FOR IMMEDIATE RELEASE
April 12, 2017

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125 Undergraduate Students Showcase Research at UW System’s 14th Annual Research in the Rotunda

State legislators joined UW System and institutional leaders in welcoming 125 students and more than 50 faculty mentors to the State Capitol for the UW System’s 14th Annual Research in the Rotunda event.

“UW System institutions help develop the innovators, entrepreneurs, and researchers of tomorrow. It is an honor to watch the students’ intellectual and academic growth, and these projects clearly demonstrate their problem-solving skills,” said UW System President Ray Cross. “The UW System has earned a national reputation as a leader in undergraduate research, which contributes to Wisconsin’s workforce and economic development. The research done by our students has the potential to inform public policy and influence decisions made by the private sector.”

Undergraduate students and their faculty advisers from across the 26 UW System campuses filled the Capitol rotunda to share their research findings on a variety of important topics with legislators, state leaders, UW alumni, and other supporters. The student research displayed at the Capitol extends well beyond the campuses. Students investigated real-life issues affecting Wisconsin citizens and communities, and many topics involved multiple years of study.

The full program is available online and the UW System will post a photo gallery following the event. Below is the comprehensive list of student research exhibits by institution.

<table>
<thead>
<tr>
<th>UW Colleges – Research Project Title and Student Name</th>
</tr>
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<tbody>
<tr>
<td><strong>in alphabetical order by institution</strong></td>
</tr>
<tr>
<td><strong>UW-Baraboo/Sauk County</strong></td>
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<tr>
<td>A+ Artifacts: Bringing Archaeology to 4th Graders</td>
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<td>Madilyn Vetter, Endeavor WI</td>
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<td>Caffeine Content: Commercial Versus Hand-Roasted Coffees</td>
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<td>Kody Friend, Reedsburg WI</td>
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<td>Ryan Ramnarace, Baraboo WI</td>
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<td>Does GPS Accuracy Vary with Speed and Curvature?</td>
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<td>Alissa Shortreed, Pardeeville WI</td>
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<td>Brielle Shortreed, Pardeeville WI</td>
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<td>Examining the Correlation between Student Achievement and Teacher Salary</td>
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<td>Sam Gasser, Sauk City WI</td>
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<td>Andrew Schoepp, Sauk City WI</td>
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<td>Infiltration and Invasive Species: A Project to Restore the UW-Baraboo Woodlands</td>
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<td>Luke Moat, Baraboo WI</td>
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<tr>
<td>UW-Baraboo/Sauk County</td>
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<td>UW-Fox Valley</td>
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<td>UW-Marathon County</td>
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<td>UW-Waukesha</td>
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<tr>
<th>Institution</th>
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<tr>
<td>UW-Eau Claire</td>
<td>“A Church, a Bar, and a Brewery”: Prohibition and Ethno-Religious Identities</td>
<td>Danielle Schroeder, Berlin WI</td>
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<td>in Berlin, Wisconsin, 1910-1933</td>
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<td>Applying UAS Technology in the Mining Industry to Lower Overhead Costs and</td>
<td>Scott Nesbit, Fall Creek WI</td>
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<td></td>
<td>Improve upon Accuracy Standards</td>
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| UW-Eau Claire                                      | Investigation of Mechanical Properties of Bi$_2$Sr$_2$CaCu$_2$O$_{8+x}$ Superconductor through Scanning Electron Microscopy  
