UNDERGRADUATE RESEARCH WEEK
April 25 – May 1, 2021
Welcome to Undergraduate Research Week (URW) and its signature event, the 14th annual Undergraduate Research Symposium. Even as the landscape of URW and the Symposium remains virtual, we hope you find this online space honors the essence and integrity of our in-person events. As the Illinois research community – like many others – has faced uncertainty this past year due to the ongoing global pandemic, the circumstances in which we have found ourselves have also engendered novel efforts in fostering and supporting undergraduate research. This year’s URW and Symposium is, therefore, not only a celebration of undergraduate excellence and innovation in research at the University of Illinois, but an acknowledgment of the commitment of our campus community in its efforts to design and continue research opportunities for our undergraduates in ways virtual and otherwise. The presentations herein reflect the caliber of our students, the range and diversity of academic disciplines across our campus, and the institutional support and commitment to undergraduate research as an important component of the Illinois experience. A special thanks is due the Office of Undergraduate Research team, without whom the planning of such a large-scale event would be impossible, and who worked tirelessly to imagine and provide this virtual space for hundreds of undergraduate student presenters: Dr. Chris Holmes, our Associate Director; David Aristizábal, doctoral student in Anthropology and our Program & Curriculum Specialist; Kari Darby, master’s student in Library & Information Science and our Workshops Specialist; Tath Haver, our URAP Curriculum Developer and master’s student in Library & Information Science; Caroline Capone, a Communications major and our undergraduate intern for Social Media & Communications; Michelle Nutlis, a Psychology (Clinical) major and our undergraduate intern for our Workshop Series; and Priyankka Krishnan, our Graphic Design undergraduate intern, and a Psychology/New Media dual major. Finally, many thanks to the Office of the Provost, and our Advisory Board for their ongoing support, and to our Undergraduate Research Ambassadors who continue to make their mark in supporting both their undergraduate colleagues and OUR programming and events.

Karen Rodriguez’G, PhD
Director, Office of Undergraduate Research

The Office of Undergraduate Research

Christopher Holmes PhD
Associate Director

David Aristizábal Urrea
Program & Curriculum Specialist

Kari Darby
Workshops Specialist

Tath Haver
URAP Curriculum Developer

Priyankka Krishnan
Graphic Design Intern

Caroline Capone
Social Media Intern

Michelle Nutlis
Workshops Intern
## Contents

<table>
<thead>
<tr>
<th>Page</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Undergraduate Research Week Events</td>
</tr>
<tr>
<td>1</td>
<td>Department of History Senior Thesis Research Presentations</td>
</tr>
<tr>
<td>1</td>
<td>The Grainger College of Engineering Illinois Scholars Undergraduate Research (ISUR) Research Expo</td>
</tr>
<tr>
<td>3</td>
<td>Department of Communication Undergraduate Research Spotlight</td>
</tr>
<tr>
<td>4</td>
<td>Department of Political Science PS496 Senior Theses Presentations</td>
</tr>
<tr>
<td>4</td>
<td>Humanities Research Institute Mellon Legal Humanities Undergraduate Research Symposium</td>
</tr>
<tr>
<td>5</td>
<td>College of Applied Health Sciences Undergraduate Research Showcase</td>
</tr>
<tr>
<td>5</td>
<td>Department of Art + Design</td>
</tr>
<tr>
<td>5</td>
<td>Inner Voices Social Issues Theatre</td>
</tr>
<tr>
<td><strong>6</strong></td>
<td><strong>2021 Undergraduate Research Symposium</strong></td>
</tr>
<tr>
<td>6</td>
<td>Featured Presentations</td>
</tr>
<tr>
<td>6</td>
<td>Current Moment: Multidisciplinary Approaches to COVID-19</td>
</tr>
<tr>
<td>8</td>
<td>Data and Information</td>
</tr>
<tr>
<td>8</td>
<td>Design Thinking and Innovation</td>
</tr>
<tr>
<td>9</td>
<td>Environment and Sustainability</td>
</tr>
<tr>
<td>10</td>
<td>Food Systems</td>
</tr>
<tr>
<td>11</td>
<td>Health and Wellness: Society</td>
</tr>
<tr>
<td>13</td>
<td>Health and Wellness: The Body</td>
</tr>
<tr>
<td>15</td>
<td>Humanities and The Arts</td>
</tr>
<tr>
<td>15</td>
<td>Learning and Human Development</td>
</tr>
<tr>
<td>17</td>
<td>Life: Molecules, Microbes, and Cellular Processes</td>
</tr>
<tr>
<td>19</td>
<td>Life: Plants and Animals 1</td>
</tr>
<tr>
<td>20</td>
<td>Life: Plants and Animals 2</td>
</tr>
<tr>
<td>21</td>
<td>Media and Culture</td>
</tr>
<tr>
<td>21</td>
<td>Numbers and Computation</td>
</tr>
<tr>
<td>22</td>
<td>Politics, Policy, and Society</td>
</tr>
<tr>
<td>23</td>
<td>Science and Technology</td>
</tr>
<tr>
<td>24</td>
<td>Social Science and Human Behavior 1</td>
</tr>
<tr>
<td>25</td>
<td>Social Science and Human Behavior 2</td>
</tr>
<tr>
<td><strong>27</strong></td>
<td><strong>Image of Research Competition</strong></td>
</tr>
<tr>
<td>31</td>
<td>Celebrating our Student Scholars</td>
</tr>
<tr>
<td>31</td>
<td>Conference Travel Grant (CTG)</td>
</tr>
<tr>
<td>33</td>
<td>Research Support Grant (RSG)</td>
</tr>
<tr>
<td>34</td>
<td>Undergraduate Research Apprenticeship 2021 Cohort</td>
</tr>
<tr>
<td><strong>37</strong></td>
<td><strong>Celebrating our Research Mentors</strong></td>
</tr>
<tr>
<td>40</td>
<td>Supporting Undergraduate Research</td>
</tr>
<tr>
<td>40</td>
<td>National and International Scholarships</td>
</tr>
<tr>
<td>42</td>
<td>University Library</td>
</tr>
<tr>
<td>42</td>
<td>Writers Workshop</td>
</tr>
<tr>
<td><strong>43</strong></td>
<td><strong>Supporting the Office of Undergraduate Research</strong></td>
</tr>
<tr>
<td>44</td>
<td>Thanks to Our Sponsors</td>
</tr>
</tbody>
</table>
**Undergraduate Research Week Events**

**Department of History Senior Thesis Research Presentations**

April 12, 4:00-5:50 PM and April 19, 4:00-5:50 PM

**Live Virtual Event:** Registration required; for Zoom link please contact Kristin Hoganson (hoganson@illinois.edu), Stefan Djordjevic (djordje1@illinois.edu), or Office of Undergraduate Research (ugresearch@illinois.edu) ahead of the events.

