Studies minor

## FROM WESTMINSTER TO WASHINGTON: A PROFESSIONAL JOURNEY

11 A.M. - NOON  
WEDNESDAY, APRIL 26  
BEEGHLY THEATER

*A special event for Westminster students, faculty, and staff*

## WELCOME FROM THE DRINKO CENTER FOR UNDERGRADUATE RESEARCH

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# WELCOME TO URAC 2017!

Westminster College is proud to host the 2017 Undergraduate Research and Arts Celebration. Today, approximately 300 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 2017 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 2017 will be their first formal presentation in college, and for others, participating in URAC 2017 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 2017 possible.

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

The image shows two handwritten signatures. The top signature is "Karen K. Resendes" and the bottom signature is "Pamela A. Richardson". Both signatures are in cursive ink.

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

GRAB A CUP OF COFFEE <sup>and</sup>  
COME LEARN MORE ABOUT  
TRAVEL OPPORTUNITIES AT WESTMINSTER.

12:15 - 1:15 p.m. • 3<sup>rd</sup> Floor MCKELVEY CAMPUS CENTER



WESTMINSTER COLLEGE

# **URAC•2017 POSTER PRESENTATIONS**

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# URAC•2017 POSTER PRESENTATIONS

POSTER NUMBER	TITLE	RESEARCHER(S)	FACULTY SPONSOR(S)
<b>SESSION A — 8:30-9:30 A.M.</b>			
A1	Costumes for "A Midsummer Night's Dream" and the Design Process	Sheila Fizer	Mr. Terry Jachimiak
A2	Take Video Gaming to the Next Level!	Daniel Blahnik	Dr. Robert Badowski
A3	The effect of masking the parietal eye on thermoregulatory behavior in the bearded dragon <i>P. vitticeps</i> and the green anole <i>A. carolinensis</i>	Samantha Adams	Dr. Marosh Furimsky
A4	Implicit Association of Vertical Space and Gender Hierarchy	Ashley Barker	Dr. Sandra K. Webster
A5	Cedar Farm Inn Environmental Science Internship	Jacob Booth	Dr. Helen Boylan
A6	"Why Wait? Get Served!"	Shelby Brown	Dr. Robert Badowski
A7	Choice Satisfaction: The Effects of the Construct of Choice on the Satisfaction and Motivation of Individuals	Megan Douds	Dr. Sandra K. Webster
A8	Confronting the Overlook: Speaking Out and Uncovering the Relationships Between Sexual Violence and Substance Abuse	Gabriella Fabish	Dr. Kristin Park, Dr. Kristenne Robison
A9	The Effects of Methylphenidate and Ethanol on Fear Memory	Bridget Herlihy	Dr. Deanne Buffalari
A10	The Fear of Missing Out (FoMO) increases anxiety levels of young adults	Jeffrey Klinedinst	Dr. Sandra K. Webster
A11	The Power of Spoken Word: Personality Self-Perception in Hispanic and Anglo-American Bilinguals	Kaitlyn Kosarek	Dr. Sandra K. Webster
A12	A multi-dimensional analysis of large corporation's Twitter accounts and the alignments with their mission statements and CSR initiatives	Amelia Hartzell	Dr. Brittany Rowe-Cernevicius
A13	A Trial for the World	Emma Lawson	Dr. Timothy Cuff
A14	Using a Molecular Crowding Technique to Inhibit the Loss of Function from UV Light on Crystallin Proteins in the Eye	Michael McClain	Dr. Erin Wilson
A15	Strategies in Simulated Repeated Play Game Theory	Alexander Michels	Dr. Carolyn Cuff
A16	The Effect of Fake News and Misinformation on Mass Media	Zachary Nedley	Dr. Colleen Merrick

POSTER NUMBER	TITLE	RESEARCHER(S)	FACULTY SPONSOR(S)
A17	Gene Expression Analysis of Msx-2 and Cox3 During Limb Regeneration in <i>Ambystoma mexicanum</i>	Anne Papa	Dr. Joshua Corrette-Bennett
A18	The Effect of Breed Perception on Pit Bull Adoptions	Jennifer Piascik	Dr. Brittany Rowe-Cernevicius
A19	Frosty Car Windows: A Microhistory of the Effects of Cold War Propaganda on the Depiction of Young American Women, Specifically	Alexandria Quigley	Dr. Patricia Clark
A20	Influence of Stress Induced Cortisol, Gender and Emotional Arousal on Memory Consolidation	Abigail Rinard	Dr. Mandy Medvin
A21	Understanding the Binding Patterns of Alpha-Synuclein to Membranes	Austin Ruediger	Dr. Jessica Sarver
A22	Diversity Restaurant	Dominic Schrecengost	Dr. Robert Badowski
A23	The Post-Colonial Relationships of India, Australia, and Great Britain Depicted in Political Film	Beca Schumann	Dr. Shannon Smithy
A24	Enactus Employment Workshop	Elizabeth Smith	Mr. Keith Bittel
A25	Look deeper into your beer with BeerGoggles	Christopher Wess	Dr. Robert Badowski
A26	Effects of Background Music on Recognition of Words	Morgan Widina	Dr. Sandra K. Webster
A27	4 Square Delivery	Jeremy Wiening	Dr. Robert Badowski
A28	Hammurabi's Kingship, Conquest, and Legal Code	Patrick Gaughan	Dr. Timothy Cuff