Sarah Sortedahl, Spring Valley WI |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
|                                                   | Spectroscopic and Computational Studies of Molecules in Electronic Excited States  
Michael McDonnell, Spring Valley WI |
|                                                   | The Impact of Water Clarity on Home Prices in Northwestern Wisconsin  
Irene Ng, Eau Claire WI |
|                                                   | The Role of Mindsets in an Undergraduate Research Course  
Sophie Grelson, Apple Valley MN  
Erin Zigler, Melrose WI |
| UW-Green Bay                                      | Bat Diversity and Abundance in the Coastal Zone of Lower Green Bay, Lake Michigan  
Jeremiah Shrovnal, Green Bay WI |
|                                                   | Designing and Developing a Simple Visual Tool for Privacy Awareness, Basic Information Security Education and K-12 Outreach  
David Christian, Green Bay WI  
Adam Ulman, Appleton WI |
|                                                   | Restoration of Great Lakes Beach Habitats in the Fox River and Lower Green Bay Area of Concern  
Emily Vandersteen, De Pere WI |
|                                                   | The Effect of Native and Invasive Plant Species and Density on Northern Pike Egg Mortality and Hatching Rates  
Anne Linkenheld, Belvidere IL |
|                                                   | Towards a Biometric Authentication-based Hybrid Computing Approach for Improving Trust in Online Healthcare Information  
Clinton Rettler, Green Bay WI  
Michael Schulz, Shawano WI |
|                                                   | Understanding Health Beliefs and Health Practices of Mexican Immigrants and Mexican Americans in Northeastern Wisconsin  
Isaias Jauregui, Green Bay WI |
| UW-La Crosse                                      | Anti-van der Waarden Numbers on Grid Graphs  
Hunter Rehm, Dousman WI |
|                                                   | Comparison of Responses to Mental and Physical Stress between Second Generation Hmong Americans and White American Peers  
Gaokhia Yang, Holmen WI |
|                                                   | Faunal Remains as an Indicator of Change in Social Stratification at Pecica-Santul Mare  
Brett Meyer, Chilton WI |
| UW-La Crosse | Methylmercury Contamination in the Lower Food Web of At-Risk Minnesota Rivers  
Khadel Akindoloire-King, Eau Claire WI  
Marissa Despins, Stoughton WI  
The Effects of a Ketogenic Diet on Body Composition in Resistance Training Females  
Marissa Stehly, McFarland WI  
Who Got There First? Effects of Yeast/Bacterial Colonization Patterns on Biofilm Structure in Kombucha, a Food Product and Potential Model for Studies in Multispecies Biofilm Formation  
Benjamin Schilz, South Milwaukee WI |
|---|---|
| UW-Madison | Assessing Cognitive Load in Individuals with Single-Sided Deafness with a Cochlear Implant  
Emily Burg, Mukwonago WI  
Chronotropic Response and Cognitive Function in a Cohort at Risk for Alzheimer's Disease  
Lena Law, Marshfield WI  
Exploring the Best Way to Communicate Utility Value for First-Generation Students  
Cory Washington, Milwaukee WI  
Harnessing Community Ownership and Engagement to Reduce Local Poverty  
Jarjieh Fang, Naperville IL  
Swetha Saseedhar, Madison WI  
Implications of Prescription Drug Misuse During Midlife for Personal and Relationship Health and Well-being  
Molly Malone, La Crosse WI  
Lane Steinhaus, Portage WI  
Pattern: Metals, Print, and Power in Art  
Steven Kaplan-Pistiner, Random Lake WI |
| UW-Milwaukee | Associations between Genetic Risk for Alzheimer's Disease and Hippocampus-dependent Memory and Learning in Healthy, Middle-aged Adults  
Marijam Frahmand, Milwaukee WI  
Correlation of Handedness and Ear Preference in Gray Treefrogs  
Juan Orjuela, Milwaukee WI  
Development of a Portable Robotic Assistive Device for Hand Rehabilitation  
Christopher Spiewak, Milwaukee WI  
Evaluating a New, Multispeed Geared Wheelchair Wheel  
Lianna Hawi, Oshkosh WI  
Investigations into Fluid Rock Interactions in the Rainy Lake Region  
Detaya Johnson, Milwaukee WI |
### UW-Milwaukee

<table>
<thead>
<tr>
<th>Title</th>
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<tbody>
<tr>
<td>Metal Coated Porous Material for Phosphorus Removal from Water</td>
<td>Anne Barlas, Sturgeon Bay WI</td>
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### UW-Oshkosh