**April 12, 4:00-5:50 PM**

4:00-4:25  
*Politics or Pilgrimage: Nationalism and Hindu Pilgrimage in Late Colonial India*  
Pranav Gulukota, Senior, History, LAS

4:25-4:50  
*Why did China Outpace the Soviet Union in the Economic Reforms? Analysis from Legitimacy Perspective*  
Qirui Ju, Senior, History, LAS

5:00-5:25  
*Prostitutes, Charity Girls, and Women of Ill Repute: How the First World War Reshaped Interpretations of Prostitution and Gender Relations within the United States*  
Kassidy Mahoney, Senior, History, LAS

5:25-5:50  
*A Place to Call Home: Families and Space in 1950s Suburban America*  
Benjamin Escobar, Senior, History, LAS

**April 19, 4:00-5:50 PM**

4:00-4:25  
*Origens of the Reformation: Origen of Alexandria’s Influence on the Theology of Martin Luther and Huldrych Zwingli and the Construction of the Protestant Understanding of Church History*  
Ryan Yoakum, Senior, History, LAS

4:25-4:50  
*Palmyran Portraiture*  
Sam Ottley, Senior, History, LAS

5:00-5:25  
*Reading Revanche: French Irredentist Novels from 1872 to 1905*  
Patrick Sullivan, Senior, History, LAS

5:25-5:50  
*Nothing but Warts: Dermal Marking in Early Modern Witch Trials*  
Mary Danner, Senior, History, LAS

**The Grainger College of Engineering Illinois Scholars Undergraduate Research (ISUR) Research Expo**

April 20 to April 22  
**Pre-recorded Virtual Event:**  
https://compass2g.illinois.edu/  
*(self-enrollment begins 4/19; look for OPEN LEARNING – ISUR Research Expo 2021)*

The Grainger College of Engineering Illinois Scholars Undergraduate Research (ISUR) program is a structured two-semester mentored research experience with a research learning community. The program facilitates opportunities to expand students’ academic experience beyond the walls of the traditional classroom. Through the learning-by-apprenticeship model, students become familiar with research methodologies, develop their research skills, are exposed to what graduate school entails, and gain experience needed of graduate school acceptance or research in industry. The following programs are included in ISUR: Clare Boothe Luce Research Program, DaRin Butz Foundation Research Program, C3SR-Undergraduate Research in Artificial Intelligence, and Semiconductor Research Corporation Undergraduate Research Program.
<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Department(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bird-inspired Morphing Wings: Design and Experimental Evaluation of a Wing Folding Mechanism for Pitch Stability Control</td>
<td>Anna Alvarez, Senior, Mechanical Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Diabetes-Linked Peripheral Arterial Disease - Landmarks and Therapies</td>
<td>Yamenah Ambreen, Junior, Bioengineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Effect of Glycosaminoglycans on the Immune Response and Vasculature Formation in Mineralized Collagen Scaffolds</td>
<td>Angela Andrade, Senior, Chemistry, LAS</td>
<td></td>
</tr>
<tr>
<td>Process Intensification Approaches for Improved CO2 Electroreduction</td>
<td>Daniel Azmoodeh, Senior, Chemical Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Tissue Engineering Platforms to Investigate Therapeutic Resistance of Glioblastoma</td>
<td>Joe Boyce, Junior, Materials Science &amp; Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Predicting Stock Prices Using Machine Learning Models</td>
<td>Abhi Chebiyam, Sophomore, Electrical Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Label-Free Tissue Histopathology Using Infrared Spectroscopic Imaging</td>
<td>Jaime Chen, Junior, Bioengineering, ENG</td>
<td></td>
</tr>
<tr>
<td>27-Hydroxycholesterol Promotes Breast Cancer Recurrence from Dormancy</td>
<td>Joy Chen, Senior, Bioengineering, ENG</td>
<td></td>
</tr>
<tr>
<td>RokWall: Privacy Preserving COVID-19 Status Cards</td>
<td>Nicholas Chen, Senior, Computer Science, ENG</td>
<td></td>
</tr>
<tr>
<td>A 3D Tissue Engineered Model of Endometrial Vessel Networks</td>
<td>Noah Chiou, Sophomore, Bioengineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Carbenoid-Boronate Building Blocks Enable Iterative Assembly of Saturated Small Molecules</td>
<td>Sriyankari Chitti, Senior, Chemistry, LAS</td>
<td></td>
</tr>
<tr>
<td>Early Detection of Sepsis Through Sensor Integrated Wearable Device</td>
<td>Sanjana Chunduri, Sophomore, Computer Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Performance of Alkyl-Borane Healing Chemistry in Polymers for Composite Applications</td>
<td>Ian Flueck, Junior, Materials Science &amp; Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Early Detection of Sepsis Through Sensor Integrated Wearable Device</td>
<td>Saloni Garg, Sophomore, Computer Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Using Alternative Indicators to Identify Damage with the Impact-Echo Method of Non-Destructive Evaluation</td>
<td>Matt Grendzinski, Senior, Civil Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Quantification of Osteointegration in Curvilinear 3D Printed Bone Scaffolds</td>
<td>Nellie Haug, Senior, Mechanical Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Portable Pathogen Diagnostics Using Microfluidic Cartridges Made from Additive Manufacturing</td>
<td>John Heredia, Senior, Bioengineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Doping of Electrodeposited Lithium Cobalt Oxide Cathodes for Lithium-ion Batteries</td>
<td>Omar Kazi, Senior, Electrical Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Bugs as Drugs: Engineering Commensal Bacteria for Therapeutic Delivery</td>
<td>Shweta Khorana, Junior, Bioengineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Library for University Distance Instruction</td>
<td>Liana Koleva, Sophomore, Electrical Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Discrete Generative Modeling via Cluster VAE's</td>
<td>Jeffrey Lai, Senior, Engineering Physics, ENG</td>
<td></td>
</tr>
<tr>
<td>Extending CSRA: A Peer Reviewer Recommendation System for Scientific Literature</td>
<td>Toby Liang, Junior, Computer Science, ENG</td>
<td></td>
</tr>
<tr>
<td>Sparse Matrix Multiplication Kernels</td>
<td>Aneesh Lodhavia, Senior, Computer Science, ENG</td>
<td></td>
</tr>
<tr>
<td>Polymer Free Methods to Transfer Chemical Vapor Deposition (CVD) Grown Graphene</td>
<td>Amanda Loutris, Junior, Materials Science &amp; Engineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Tuning the Properties of Ceramic Glazes for Coral Larval Recruitment</td>
<td>Eliza Lovrich, Sophomore, Bioengineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Optimization of Bimetallic Catalyst Synthesis to Select for Desirable Material Characteristics</td>
<td>Melissa Manetsch, Junior, Chemical Engineering, LAS</td>
<td></td>
</tr>
<tr>
<td>Functional Stability of Extracellular Vesicles and Cellular Response Determined by Fluorescence Lifetime Imaging Microscopy</td>
<td>Elisabeth Martin, Junior, Bioengineering, ENG</td>
<td></td>
</tr>
<tr>
<td>Deep Reinforcement Learning for IoT Network Optimization</td>
<td>Aashna Mehta, Sophomore, Computer Science, ENG</td>
<td></td>
</tr>
<tr>
<td>Genetic Tool Development for Metabolic Engineering of Yeast Rhodosporidium Toruloides</td>
<td>Andrea Mejia, Junior, Chemical Engineering, LAS</td>
<td></td>
</tr>
<tr>
<td>Influence of Solids Loading and Water Content on Yttria-Stabilized Zirconia (YSZ)</td>
<td>Aerogels Jordan Meyer, Junior, Materials Science &amp; Engineering, ENG</td>
<td></td>
</tr>
</tbody>
</table>
Novel Signal Fusion for 3D Classification
Harris Mohamed, Senior, Computer Engineering, ENG