## SESSION B — 9:45-10:45 A.M.

B1	A Variation on The Tower of Lire	Sumer Kassim	Dr. Natacha Merz
B2	Second Chance to Dance	Kendell Dickson	Dr. Robert Badowski
B3	Synthesis of a Lanthanide Complex using Eu(NO <sub>3</sub> ) <sub>3</sub> •6H <sub>2</sub> O with Tripodal Ligand 2-OHnaphthtren (tris[N-(2-hydroxynaphthalidene)-2-aminoethyl] amine)	Jennifer Armen	Dr. Peter Smith
B4	The Overlap Between Defendants with Mental Disorders and Predictors of Support for the Death Penalty	Maija Belmar	Dr. Kristin Park, Dr. Kristenne Robison
B5	Our Nomadic Thoughts: Do Affect and Temporal Focus Impact Attention through Mind Wandering?	Emily Broderick	Dr. Sandra K. Webster

POSTER NUMBER	TITLE	RESEARCHER(S)	FACULTY SPONSOR(S)
B6	"Bring them home" an analysis of the bring back our girls campaign	Matthew Causer	Dr. Brittany Rowe-Cernevicius
B7	Effects of Exercise on Stress and Cortisol in Athletes	Neil Christopher	Dr. Jessica Rhodes
B8	Treather App: Making Road Travel Safer	Jonathan Clark	Dr. Robert Badowski
B9	Structure of the Pyloric Cecum of the Paddlefish ( <i>Polyodon spathula</i> )	Alexander Cronin and Savannah Sutherland	Dr. John Robertson
B10	Retail Workers in Need of Retail Therapy	Mackenzie DuBrock	Dr. Robert Badowski
B11	"Velo"... Baseball's Future Use of Technology	Ty Ferlin	Dr. Robert Badowski
B12	Advancing Techniques in Stage Management	Olivia Withers	Mr. Terry Jachimiak
B13	2-1 Caller Demographics	Jessica Garcia Ramirez, Aaron Pierce and Nicole Scisly	Dr. Carolyn Cuff
B14	Hit the Road: The Ultimate Road Trip Planner	Madison Grimes	Dr. Robert Badowski
B15	Measuring Band Gaps in Semiconducting Materials	Tyler Heintz	Dr. Craig Caylor
B16	Working Memory	Zachary Herndon	Dr. Sandra K. Webster
B17	Contagious Yawning and Empathy	Kaitlyn Krug	Dr. Sandra K. Webster
B18	Book Em Search. Save. Succeed	Trevon Major	Dr. Robert Badowski
B19	Influence of Emotion Present During Encoding on Semantic Memory Performance	Eric Mills	Dr. Sandra K. Webster
B20	Suppression of biofilm formation in <i>Staphylococcus aureus</i> by targeting Staphylococcal accessory regulator X expression using siHybrids	Mikayla Morrow	Dr. Joshua Corrette-Bennett
B21	Nightlife App	Robert Noble	Dr. Robert Badowski
B22	The effects of post-encoding emotional arousal on memory	Brooke Novotny	Dr. Sandra K. Webster
B23	Image Management Comparison and CSR Documents and The Mylan Epi-Pen Scandal	Angelica Petrisko	Dr. Brittany Rowe-Cernevicius
B24	If you ruined your favorite pair of shoes, then you need "KicksRepair"	Cameron Pozsgai	Dr. Robert Badowski
B25	United We Stand: Assistance to First-Time 2-1-1 Callers	Mariah Roberts, Jaclina Rush and Ian Miller	Dr. Carolyn Cuff
B26	2-1-1 How can we help?	Brady Rosile, Autumn Cejer, Ben Kotch and Tenia Gray	Dr. Carolyn Cuff

POSTER NUMBER	TITLE	RESEARCHER(S)	FACULTY SPONSOR(S)
B27	Implicit Attitudes of Physical Disabilities Compared to Implicit Attitudes of Mental Illness	Katherine Shaw	Dr. Sandra K. Webster
B28	Merge left, and buy right	Tyler Sheets	Dr. Robert Badowski

## SESSION C — 12:30-1:30 P.M.

C1	LibEz; Changing the Way We Study	Alex Rollo-Smith	Dr. Robert Badowski
C2	Statistical Anaylsis of the 2-1-1 Service	Andrew Miles, Benjamin Gard, Nicholas Lutz and Kelly Lesnak	Dr. Carolyn Cuff
C3	Detecting the ampicillin resistant plasmid-mediated beta-lactamase gene in Escherichia coli using RING-FISH	Amanda Bero	Dr. Joseph Balczon
C4	Marijuana and Anxiety in Rodents: A study of the relationship between baseline anxiety and drug-induced anxiety in a rodent model	Ashlyn Brown	Dr. Deanne Buffalari
C5	Katie's Closet: A Virtual Styling App Making Style Effortless, but Glamorous.	Katelyn Chill	Dr. Robert Badowski
C6	The effects of sugar on self-control and memory	Emily Connell	Dr. Sandra K. Webster
C7	Marketing Plan for Sunset Hills U.P. Church	Annaliese Daniels	Dr. Robert Badowski
C8	Past Prosocial Self-Efficacy Moderates Past Peer Victimization and Current Anxiety	Rachel Durbin	Dr. Mandy Medvin
C9	Homeward Bound	Baylee Felger	Dr. Robert Badowski
C10	Juvenile Solitary Confinement: Perceptions of Residential Placement Employees	Coty Gander	Dr. Jamie Chapman, Dr. Kristenne Robison
C11	Quantifying Bacteria Attachment Using Microscopy and ImageJ Analysis	Mathilda Willoughby	Dr. Erin Wilson
C12	Meal Plan Plus	Brandon Domenick	Dr. Robert Badowski
C13	ParkGeek	Anthony Goldman	Dr. Robert Badowski
C14	The Effect of Mindset on Task Performance	Julianne Halmo	Dr. Sandra K. Webster
C15	Quantifying Electrosensory Ampullae on the Operculum of Developing Paddlefish	Robert Hellier	Dr. John Robertson
C16	The Friction Between Interleaved Pages	Ava Hoag	Dr. Craig Caylor
C17	Service Learning and 2-1-1 Call Center	Matthew Kwalick, Nikalas Guadagnino, Brent Paglialong and Victoria Robinson	Dr. Carolyn Cuff
C18	The Effect of Self-Expression on Stress	Kailey Liverman	Dr. Sandra K. Webster
C19	Prescription Description - An Integrative Learning Activity for Anatomy & Physiology	David McCollough, Madison Gallucci	Dr. John Robertson
C20	The Art of Balance: Influential Factors on Work-Life Balance Stress among Presbyterian Church (USA) Clergywomen	Charissa Mikoski	Dr. Kristin Park