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<thead>
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<tbody>
<tr>
<td>Analyzing the Progress of the Sustainable Development Goals: Identifying Sources of Problem Using a Production Function</td>
<td>Landyn Mills, Oshkosh WI</td>
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<tr>
<td>Elucidating the Role of 4-coumarate:CoA Ligase in Plant Cell Wall Biosynthesis</td>
<td>Wesley Morioka, Oshkosh WI</td>
</tr>
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<td>Leaning Out the Education System</td>
<td>Katrina Schiedemeyer, Oshkosh WI</td>
</tr>
<tr>
<td>Origin of Iron and Phosphate-rich Marine Sediments during the Last Snowball Earth Ice Age (ca. 640 Million Years before Present) and Their Significance for Biogeochemical Cycles, Mato Grosso, Brazil</td>
<td>Maxwel Schwid, Sussex WI</td>
</tr>
<tr>
<td>Underrepresented but Overexposed: Differences in Experiences with Discriminatory Behavior and Sexual Assault on Campus between Gender Minority and Cisgender Students</td>
<td>Rebecca Tolfa, Jackson WI</td>
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### UW-Parkside

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<tbody>
<tr>
<td>Economic Consequentialism, Environmental Policy, and Deep Ecology</td>
<td>Chelsea Snowden-Smith, Kenosha WI</td>
</tr>
<tr>
<td>Executive Decision for David Vision Insurance</td>
<td>Cristian Carrillo, Gurnee IL</td>
</tr>
<tr>
<td>False Recognition Memory Correlates with Problem Solving by Insight</td>
<td>Jasmine Gaines, Milwaukee WI</td>
</tr>
<tr>
<td>Hemispheric Differences in Change Deafness</td>
<td>Samantha Noll, Sturtevant WI</td>
</tr>
<tr>
<td>Sublethal Effects of Simulated Climate Change on Lentic Aquatic Invertebrate Assemblages</td>
<td>Nicholas Bielski, Bristol WI</td>
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### UW-Platteville

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<tr>
<td>Acceptance of a Novel Cheese By-Product Powder by Young Ruminants</td>
<td>Stephanie Van Asten, Freedom WI</td>
</tr>
</tbody>
</table>
Determining Biochemical Response of Single Human Colorectal Carcinoma Cell to Cesium Using Microfluidics and Raman Spectroscopy
John Dank, Hillsboro WI
Nicole Maala, Manitowoc WI
Katie Schulteis, Farmington WI
Jessica Symons, Benton WI
Bridget White, Prairie du Chien WI

Exploring the Presence of Fire as a Key Ecological Process on Upper Midwest Landscapes from Past Millenia to the Present
Caleb Cizauskas, Sheboygan WI
Micah Darling, Sun Prairie WI
Adam Donaldson, Kronenwetter WI
Rebecca Hempe, Milwaukee WI
Ciara Miller, Prairie du Chien WI

Investigating the Role of Volatile Organic Compounds in Plant Symbiotic and Defense Signaling
Arlyn Ackerman, Prophetstown IL
Nathaniel Brimeyer, Dubuque IA
Michael Ely, Dixon IL
Sara Rubeck, Rockford IL

Investigation of Nanoscale Semiconductor Quantum Dots through Numerical Modeling
Samuel Belling, Fitchburg WI

Polyelectrolyte Nanoﬁlms for Controlled Release Drug Delivery Applications
Sherrie Heinz-Kunert, Mahtomedi MN
Alexandra Mines, Peoria IL

Baseline Inventory of Native Pollinating Insects at New Biomonitoring Locations in Washburn County and Pierce County, Wisconsin
Jacquelyn Maher, River Falls WI

Determining Fertility in the Mare Using Reproductive History, Age, Vulvar Conformation, Rectal Palpation, Ultrasonography, and the Results of Uterine Culture and Endometrial Biopsy
McKenzie Sobkowiak, Holmen WI