Optimizing Sparse Matrix Multiplication For Neural Networks
Samraj Moorjani, Sophomore, Computer Science, ENG

Developing a Non-static Biomaterial System for Hematopoietic Stem Cell Culture
Ali Nunes, Junior, Materials Science & Engineering, ENG

Analysis of Variation (ANOVA) of an Additively Manufactured Metal Material
Nicholas O’Brien, Senior, Mechanical Science & Engineering, ENG

Nanoparticle Detection Using Portable Photonic Crystal Enhanced Microscopy (P-PCEM)
Ege Onal, Junior, Bioengineering, ENG

High-Throughput Analysis Reveals Microenvironmental Regulation of Primary Human Liver Sinusoidal Endothelial Cell Phenotype
Daniel Owen, Junior, Bioengineering, ENG

Supercooled Droplet Impact on Superhydrophobic Surfaces
Andrew Pelster, Senior, Aerospace Engineering, ENG

Generating High-Amplitude THz Fields for Ultrafast, Nonlinear Optical Experiments
Andrea Perry, Senior, Engineering Physics, ENG

Characterization of Bioink and Fabrication of Curvilinear Bone Scaffolds
Arielle Pfeil, Senior, Mechanical Engineering, ENG

Investigating the Effect of Compositional Factors in Collagen Scaffolds on hMSC Differentiation Along an Osteoblastic Lineage
Maxwell Polanek, Sophomore, Chemical Engineering, LAS

Targeting Infected Host Cells in vivo via ROS Responsive Azido-Sugar
Jarron Roy, Senior, Bioengineering, ENG

Characterizing the Rheology of Cementitious Material for the Development of a Standard Reference Material (SRM) for Concrete
Lauren Schissler, Junior, Civil Engineering, ENG

Investigation of the Structural and Electrical Evolution of Lanthanum Strontium Manganate Thin Films during Crystallization
Joshua Simpson-Gomez, Junior, Materials Science & Engineering, ENG

Screening for Gene Expression Fluctuations Reveals Latency Promoting Agents of HIV
Harpal Singh, Senior, Bioengineering, ENG

Implementing an Equation of State with Baryon Number, Strangeness and Electric Charge
Lydia Spychalla, Junior, Engineering Physics, ENG

Early Detection of Sepsis Through Sensor Integrated Wearable Device
Kavya Sudhir, Sophomore, Bioengineering, ENG

Vision Modules for Online Intelligent Learning Assistant (CELA)
Xinglong Sun, Junior, Computer Engineering, ENG

Individual Motors Apply Small Forces to Bypass Roadblocks on Hindered Pathways
Nikhila Swarna, Senior, Engineering Physics, ENG

Hybrid Algal-Carbonate Substrates for Enhanced Coral Reef Restoration
Haley Tholen, Senior, Engineering Mechanics, ENG

Smarter Data Pipelining for High-Complexity Deep Learning Recommender Systems
Nikash Walia, Sophomore, Computer Science, ENG

Evaluating Image Compression Performance
James Wei, Junior, Computer Science, ENG

Early Detection of Sepsis Through Sensor Integrated Wearable Device
Trisha Yadav, Sophomore, Computer Engineering, ENG

Ternary Diboride Thin Films for Extreme Environments
Dana Yun, Junior, Materials Science & Engineering, ENG

CELA: An AI Assistant Tool for Online Learning
Jiarui Zhang, Senior, Computer Science, ENG

Engagement Recognition Module Investigation of the Online Learning Advisor CELA
Jason Zhu, Junior, Computer Engineering, ENG

Department of Communication Undergraduate Research Spotlight
April 23, 3:00-5:00 PM
Live Virtual Event:
https://illinois.zoom.us/j/82040599295?pwd=T0pSZm9mWVNDSWtVeTRJb09jUHkyZz09

Undergraduate Communication students will present their experiences conducting research and their final research projects in this inaugural research spotlight event.