POSTER NUMBER	TITLE	RESEARCHER(S)	FACULTY SPONSOR(S)
C21	VITA Tax Preparation	Kyle Mitcheltree	Mr. John Geidner
C22	Eliminate Your Financial Stress Forever with \$aveMe	Tiffany Nuzzo	Dr. Robert Badowski
C23	Write From Anywhere With Anyone. Introducing SongShare.	Natalie Paoletta	Dr. Robert Badowski
C24	D3 All Access	Mackenzie Quinn	Dr. Robert Badowski
C25	Coffee and Conversation: The Grande Fail of Starbucks's "Race Together" Campaign	Vanessa Restifo	Dr. Brittany Rowe-Cernevicius
C26	Actions speak louder: REI's corporate social responsibility and brand authenticity through #OptOutside campaign	Megan Simpson	Dr. Brittany Rowe Cernevicius
C27	The Effects of Pitch Contour on Perception of Emotion	Christen Snyder	Dr. Sandra Webster
C28	Green Synthesis of Coumarin-3-Carboxylic Acids and Complexation with Europium(III)	Samantha Tower	Dr. Peter Smith
C29	Synthesis of europium(III) silicates using microwave-assisted hydrothermal methods	Zachary Woessner	Dr. Peter Smith

## SESSION D — 1:45-2:45 P.M.

D1	The Effects of Gender and Age on the Moral Reasoning of Undergraduate Students	Troy Holden  , Anna Brock	Dr. Mandy Medvin
D2	Earth's First Martian Colony	Isaiah Morgenstern, Ava Hoag and Tyler Heintz	Dr. Carolyn Cuff
D3	The Effects of Psychosocial Stress on Recognition Memory in Women	Chelsea Gregley	Dr. Sandra K. Webster
D4	The Effect of Yohimbine on Anxiety in Food Deprived and Fed Animals	Alyssa Hampton 	Dr. Deanne Buffalari
D5	Assessment of risk and environmental factors related to the occurrence of human Lyme disease cases in western Pennsylvania	Erin Hassett 	Dr. Diana Ortiz
D6	Analysis of Trace Metals in Hair Using ICP-OES and Chemometrics	Lindsay Homan 	Dr. Helen Boylan
D7	Analysis of Pet Food by LIBS, ICP-OES, and Chemometric Methods	Stephanie Homitz	Dr. Helen Boylan
D8	Data Mining in Institutional Advancement	Rachael Huff	Dr. Carolyn Cuff
D9	Brilliant Budget	Christopher Israel	Dr. Robert Badowski
D10	The Help You Need to Prepare for Travelling	Callie Jacobs	Dr. Robert Badowski
D11	BarTap	Kimu Kim	Dr. Robert Badowski
D12	Incompetence Overpowers Intelligence? The Cross Examination of Hermann Goering	David Waldschmidt	Dr. Russell Martin, Dr. Tim Cuff