Evaluation of Natural Background Concentration and Basin-Wide Non-Point Source Pollution of Phosphorus in the Kinnickinnic Subwatershed
Alexandra Spaulding, Merrill WI

Modeling Intestinal Tissue and Bacterial Microbiome Interactions: An Application of the Newly Developed “Histo-Genesis IV” Bioreactor System
Sarah Degroote, River Falls WI

Testing Properties of Light and Bell’s Inequalities Using Spontaneous Parametric Down Conversion
Dagan Hathaway, Menomonie WI
### UW-River Falls

Without a Roof: A Journalistic Study of Homelessness Across Wisconsin  
Kate Vruwink, Wisconsin Rapids WI

### UW-Stevens Point

Does Chronic Sleep Restriction Relate to Cognitive Function? An Examination of Chronic Sleep and Its Relationship with Cognitive Function in College Students  
Teri Edlebeck, Stevens Point WI  
Tara Schmidt, Marion WI  
Nicole Slovensky, Wisconsin Rapids WI  
Mitchell Willert, Sun Prairie WI

Greenhouse Gas Emissions in Two Restored and One Natural Wetland  
Alissa Johnson, East Bethel MN

Grit and the Unyielding Entrepreneur: The Effect of Sustained Interest and Effort on New Venture Initiation  
Marissa Warzynski, Almond WI

HLA-DQ1 Alpha and Beta Genotypes Associated with Non-Celiac Gluten Sensitivity  
Michael Maki, Deerfield IL

Impacts of Islam on Public Policy and Minority Groups in Egypt  
Michelle Wilde, United Kingdom

Potential Effects of Gapeworm (Syngamus trachea) in Greater Prairie Chickens (Tympanuchus cupido) in Central Wisconsin  
Jacob Shurba, Stevens Point WI

### UW-Stout

A Tale of Two Watersheds: Mapping Farmer Networks  
Gunther Melander, Wilson WI

Exploring, Documenting, and Improving Humanitarian Service Learning through Engineers Without Borders U.S.  
Damien Adamski, Eau Claire WI

Influence of Personality and Military Membership to Relationship Satisfaction  
Cassandra Shoemaker, Portage WI

Sexual Assault and Dating Violence: Survey on a Rural College Campus  
Courtney Wagner, Jim Falls WI

Understanding America’s Prison Population and Recidivism Rates  
Nathaniel Saverda, Marshfield WI

What Are We Really Eating?  
Norah Alnowsir, Saudi Arabia  
Margaret Freiermuth, Elmwood WI
Enlightenment through Darkness: Use of the Paranormal in Dickens’ Works  
Erika Shearer, Barron WI

Feedback from Individuals Living with Mental Health Concerns in Douglas County  
Megan Dirkes, Superior WI  
Sara Moegenburg, Baileys Harbor WI

Genotype Analysis Confirms Development of Eya 3 Knockout Zebrafish for Future Tumor Studies  
David Villani, Adelaide, Australia

Microplastics: Tiny Particles with Extraordinary Pollution Impacts  
Cera Johnson, Superior WI

Overcoming Spontaneous Trait Inferences through Education  
Maria Ammer, Superior WI

The Law’s Double Bar: Exploring the Gap in Legal Protections for American Recording Artists  
Nicholas Muska, Superior WI

Poverty & Relief: Needs Assessment for the Community Action Coalition of South Central Wisconsin  
Kiandra Davis, Milwaukee WI

Self Efficacy in Mathematics  
Antwanette Bounds, Milwaukee WI

Students of Color Face Mental Health Concerns Due to High Expectations and Low Preparation  
Jeesenia Zavala, Milwaukee WI

The Importance of Access to Financing for Small Businesses in Wisconsin  
Brent Zey, De Pere WI

Transferring the C-terminus of the Chemokine CCL21 to CCL19 Confers Enhanced Heparin Binding  
Alex Griffith, North Prairie WI  
David Sackett, Rhinelander WI

Yellowstone Educational Game  
Katherine Stull, New Berlin WI

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