Saad Abour, Sophomore, Communication, LAS

Breanna Cordova, Junior, Communication, LAS

Jack Everett, Junior, Communication, LAS

Adelaide Hindsley, Junior, Communication, LAS
Undergraduate Research Week  April 25-May 1, 2021

Luyuyang Li, Senior, Communication, LAS
Conan Lau, Sophomore, Communication, LAS
Alana Leonhard, Junior, Communication, LAS
Avery Norwick, Junior, Psychology, LAS
Rebecca Oriza, Junior, Communication, LAS
Colin Poulney, Sophomore, Psychology, LAS
Sirui Qiu, Junior, Communication, LAS
Rachel Troeger, Senior, Communication, LAS
Allison Wasielewski, Senior, Communication, LAS
Lauren Weissman, Senior, Psychology and Communication, LAS
Yonas Seyid, Senior, Communication, LAS
Veronica Zhu, Senior, Communication, LAS

Department of Political Science
PS496 Senior Theses Presentations
April 26, 9:00 AM
Live Virtual Event: https://go.illinois.edu/PS496SP21

Political science honors students will present a five to seven minute video summarizing their thesis project. These presentations are the culmination of a year-long process in which students learn to design their research, and work with a faculty advisor to complete a significant research project. This year’s cohort consists of 20 students completing a thesis.

Interns

First Generation Latino Men: Cyclical Gang Violence a Reflection of Society and the Legal System
Maria Martinez, Senior, English, LAS
HRI-Mellon Legal Humanities Intern, 2020–21

Proposition 22 and the Future of Labor in America
Adem Osmani, Junior, Political Science, LAS
HRI-Mellon Legal Humanities Intern, 2020–21

Neoliberalism in the US Palestinian Liberation Movement in the US from the Oslo Accords to Today
Buthaina Hattab, Junior, Political Science, LAS
HRI-Mellon Legal Humanities Intern, 2020–21

Collaborators

Who Does the Rule of Law Rule Out? Examining the Access to Justice for Victims in Post-Conflict Societies
Jessica Angel, Junior Political Science, LAS

Mental Health in a Modern Democracy: How Anxiety Impacts College Students’ Political Behavior
Aishwarya Shekara, Senior, Political Science, LAS

She Who Must Be Obeyed: Reciprocal Influences of Imperialism on Female Society In H. Rider Haggard’s ‘She’
Megi Mecolli, Junior, English, LAS

Slavery, Sovereignty, and Sexual Abuse in the American South
Esme Snyder, Senior, Geography, LAS
College of Applied Health Sciences Undergraduate Research Showcase
April 26 to May 1
Pre-recorded Virtual Event:
https://ahs.illinois.edu/undergrad-research

The Applied Health Sciences (AHS) Undergraduate Research Showcase will highlight the research done by AHS students and presented at the 2021 Undergraduate Research Symposium on campus. Student work will be categorized by the following criteria: major, James Scholar, I-LEAP, SPARK.

Department of Art + Design
May 8
On Display (In-person)
Krannert Art Museum, 500 E. Peabody Drive

May 14
On Display (Online: https://art.illinois.edu/)

The School of Art + Design’s Undergraduate Research Week Exhibition will feature outstanding creative research by students participating in the annual Art + Design BFA exhibition. This celebrates the breadth of research done in our programs, encompassing the Studio Arts, Graphic Design, Industrial Design, Photography, Art History, and Art Education. Work will be displayed in the Krannert Art Museum beginning May 8. It will also be available via an exhibition website beginning May 14. Please visit the School’s website at https://art.illinois.edu/ for more information.

Inner Voices Social Issues Theatre
April 28, 12:00–1:30 PM

Live Virtual Event:
Registration required;
https://illinois.zoom.us/j/85430010490?pwd=U2gvSkVqS1InbXFKM0hPaUZUXUnNiQT09

12:00–1:00 PM – Video screening
1:00–1:30 PM – Post-screening dialogue

Join us for this hybrid event, created during the pandemic, featuring theatre pieces, spoken word and artist interviews followed by a post-performance dialog. Underscoring INNER VOICES Social Issues Theatre’s innovative ways of producing ensemble theatre during the pandemic, this 55-minute video centers our socially driven work. It reads as a letter to America, responding to police brutality, immigration, and racism, while unapologetically celebrating the human spirit. A post-per-formance audience dialogue follows. INNER VOICES Social Theatre is co-sponsored by Illinois Theatre and the Counseling Center at the University of Illinois Urbana-Champaign.

Land Acknowledgment Statement
Offered by Elena Escobar

Introduction
Delivered by Skyler Harris

A Simple Revolution
Written by Lisa Fay for Durell Callier
Performed by Victor Ruiz-Divas, Elena Escobar, and Alisa Williams

Interview #1
Sarah Shen interviews playwright Andrew White

Sequential Decay
Written by Andrew White and Apurva Chakravorty
Performed By Friday-Deja Boyd; LilMike -Andrew White

Crossing the Line
Written and performed by Sarah Shen

Interview #2
Elena Escobar interviews Victor Ruiz-Divas

Una Vida Mejor -excerpt
Written by Victor Ruiz-Divas
Performed by Sarah Shen and Victor Ruiz Divas

Interview #3
Brianna Bowman interviews Ruth Nicole Brown

“Aminata” excerpt from Endangered Black Girls
Written by Dr. Ruth Nicole Brown
Performed by Alayna Hester and Brianna Bowman

Excerpt “Scene Eleven: The Anti-narrative” from Endangered Black Girls
Written by Dr. Ruth Nicole
Featuring Tiatia Aluka, Brianna Bowman, Alyana Hester, Matilda Thompson-Smith and Alisa Williams

Get Comments Like
Written and Performed by Deja Boyd

Ode to the artist in me
Written and Performed by Alyana Hester
Undergraduate Research Week  April 25-May 1, 2021

2021 Undergraduate Research Symposium

Presentations on display April 26 – April 30

We invite members of the campus community to attend the 2021 Virtual Undergraduate Research Symposium set to be on display April 26 – April 30, 2021. Student presentations were pre-recorded and will be hosted online through Symposium by ForagerOne (Registration with an @illinois.edu email address is required to access the presentations).