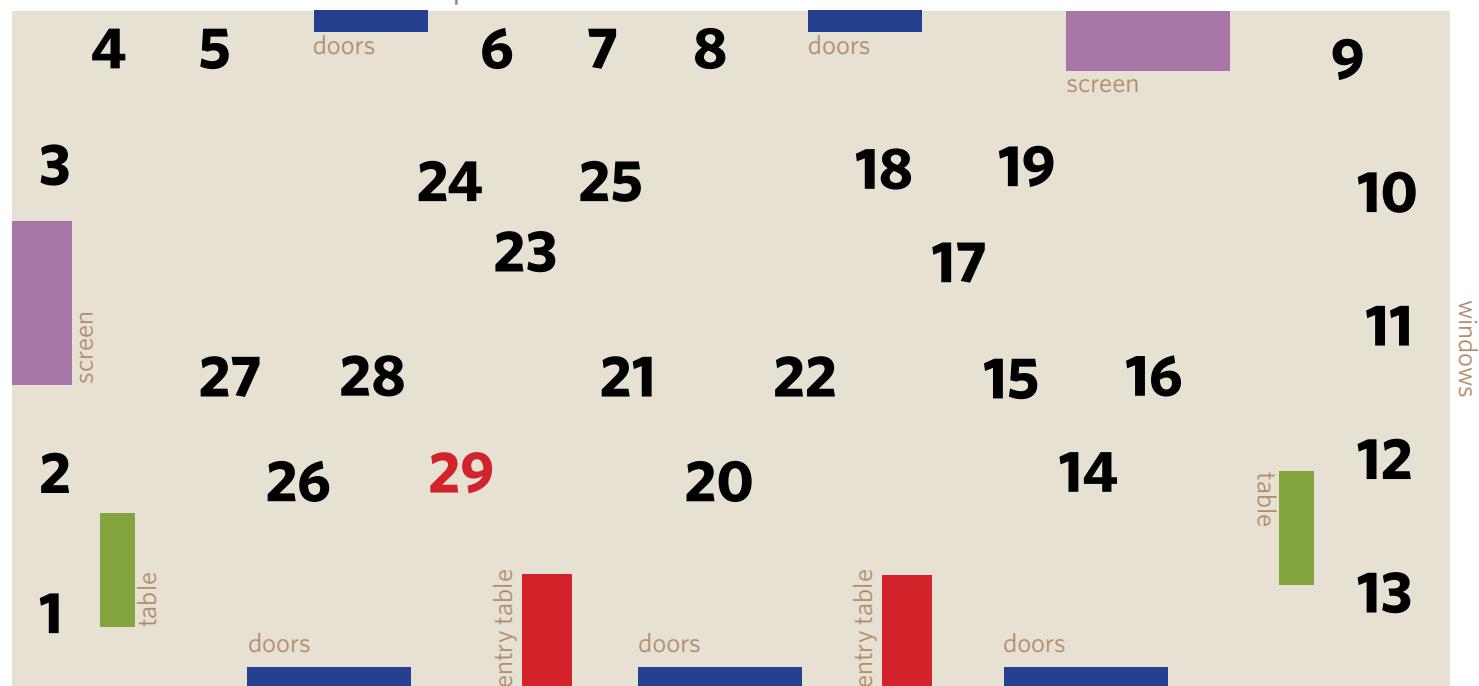
POSTER NUMBER	TITLE	RESEARCHER(S)	FACULTY SPONSOR(S)
D13	The Effects of Fear and Type One Thinking on Decision Making	Samantha Winter 	Dr. Sandra K. Webster
D14	How the aerieREAL campaign impacted the emotional connection young women (aged 18-22 years old) have with the brand.	Georgia Kourakos	Dr. Brittany Rowe-Cernevicius
D15	Separation of Sm and Co Using Water-Immiscible Deep Eutectic Solvents (DESs)	Brendan Messner 	Dr. Peter Smith
D16	Model United Nations	Marissa Miller, Trevor Arrigoni, Ellen DeWeese, Derek Bakewell, Don Lun, Emily Grimes, Erin Keich, Ariel Clifford, Brianna Richey, Cole Keister, Galianna Clark, Ian Ross, Jacob Slapinski, Kendall Williams, Marti Liechty, Matthew Causer, Megan Andrews, Megan Beaule and Stephanie Horton	Dr. Michael Aleprete
D17	Heavy metal analysis of manure and feed samples from local farmland in northwestern Pennsylvania	Daniel Owoc 	Dr. Diana Ortiz, Dr. Erin Wilson
D18	Quantifying lens crystallin in various species of teleost fish	Sarah Pace	Dr. John Robertson
D19	Determinants of water quality of natural springs in western Pennsylvania and eastern Ohio	Natasha Pacifico  , Jacob Booth, Adam Cheatham and Erin Hassett	Dr. Helen Boylan, Dr. Kerri Duerr
D20	The State of Florida v. George Zimmerman Trial: Tactics Used to Manage Zimmerman's Reputation	Jaclina Rush	Dr. Brittany Rowe-Cernevicius
D21	Tiny Little Bots	Aaron Signer  , Matt Gurneal and Jamie Thompson	Dr. Natacha Merz
D22	Analysis of Manganese Oxides Recovered from Abandoned Mine Drainage Passive Treatment Sites	Brittany Slupe 	Dr. Helen Boylan
D23	"How Do I Look?" App	Elizabeth Smith	Dr. Robert Badowski
D24	Defending the Guilty and Innocent: Daily Stressors of Defense Attorneys	Hayley Thewes	Dr. Jamie Chapman, Dr. Kristenne Robison
D25	Analysis of Commercially Available Solar Cells and Applications to Tiny Living	Cameron Worthing 	Dr. Helen Boylan
D26	The Miracle Cleaner	Hampton Young	Dr. Robert Badowski
D27	Use of Social Media as a Recruitment Tool: ISIS v. Greenpeace	Madison Zerfoss	Dr. Brittany Rowe-Cernevicius
D28	Effectiveness of Organic Fertilizers on Aeroponically Grown Purple Mustard and Aton Basil	Adam Cheatham 	Dr. Helen Boylan

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# POSTER LOCATION MAP

## WITHERSPOON ROOM | MCKELVEY CAMPUS CENTER



# **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/WCURAC>

Survey must be completed by Friday May 5<sup>th</sup> to be  
eligible for prize drawing.