https://go.illinois.edu/URS2021

Featured Presentations

April 26, 12:00 – 1:30 PM
Live Virtual Event: https://go.illinois.edu/URS2021_FeaturedPresentations

Bird-Inspired Morphing Wings: Design and Experimental Evaluation of a Swept Wing for Pitch Stability Control
Anna Alvarez, Senior, Mechanical Engineering, ENG
(Research Mentors: Chengfang Duan, Department of Mechanical Science & Engineering and Aimy Wissa, Department of Mechanical Science and Engineering)

Extending Your Phone’s Lifetime Using Electrodeposited Cathodes in Lithium-Ion Batteries
Omar Kazi, Senior, Electrical Engineering, ENG
(Research Mentors: Arghya Patra, Department of Materials Science and Engineering and Paul Braun, Department of Materials Science and Engineering and Department of Chemistry)

Math Anxious Parents’ Response to Children’s Difficulty in a Math Game
Michelle Nutlis, Senior, Psychology, LAS
(Research Mentor: Eva Pomerantz, Department of Psychology)

The Effects of Environmental Pollutants (Iodoacteic Acid) on the Development of Mouse Egg Cells
Royal Shrestha, Sophomore, Molecular and Cellular Biology, LAS
(Research Mentor: Yiheng Ping, Department of Comparative Biosciences)

Current Moment: Multidisciplinary Approaches to COVID-19

Consumer Price Index and Healthcare Expenditures During the COVID-19 Pandemic
Emily Adams, Senior, Agricultural and Consumer Economics, ACES
(Research Mentor: Angela Lyons, Department of Agricultural & Consumer Economics)

The Impact of COVID-19 on Cyber-victimization Experiences Among Middle School Students
Jessica Baltierra, Sophomore, Social Work, SSW
Sarah Aronson, Junior, Social Work, SSW
Madiysn Welsh, Junior, Social Work, SSW
(Research Mentor: Rachel Garthe, School of Social Work)

Maintaining Sexual Health and Wellbeing During the COVID-19 Pandemic
Brooklynn Clough, Freshman, Speech and Hearing Science, AHS
(Research Mentor: Yelyzaveta Kustanovich, Department of Recreation, Sport and Tourism)

Diseases Don’t Care About Your Politics: Xenophobia and Global Responses to SARS and COVID-19
Kolten Conklen, Junior, Global Studies, LAS
(Research Mentor: Dan Shao, Department of East Asian Languages and Culture)

Examing Disparities in COVID-19 Testing Access Within the City of Chicago
Yemariam Eyob, Senior, Community Health, AHS
(Research Mentor: Fikriyah Winata, Department of Geography and GIS)

COVID and its Effects on Immigrants in the C-U Community
Kathleen Flores, Junior, Psychology, LAS
(Research Mentor: Annie Abbott, Department of Spanish & Portuguese)

Acceptance and Usability of Telehealth from the Perspective of Registered Dietitians During the COVID-19 Pandemic
Emily Grayburn, Sophomore, Community Health, AHS
(Research Mentor: Kristen DiFilippo, Department of Kinesiology and Community Health)
The Role of News in the Perception of the COVID-19 Vaccine
Maha Hussain, Junior, Statistics, LAS
(Research Mentor: Jodi Schneider, School of Information Sciences)

Socio-Environmental Interactions Surrounding Argan in Morocco Before and During the Covid-19 Pandemic
Joseph Kreiling, Senior, Global Studies, LAS
(Research Mentor: Zsuzsa Gille, Global Studies)

Effects of Different Types of Face Masks on Speech-in-Speech Recognition in School-Aged Children
Lisa Lemajeur, Junior, Interdisciplinary Health Sciences, AHS
Kelsey Libert, Junior, Speech and Hearing Science, AHS
(Research Mentor: Mary M. Flaherty, Department of Speech and Hearing Science)

The Impacts of COVID-19 on Sex Life
Jessie Li, Sophomore, Interdisciplinary Health Sciences, AHS
(Research Mentor: Liza Berdychevsky, Department of Recreation, Sport and Tourism)

Time, Motivation, and Politics: How the COVID-19 Pandemic Increased Political Participation
Halle Noone, Senior, Political Science, LAS
(Research Mentor: Jacob Bowers, Department of Political Science)

How Contextual Factors Influence the Partisan Divide in Reactions to COVID
Jason Reed, Senior, Political Science, LAS
(Research Mentor: Scott Althaus, Department of Political Science)

Vulnerable Populations Responses to COVID-19 Shocks in India and Nepal
Ingrid Schaller, Freshman, Earth, Society and Environmental Sustainability, LAS
(Research Mentor: Jennifer Zavaleta Cheek, Department of Natural Resources and Environmental Sciences)

COVID-19 Long-Haulers’ Experiences with Medical Providers
Yonas Seyid, Senior, Communication, LAS
Lauren Weissman, Senior, Communication, LAS
(Research Mentor: Charee Thompson, Department of Communication)

Impact of Social Media on Adolescents Eating, Sleep, and Exercise Patterns During the COVID-19 Pandemic
Breena Shusterman, Junior, Social Work, SSW
Emily Mikuta, Junior, Psychology, LAS
(Research Mentor: Rachel Garthe, School of Social Work)

Age Differences in Resilience to COVID-19’s Impacts on Sexual Health
Brianna Silveira, Senior, Community Health, AHS
(Research Mentor: Yelyzaveta Berdychevsky, Department of Recreation, Sport, and Tourism)

Covid-19 Infodemic
Hadley So, Freshman, Information Sciences, SIS
Claire O’Brien, Junior, Journalism, COM
(Research Mentor: Ian Brooks, School of Information Sciences)
Data and Information

Discovery of Biomarkers for Coronary Microvascular Disease
Saumya Agrawal, Junior, Computer Science and Statistics, LAS (Research Mentor: Zeynep Madak-Erdogan, Department of Food Science and Human Nutrition, Justina Zurawiskiene, Institute of Cancer and Genomic Sciences, University of Birmingham & Alicia Arrondo Eve, Department of Food Science and Human Nutrition)

Digitization of Family Scrapbook Materials and Connecting to Online Information
Elijah Bentain, Junior, Agricultural and Consumer Economics, ACES
Adeline Ru Xin Tan, Senior, Econometrics and Quantitative Economics, LAS (Research Mentor: Micheal Twidale, Department of Computer Science)

Humanitarian Considerations Within Video Game Preservation
Lisa Chasanov, Freshman, Anthropology, LAS (Research Mentor: Hanna Leigh Dahlstrom, School of Information Sciences)

Exploration of the Latent Structure of Personnel Selection Assessment Response Data
Rebecca Chen, Junior, Psychology, LAS (Research Mentor: Susu Zhang, Department of Psychology & Department of Statistics)

Who Paid for my Professor: Where do Endowed Chairs Come From?
Olivia Chester, Junior, Community Health, AHS
Seethalakshmi Ramaswamy, Senior, Sociology, LAS (Research Mentor: Michael Twidale, School of Information Sciences)

Discrimination Technology and Pre-Election Violence as a Party Strategy to Win Elections
Hrishikesh Deshmukh, Sophomore, Computer Science, ENG (Research Mentor: Tolgahan Dilgin, Department of Political Science)

Waiting for Their Day in Court: A Closer Look at the US Federal Nomination Process
Ashna Gupta, Sophomore, Economics, LAS (Research Mentor: Luzmarina Garcia, Department of Political Science)

Speech-to-Text for Domain Specific Words
Jiaxi Li, Junior, Computer Science, ENG
Akhil Vyas, Senior, Computer Science, ENG
Vicky Cai, Junior, Computer Science and Math, LAS
Ivan Zhong, Junior, Computer Science, ENG (Research Mentor: Lawrence Angrave, Department of Computer Science)

Utilizing Natural Language Processing to Better Understand Stakeholders’ Perspectives
Yixiao Liu, Junior, Agricultural and Biological Engineering, ENG (Research Mentor: Luis Rodriguez, Department of Agricultural and Biological Engineering)

Data Visualizations on Controversies in Health
Luis Ramirez Albavera, Senior, Econometrics and Quantitative Economics, LAS (Research Mentor: Jodi Schneider, School of Information Sciences)

The Times They Are A-Changin’: Analysis of the Demographics of Rolling Stone Magazine Covers Through Time
Miriam Sadkhin, Sophomore, Advertising, COM
Hanyu Zhao, Sophomore, Information Sciences, SIS (Research Mentor: Michael Twidale, School of Information Sciences)

Detecting Financial Ethic Violations Using Graph Databases
Shane Schatz, Junior, Finance, BUS (Research Mentor: Jodi Schneider, School of Information Sciences)

NLP of Social Media to Evaluate Patient Global Impression of Change in Acne Treatments
Ritika Sinha, Senior, Computer Science and Statistics, LAS (Research Mentor: Ian Brooks, School of Information Sciences)

Preserving Video Games Through Technical Application
Shulamit Wu, Freshman, Political Science, LAS (Research Mentor: Hanna Dahlstrom, School of Information Sciences)

Residential Electric Vehicle Charging Patterns and Their Management
Joe Ye, Sophomore, Civil and Environmental Engineering, ENG (Research Mentor: Eleftheria Kontou, Department of Civil and Environmental Engineering)

Pan-Cancer Survival Classification with Clinicopathologic and Targeted Gene Expression Features
Patrick Yu, Freshman, Computer Science, ENG (Research Mentor: Jimmy Guo, Biological and Biomedical Sciences, Harvard Medical School)

Using Citation Bias to Guide Better Sampling of Scientific Literature
Jasmine Yuan, Freshman, Information Sciences, SIS (Research Mentor: Jasmine Yuan, School of Information Sciences)

Design Thinking and Innovation

Webcam Eye-Tracking Based Accessibility for ClassTranscribe
Harsh Deep, Junior, Computer Science and Statistics, LAS
Joanna Huang, Freshman, Computer Science, ENG
Rashi Dembi, Junior, Computer Science, ENG
Omar Khan, Senior, Computer Science and Crop Sciences, ACES (Research Mentor: Lawrence Angrave, Department of Computer Science)

Designing for Usability: Human Factors Analysis in the Improvement of the Stretch Domestic Robot
Leonardo Galoso, Junior, Mechanical Engineering, ENG (Research Mentor: Travis Kadylak, Human Factors & Aging Laboratory)
Undergraduate Research Week  April 25-May 1, 2021

Illinois LinkedIn Banner Image Generator
Ashley Grudzinski, Senior, Computer Science and Statistics, LAS
(Research Mentor: Wade Fagen-Ulmsneider, Department of Computer Science)

3D printing of Biomimetic Pneumatic Actuators by Direct-Writing of Ultraviolet-light Curable Elastomer Inks
Jonghyun Hwang, Senior, Mechanical Engineering, ENG
(Research Mentor: Nicholas Thompson, Department of Mechanical Science and Engineering)

A Contextual Innovation and Process Investigation of an International Student Entrepreneurial Organization
Ryan Lake, Junior, Civil and Environmental Engineering, ENG
Kariem Hashem, Junior, Civil and Environmental Engineering, ENG
Arin Rzonca, Junior, Computer Science, ENG
Jessica Altenberg, Sophomore, Mechanical Engineering, ENG
(Research Mentor: Ann-Perry Witmer, Department of Agricultural and Biological Engineering)

Swelling Thin Layers of Plant Tissue Analogs
Milena Nutrobkina, Senior, Chemical Engineering, LAS
(Research Mentor: Shelby Hutchens, Department of Mechanical Science and Engineering)

Environment and Sustainability

A Rawlsian Justification for International Climate Agreements
Kimmy Chuang, Senior, Political Science, LAS
(Research Mentor: Benjamin Miller, Department of Political Science)

The Disconnect Between Valuing Nature and Concern for Climate Change
Gina DeLascio, Junior, Natural Resources and Environmental Sciences, ACES
(Research Mentor: Carena van Riper, Department of Natural Resources and Environmental Sciences)

Maumee River Watershed Impacts on Phosphorus Nutrient Overloads
Christina Garcia, Sophomore, Civil and Environmental Engineering, ENG
(Research Mentor: Kevin Wallington, Department of Civil and Environmental Engineering)