## **URAC•2017 ORAL PRESENTATIONS**

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# URAC•2017 ORAL PRESENTATIONS

PATTERSON HALL ROOMS 105, 107, 108

	<b>PATTERSON 105</b>	<b>PATTERSON 107</b>	<b>PATTERSON 108</b>
<b>9:00 - 9:15</b>	TREVOR ARRIGONI  Computational Analysis of Dyck Path Characteristics	GARRETT ASHBAUGH  Monte Carlo Simulation and Portfolio Optimization	BECCA BLY  Increasing Audience Enjoyment Through The Use of a Theme, the Engagement of Performance Practice Techniques, and Multimedia
<b>9:25 - 9:40</b>	RUSTIN CASTEEL  Finding the Difference in Change of Aggression Between the Sexes After Playing Violent Video Games	DOMINIC BOSTON  He looked ... crazy", A Critique on the Interpretations of Nazi Leader Rudolf Hess's Mental Health	NATHANIAL CAVLOVIC  Investigating the Behavior of Tertiary Osteocalcin Structure in Response to Calcium and Ficoll Environments
<b>9:50 - 10:05</b>	ANTHONY EASLEY  Generational Attitudes Towards Democracy in South Africa	MELISSA EGAN & DENVER BAKER  Comparing the methods and attitudes of teachers in high-needs school in the United States and the Dominican Republic	REGINO FLORES  Investigating The Spatiotemporal Distribution Patterns of PCID2 between The Nucleus And The Centrosome
<b>10:15 - 10:30</b>	ANDREW HENLEY  The 1918-19 Influenza Pandemic in Mahoning County, Ohio	KEILAH IRELAND  Does Cat Food Differ from Dog Food?	BRYAN GALLO  Computer Science Outreach and Study: Difference in Interest and Aptitude ...
<b>10:40 - 10:55</b>	ANGELA GLEBA  Communication in the Work Place	ANTHONY GROVES  Exploring Altruism in Emergent Behavior of Evolving Cooperative Robot	BRITTANY JOHNSTON  Never an Absolution: Nazi Persecution of Homosexuals and its Legacies

## PATTERSON HALL ROOMS 205, 207, 208

	<b>PATTERSON 205</b>	<b>PATTERSON 207</b>	<b>PATTERSON 208</b>
<b>9:00 - 9:15</b>	KATELYN JONES, JENNIFER RODGERS & AMANDA MAGNOTTI  The Cost of Caring: Developing Resiliency Skills in Pre-service Teachers	JARRETT KOPER, KELLY HIGBY & LAUREN FOLTZ  5-Flurouracil disrupts nuclear transport during apoptosis in a calcium dependent manner	ORR, POVLICK, CLUTTER, BARBOUR, CLAYTON, RENNINGER, LYERLY, NASH, MOHN, GAMBLE, KARDASZ, HEYL, EVANICK, SAVAGE, KAHLE, BANDI, SHERMAN & FRANK  THE PMEA Experience
<b>9:25 - 9:40</b>	DANIEL KUSHNER  Plato and St. Augustine: The Old and the Restless	KALEIGH SNIDER  Self directed anger and other directed anger: Its effects on the use of stereotypes	MARISSA LYERLY & ANGELA RENNINGER  CBDNA National Small College Intercollegiate Band
<b>9:50 - 10:05</b>	BROOKE MANCUSO   Conservation with kestrels in the high school classroom	ISAIAH MORGESTERN  Numerically solving the two-dimensional Schrödinger equation using GPU computing	LAUREL MICHALEK  The Corruptions of Right
<b>10:15 - 10:30</b>	MADISON ORDONEZ  Pharmaceutical Field in Dominican Republic	LAUREN ORZECHOWSKI  Effectiveness of Multimodal Notifications for Disaster, Catastrophe, and Home Disaster Events	GEORGIA KOURAKOS  How Colleges and Universities Can Utilize Social Media to Increase Enrollment
<b>10:40 - 10:55</b>	MARGARET PANAGIOTOU  Retrospective Views on Worry about News Violence & Effective Coping Strategies	KATHERINE SCHAEFER-ST. PIERRE  The Kosmic Traveler and The Jazz Poet: Cultural Crossings of Walt Whitman and Langston Hughes	OLIVIA SCHMIDT  Francisco de Goya and las pinturas negras

## PATTERSON HALL ROOMS 105, 106, 107, 108

	<b>PATTERSON 105</b>	<b>PATTERSON 106</b>	<b>PATTERSON 107</b>	<b>PATTERSON 108</b>
<b>12:30- 12:45</b>	JOHN ARCURI & BEN STEVENSON  Finesse Footwear — The Business Strategy Game	REBECCA HAYNIK  The Impact of Affective Content on Memory	CHRISTIJANA VUCENOVIC  Flame Fractals	ANNE TILLIE  Using Regime Type and Economic Status as Predictors for Government Response to NGOs
<b>12:55- 1:10</b>	G. BUTCHER, J. ARCURI, E. KEICH, B. JOHNSTON, C. ROSSIER, M. YAO, M. PORTMANN, M. PURSEL & M. McDONALD  Winter Analyst Program	JACOB SHODD  A Comprehensive Security Assessment of the Westminster College Unix Lab	VICTORIA VOLKAY  “The Humanity in Holmes”: A Character Study on the Personality and Relationships of Sherlock Holmes in Literature and Film	M. HARTZFIELD, S. SNYDER, C. BURNS, S. WOOD & J. FORSYTHE  One Campus. One Town. One Connection
<b>1:20- 1:35</b>	WILLIAM CURRIE  Examining Reaction to Masculine Threat	EMILY LANNON  The Negative Effects Generalized Anxiety Disorder Has on Romantic Relationships	KATELYN KOSAREK  Peronism para los Descamisados	KIA-ANNE HOWE  Skyscraper Puzzles
<b>1:45- 2:00</b>			EDWARD'S BUSINESS PLAN SCHOLARSHIP WINNER	