Lacustrine Carbonate Grains in Kiritimati Island: Stable Isotope Ratios and Potential Biotic Mechanisms of Formation
Quinn Greven, Sophomore, Chemistry, LAS
(Research Mentor: Mingfei Chen, Department of Geology)

The Effects of Climate Change on Women’s Security
Sophie Luijten, Junior, Global Studies and Spanish, LAS
(Research Mentor: Çağlayan Baser, New York University Abu Dhabi)

Evaluation of the Withings BPM Connect Blood Pressure Monitor for Use Among Older Adults
Carson Smith, Sophomore, Interdisciplinary Health Sciences, AHS
(Research Mentor: Timothy Hale, Department of Kinesiology and Community Health)

Environmental and Economic Impacts of Efficient Packaging - Transitioning from Single Use Plastic Containers to Reusable Devices with Refills
Alejandra Manrique, Senior, Chemistry, LAS
(Research Mentor: Renata Endres, Department of Agricultural and Consumer Economics)
Undergraduate Research Week  April 25-May 1, 2021

A Regulatory Timeline of Seawater Desalination in California
Julia Marsaglia, Junior, Earth, Society and Environmental Sustainability, LAS
(Research Mentor: Brian O’Neill, Department of Sociology)

Simulating the Chicago River Flooding Issue
Eric Nieto, Freshman, Computer Engineering, ENG
(Research Mentor: Zhi Li, Department of Civil and Environmental Engineering)

Holocene Variability in the Productivity of Kettle Lake, Northern Great Plains, Inferred from Stable Carbon Isotope Values of Organic Matter
Kate O’Brien, Sophomore, Integrative Biology, LAS
(Research Mentor: Jessica Conroy, Department of Geology)

Biodiversity Conservation in Bhutan
Rui Qian, Junior, Natural Resources and Environmental Sciences, ACES
(Research Mentor: Jennifer Zavaleta Cheek, Department of Natural Resources and Environmental Sciences)

Mapping Governance in Protected Area Communities: An Institutional Map of Organizations Who Influence Protected Area Management in the Denali Region of Alaska
Gillian Rowe, Senior, Natural Resources and Environmental Sciences, ACES
(Research Mentor: Carena van Riper, Department of Natural Resources and Environmental Sciences)

Policy Insights on Electric Vehicle Subsidies
Tyler Swanson, Sophomore, Agricultural and Consumer Economics, ACES
(Research Mentor: Peter Christensen, Department of Agricultural and Consumer Economics)

Food Systems

Comparing Mesotrione Metabolism Profiles in Multiple Herbicide-Resistant Waterhemp (Amaranthus Tuberculatus) and Palmer Amaranth (Amaranthus Palmer) Populations
Autumn Brandenburg, Senior, Biochemistry, LAS
(Research Mentor: Dean Riechers, Department of Crop Sciences)

Copper Resistance in Illinois Field Isolates of Xanthomonas perforans and X. gardneri
Veronica Casey, Senior, Natural Resources and Environmental Sciences, ACES
(Research Mentor: Sarah Hind, Department of Crop Sciences)

QuickOat: Developing a New Protocol to Accelerate Oat Improvement
Megan Choi, Senior, Integrative Biology, LAS
(Research Mentor: Juan Arbelaez, Department of Crop Sciences)

Engineering Pumpkin Plants to Control Western Corn Rootworm, a Significant Insect Pest of Corn
Leonidas D’Agostino, Senior, Crop Sciences, ACES
(Research Mentor: Sarah Hind, Department of Crop Sciences)

Effect of Progressive Limit Feeding in Feedlot Steers: A Pilot Study
Hattie Duncan, Senior, Animal Sciences, ACES
(Research Mentor: Josh McCann, Department of Animal Sciences)

An Investigation into the Potential of Horticultural and Nature-Based Interventions for Well-Being and the Methods to Evaluate Their Effects
Liz Guenther, Junior, Social Work, SSW
(Research Mentor: Rachel Garthe, School of Social Work)

Analysis of Fitness-related Traits of Different Isolates of Setosphaeria turcica In Vitro
Mirai Inaoka, Sophomore, Crop Sciences, ACES
(Research Mentor: Santiago Mideros, Department of Crop Sciences)

Cognitive and Structural Brain Outcomes Associated with Supplementation of Human Milk Oligosaccharides in the Young Pig
Joel Kieser, Senior, Animal Sciences, ACES
(Research Mentor: Ryan Dilger, Department of Animal Sciences)

Caring of Caregivers Organically (CoCO) Health Education Program
Sarika Kumar, Freshman, Molecular and Cellular Biology, LAS
(Research Mentor: Jacqueline Guzman, Department of Kinesiology and Community Health)