## PATTERSON HALL ROOMS 205, 207, 208

	<b>PATTERSON 205</b>	<b>PATTERSON 207</b>	<b>PATTERSON 208</b>
<b>12:30- 12:45</b>	MELISSA ZHANG  A Psychoanalysis of <i>Fifty Shades of Grey</i>	REBECCA ZDILLA   Habitat use of American Kestrels and European Starlings in west-central Pennsylvania	TYLER WEST  The Influences of the Catholic Church on Education in Franco era Spain
<b>12:55- 1:10</b>	ALEXANDER EARP  Investigating the effect of confusion on emotion	SARAH PACE & SHELBY SEYLER  Health & Science Education of Children in the Sabaneta de Yásica area of the Dominican Republic	OLIVIA SZNIEZEK  Modeling the impact of environmental and biological factors on the spread of infectious disease
<b>1:20- 1:35</b>	MELISSA ZHANG  Fakes and Phonies: Cognitive Dissonance in <i>The Catcher in the Rye</i> and <i>Gone Girl</i>	AUDREY NICKLE  The Disruption of Nuclear Export and Protein Localization with 5- Fluorouracil	YOHO  , BOOTH, DUERRING, GRIMES, HASSETT, LAUGHLIN, OWOC, PACIFICO, SHODD, WILSON & WORTHING  Tiny Living - Big Learning: Westminster's Tiny House Project



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## **URAC•2017 PERFORMANCES**

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# URAC•2017 MUSICAL PERFORMANCES

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**9:15 - 9:25 a.m. FIRST YEAR BRASS QUINTET** (1st floor McKelvey)

Braden Ball	Robert Sutton
Vincent Buell	Heather Zeitler
Courtney Labritz	

**9:30 - 9:45 a.m. WESTMINSTER COLLEGE TRUMPET ENSEMBLE** (1st floor McKelvey)

Vincent Buell	Courtney Labritz
Sean Evanick	Ian Ollila
Nikalas Guadagnino	Brianna Richey
Timothy Hering	

**9:50 - 10:05 a.m. WESTMINSTER STRING ENSEMBLE** (1st floor McKelvey)

Ashleigh Nealer	Madisen Fischer
Joshua Bartosh	Sophia Sprunger
Lisa Orr	Annie Trombetta

**10:15 - 10:45 a.m. WESTMINSTER COLLGE WIND ENSEMBLE—EXPERIENCING MUSIC FROM THE STAGE** (Orr Auditorium)

Braden Ball	Maura Kardasz	Abigale Senatore
Jeanne Barbour	Courtney Labritz	Hannah Shanholtz
Vincent Buell	Marissa Lyerly	Samuel Sherlock
Nicholle Clayton	David McCollough	Jordan Sherman
Allison Clutter	Angela Moose	Vanessa Sivie
Sean Evanick	Miranda Nash	Christen Snyder
Jarod Forsythe	Lisa Orr	Robert Sutton
Nathaniel Frank	Margaret Portmann	Joshua Thomas
Nikalas Guadagnino	Zoey Povlick	Tyler West
Robert Hellier	Patrick Raymond	Zachary Woessner
Shannon Herdman	Brittany Reed	Alan Yoder
Deborah Heyl	Angela Renninger	Samantha Ziegler
Liam Horgan	Brianna Richey	Heather Zeitler
George Huncik	Ann Riddle	
Sydney Kaboly	James Riley	

**12:15 - 1:00 p.m. A MUSICAL REVUE CELEBRATING THE BUG! "A LITTLE BUG MUSIC"** (Berlin Lounge)

Opera interns of the New Castle Lyric Opera present their work for bringing Opera into the community.

Becca Bly	Corey McNulty
Samantha Connell	Jeremy Roberts
Lauren Faber	

**1:10 - 1:25 p.m. WESTMINSTER COLLEGE WOODWIND QUARTET** (1st floor McKelvey)

Maura Kardasz	Ann Riddle
Marissa Lyerly	Jordan Sherman

**1:30 - 2:00 p.m. WESTMINSTER COLLEGE CHAMBER SINGERS** (*Berlin Lounge*)

Jace Armentrout	Thomas LaBrie
Zachary Balog	Corey McNulty
Matthew Benzenhofer	Kaitlyn Nicholson
Brielle Braun	Ariana O'Donnell
Gier Chen	David Osorno
Samantha Connell	Sabrina Phillips
Theodora Constantine	Taylor Powell
Kyle DePasquale	Jeremy Roberts
Lauren Faber	Kacie Rumbaugh
Rhiannon Griffiths	Olivia Schmidt
Michael Kahle	John-Scott Somora
Kaylee Krug	

**2:00 - 2:15 p.m. CLARINET TRIO** (*1st floor McKelvey*)

Marissa Lyerly  
Abigale Senatore  
Vanessa Sivie

**2:20 - 2:40 p.m. MUSIC IN WALLACE MEMORIAL CHAPEL**

*Paul Hindemith - Sonata for Trumpet and Piano, Movement 1 - Mit Kraft*  
Sean Evanick, trumpet

*Vaughn Williams - The Lark Ascending*  
Ashleigh Nealer, violin

**2:00 - 2:15 p.m. KATIE JOY** (*1st floor McKelvey*)

Singer/songwriter Katie Nicholson



# URAC•2017 OTHER PERFORMANCES

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## THEATER PERFORMANCES (BEEGHLY THEATER)

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### KENNEDY CENTER AMERICAN COLLEGE THEATER FESTIVAL

These students were nominated to participate in the Irene Ryan Acting Scholarship auditions at the Kennedy Center American College Theater Festival. They will perform excerpts from the following:

- 9:00 - 9:15 a.m.** Travis Ascione (nominee) and Austin Miller  
    *Red* by John Logan  
    *This is our Youth* by Kenneth Lonergan  
    *Much Ado About Nothing* by William Shakespeare

- 9:15 - 9:30 a.m.** Rhiannon Griffiths (nominee) and Victoria Volkay  
    *Five Women Wearing the Same Dress* by Alan Ball  
    *A Midsummer Night's Dream* by William Shakespeare  
    *The Importance of Being Earnest* by Oscar Wilde

- 9:30 - 9:45 a.m.** Kyle DePasquale (nominee) and Layne Lueckert  
    *Angels in America* by Tony Kushner  
    *Long Day's Journey into Night* by Eugene O'Neill

- 9:45 - 10:00 a.m.** Emily Eyler (nominee) and Nicholle Clayton  
    *Eleven Men Pea* by Molly Smith Metzler  
    *Much Ado About Nothing* by William Shakespeare

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## VIDEO PRESENTATIONS (MUELLER THEATER)

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**1:00 - 1:20 p.m. FEVER: 48 HOUR AWARD WINNING SHORT FILM**

Atit Amin	Brooke Novotny	Daniel Swank
Corey Hughes	Daniel Owoc	Annie Trombetta
Troy Jackson	Dolton Snedden	Justin Wilson

**1:30 - 2:00 p.m. SNEAK PEEK: PREMIERING THE 2017 DOCUMENTARY TRAILERS**

Charles Borges	Emiley Westfall
Troy Jackson	Justin Wilson
Brad Kolesar	

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## ART DISPLAYS (OUTSIDE FOSTER ART GALLERY)\*

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- 2:00 - 2:30 p.m.** Kailey Liverman — *Oil Paintings*  
Brandie Nicely — *Patterns and Interrelations within Nature: An Observational Study*

\*Also in Foster Art Gallery will be the work of Media Art & Design students David Austin, William Austin, Emily Lindsey, Jacqueline Holiday, Jaqueline Shultz, and Dolton Snedden as well as Fine Art students Jordyn Kee, Stephanie Lesnak, and Mark Salomon.

# SCION

SOCIOLOGY AND CRIMINAL JUSTICE  
STUDIES INTEREST GROUP



SCION is a group dedicated to volunteer work and to understanding social issues, such as the criminal justice system.

For more information contact Hayley Thewes, Club President, at [thewhm22@wclive.westminster.edu](mailto:thewhm22@wclive.westminster.edu)!

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<sup>74</sup> <b>W</b>	<sup>6</sup> <b>C</b>
Tungsten 183.84	Carbon 12.01

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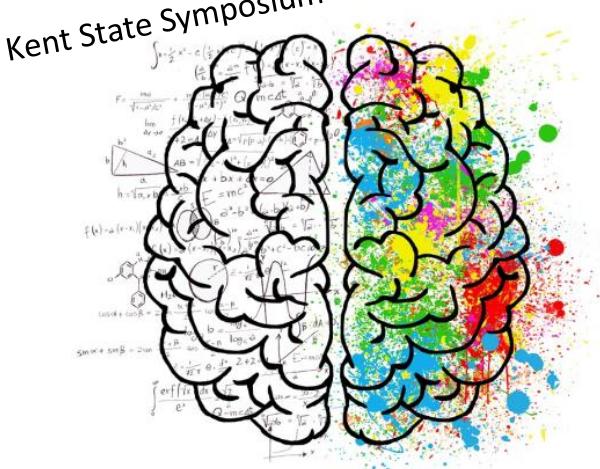
# CHEMISTRY CLUB



# Neuroscience Club

Stress Less Week  
Kent State Symposium

Brain Awareness Day



If interested contact Bridget Herlihy at  
[herlba22@wclive.westminster.edu](mailto:herlba22@wclive.westminster.edu)

# Psychology Club!



We are a club for anyone interested in psychology.

We host graduate speakers, networking events, APA workshops and other cool activities!

If you would like to join or learn more information, contact Haley Rich at [richhe22@wclive.westminster.edu](mailto:richhe22@wclive.westminster.edu)

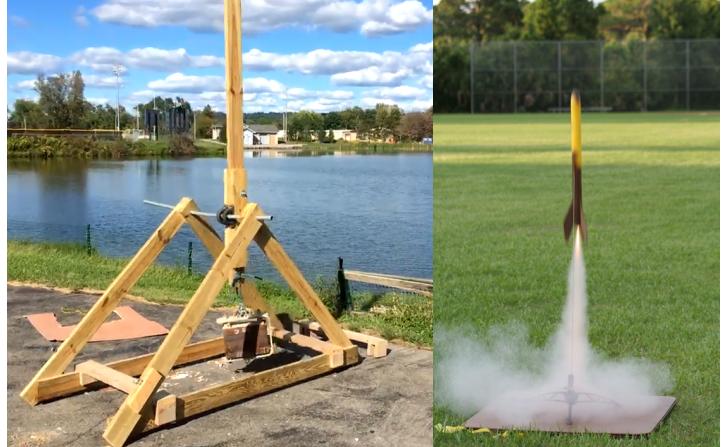
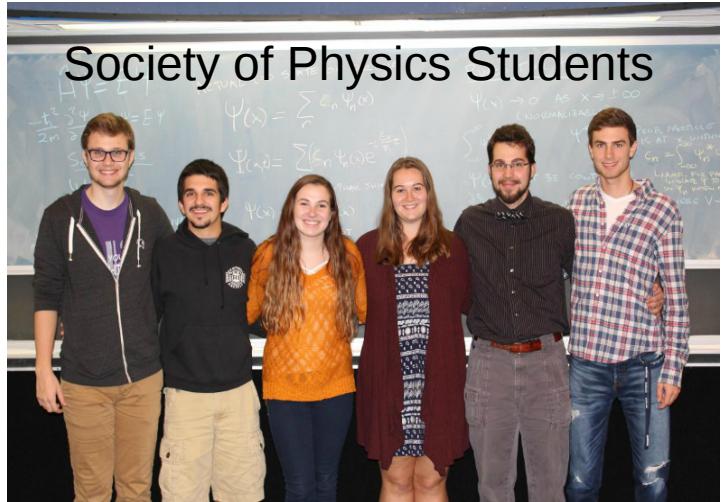


AT WESTMINSTER COLLEGE,  
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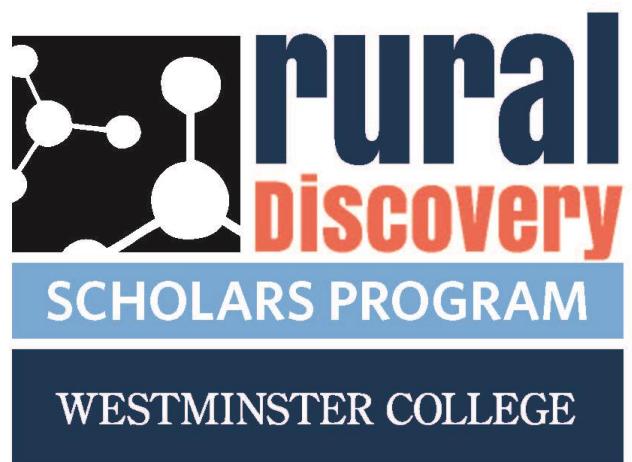
- Ranked 248<sup>th</sup> out of 1,061 colleges and 96<sup>th</sup> out of 305 in the Northeast region on *The Wall Street Journal/Times' Higher Education College Rankings*
- Ranked #119 in the nation as a "Best Liberal Arts Colleges" - *U.S. News Best Colleges*
- Ranked among the top 50 best liberal arts colleges in the nation - *Washington Monthly*

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**The Rural Discover Scholars Program is four-year scholarship program dedicated to helping student achieve their STEM education and career goals. Rural Discovery Scholars will:**

- major in biochemistry, biology, chemistry, environmental science, materials science, or molecular biology.
- pursue a career in the STEM industry or graduate school in a STEM discipline.
- receive a \$5,000 scholarship per year.
- receive a College-owned laptop.
- reside in a living-learning community.
- have a faculty or peer mentor to support their professional development.
- have an alumni mentor to help build their professional network and prepare them for their careers.
- be provided with research and travel funds to support the development as professional scientists.
- participate in an annual *Transitions to Careers* workshop.

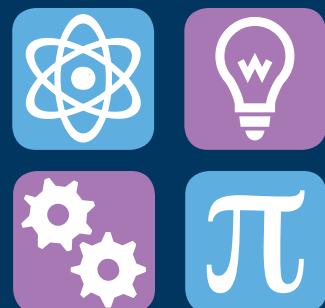


**Email:** [rural@westminster.edu](mailto:rural@westminster.edu)

**For more information visit:**

[www.westminster.edu/rds](http://www.westminster.edu/rds)

**Funded by:** The National Science Foundation



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NATIONAL SCIENCE FOUNDATION  
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### BENEFITS OF THE IQ:STEM PROGRAM:

1. Up to \$15,000 grant for tuition, room, and board during their junior and senior year. NOTE: acceptance of this scholarship may impact your overall financial aid package; contact the financial aid office with specific questions.
2. Stipends to attend a conference in the area of discipline: (a) \$1500 to attend a conference in the Noyce Scholars junior year and (b) \$1500 to present at a conference in the Noyce Scholars senior year.
3. Stipend to cover the cost of certification tests and application fees for teacher certification (up to \$500)
4. Stipend to assist with a Teachers Workshop in the summer (\$2000)

### VISIT:

[www.westminster.edu/biology](http://www.westminster.edu/biology)

[www.westminster.edu/education](http://www.westminster.edu/education)



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## Summer Science Splash Camp

at Westminster College

SESSION I: JULY 9-14 • SESSION II: JULY 16-21  
2017 price: \$350

### ATTENTION 7<sup>TH</sup>, 8<sup>TH</sup> AND 9<sup>TH</sup> GRADERS!

Summer Science Splash Camp is a week-long residential camp—an immersion in scientific observations and experiments for middle-school students—on the campus of Westminster College in New Wilmington, PA. Campers will spend their days in the lab and in the field exploring technology and the natural world. Sessions will be led by Westminster faculty and assisted by Westminster students. Evening activities will include games, sports, arts, hanging out with new friends, and MORE SCIENCE.

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For more information and registration, call 724-946-7206 or visit us at:  
[www.westminster.edu/sciencecamp](http://www.westminster.edu/sciencecamp)

## Research Professions Advisory Committee

Giving guidance and career advice to students interested in master's and Ph.D. programs in science or professions in industry.

## RESPAC WORKSHOPS

ResPAC hosts regular workshops in such topics as:

- Preparing for the GRE Test
- Finding a Research Internship
- Writing Your Resume or *Curriculum Vitae*
- Applying to Graduate School
- Writing a Personal Statement

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

**EMAIL:** [resendkk@westminster.edu](mailto:resendkk@westminster.edu)

Karen K. Resendes, Ph.D.  
ResPAC Chair



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