Comparative Analysis of Coomassie Staining and Silver Staining used on Herbicide Safener-treated Sorghum Seedling Tissue
Ethan Lamons, Senior, Crop Sciences, ACES
(Research Mentor: Dean Riechers, Department of Crop Sciences)
<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Department(s)</th>
<th>Research Mentor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convective Systems' and Climatic Conditions' Impacts on Crops During the Growing Season</td>
<td>Bridgette Mason, Senior, Atmospheric Sciences, LAS</td>
<td>(Research Mentor: Deanna Hence, Department of Atmospheric Sciences)</td>
<td></td>
</tr>
<tr>
<td>Application of Circularity in Animal Production to Reduce Waste</td>
<td>Zeyi Moo, Senior, Agricultural and Biological Engineering, ENG</td>
<td>(Research Mentor: Angela Green-Miller, Department of Agricultural and Biological Engineering)</td>
<td></td>
</tr>
<tr>
<td>Genetic Variation for Leaf Asparagine Accumulation: A Century of Selection for Grain Protein Concentration in Maize</td>
<td>Maya Salinas, Freshman, Crop Sciences, ACES</td>
<td>(Research Mentor: Edward Ross, Department of Crop Sciences)</td>
<td></td>
</tr>
<tr>
<td>Variation Amongst Inbred Corn Lines for Total Plant Transpiration and the Proportion of Daytime vs Nighttime Transpiration</td>
<td>John Searl, Senior, Crop Sciences, ACES</td>
<td>(Research Mentor: Anthony Studer, Department of Crop Sciences)</td>
<td></td>
</tr>
<tr>
<td>Commodity GMOs: Impacts on Yield and Global Trade</td>
<td>Jasmine Shi, Senior, Agricultural and Consumer Economics, ACES</td>
<td>(Research Mentor: Gary Schnitkey, Department of Agricultural and Consumer Economics)</td>
<td></td>
</tr>
<tr>
<td>Beneficiaries and Project Outcomes: The Role of Aid Beneficiaries in the Success of Sustainable Agricultural Projects</td>
<td>William Smithson, Senior, Political Science, LAS</td>
<td>(Research Mentor: Daniel Miller, Department of Natural Resources and Environmental Sciences)</td>
<td></td>
</tr>
<tr>
<td>Food Law Challenges in the US Olive Oil Market</td>
<td>Paul Tonner, Senior, Agricultural and Consumer Economics, ACES</td>
<td>(Research Mentor: Bryan Endres, Department of Agricultural and Consumer Economics)</td>
<td></td>
</tr>
<tr>
<td>Investigating Naturalized Hemp in Illinois for Crop Improvement</td>
<td>Ingrida Valaitis, Senior, Technical Systems Management, ACES</td>
<td>Jane Olsson, Junior, Crop Sciences, ACES</td>
<td>(Research Mentor: Chance Riggins, Department of Crop Sciences)</td>
</tr>
<tr>
<td>Comparison of Experimental Cattle Temperature-Humidity-Index (THI) Equations for Cattle</td>
<td>Angela Wong, Freshman, Mechanical Engineering, ENG</td>
<td>(Research Mentor: Angela Green-Miller, Department of Agricultural and Biological Engineering)</td>
<td></td>
</tr>
<tr>
<td>Health and Wellness: Society</td>
<td>Godspeed: Religion, Spirituality, and Support for COPD Patients and Caregivers</td>
<td>Semira Abera, Senior, Psychology, LAS</td>
<td>(Research Mentor: Brett Bergmann, Department of Psychology)</td>
</tr>
<tr>
<td>Aging in Place: A Review of Older Adults’ Perceptions of the Efficacy of Home-Based and Wearable Fall Prevention Technologies</td>
<td>Ruth Ada, Senior, Interdisciplinary Health Sciences, AHS</td>
<td>(Research Mentor: Shannon Mejia, Department of Kinesiology and Community Health)</td>
<td></td>
</tr>
<tr>
<td>Increased Risk of Childhood Obesity With A Rise In Media Usage</td>
<td>Avery Adamany, Senior, Integrative Biology, LAS</td>
<td>Emily Williams, Senior, Community Health, AHS</td>
<td>Caitlin Daza, Senior, Human Development and Family Studies, ACES</td>
</tr>
<tr>
<td>The Impact of Volunteering at a Free Clinic on a Student's Outlook on Holistic Medicine</td>
<td>Alishsha Ahmad, Junior, Community Health, AHS</td>
<td>(Research Mentor: Irfan Ahmad, Carle Illinois College of Medicine)</td>
<td></td>
</tr>
<tr>
<td>The Daily Balance Project Remote Pivot: The Development of Remote Data Collection and Assessment</td>
<td>Amira Alburei, Senior, Integrative Biology, LAS</td>
<td>Amanda Simon, Junior, Psychology, LAS</td>
<td>(Research Mentor: Aileen Griffin, Department of Kinesiology and Community Health)</td>
</tr>
<tr>
<td>The Translation of the I-ROLL Intervention from In-Person to Online</td>
<td>Jessica Alexander, Senior, Interdisciplinary Health Sciences, AHS</td>
<td>(Research Mentor: Laura Rice, Department of Kinesiology and Community Health)</td>
<td></td>
</tr>
<tr>
<td>The Role of Respectability Politics in the Treatment of COPD</td>
<td>Gabrielle Balek, Junior, Psychology, LAS</td>
<td>(Research Mentor: Brett Bergmann, Department of Psychology)</td>
<td></td>
</tr>
<tr>
<td>How Does a One Hour Presentation on Vitamin A Affect Medical Student Knowledge and Attitudes Towards Supplementation?</td>
<td>Arushi Bharel, Sophomore, Food Science and Human Nutrition, ACES</td>
<td>(Research Mentor: Emily Johnston, Biomedical Education, California Health Sciences University)</td>
<td></td>
</tr>
<tr>
<td>Social Anxiety, Affect, and Alcohol Consumption: The Moderating Influence of Social Context</td>
<td>Eddie Caumiant, Senior, Psychology, LAS</td>
<td>(Research Mentor: Catharine Fairbairn, Department of Psychology)</td>
<td></td>
</tr>
<tr>
<td>Fostering Physical Activity for People with Disabilities Through Park District Programs</td>
<td>Cailey Cranny, Senior, Interdisciplinary Health Sciences, AHS</td>
<td>(Research Mentor: Toni Liechty, Department of Recreation, Sport and Tourism)</td>
<td></td>
</tr>
<tr>
<td>The University of Illinois at Urbana-Champaign: An Age Friendly University</td>
<td>Maya Dye, Freshman, Speech and Hearing Science, AHS</td>
<td>(Research Mentor: Brian Pastor, Center on Health, Aging, and Disability)</td>
<td></td>
</tr>
</tbody>
</table>
Exploring Black Plurisexuals Disclosure of Sexual Identity Labels to Healthcare Providers
Caroline Egan, Junior, Human Development and Family Studies, ACES
(Research Mentor: Alyssa Billington, Department of Human Development and Family Studies)

Minority and Immigrant Nutrition Education Program
Sam Flesch, Senior, Food Science and Human Nutrition, ACES
Karly Miller, Sophomore, Food Science and Human Nutrition, ACES
(Research Mentor: Annabelle Shaffer, Department of Food Science and Human Nutrition)

Exploring Technology Support and Strategies for Promoting Independence and Quality of Life for Older Adults With and Without Disabilities
Rebecca Goneh, Freshman, Molecular and Cellular Biology, LAS
(Research Mentor: Megan Bayles, Department of Kinesiology and Community Health)

Development of Instructional User Guides for Health Applications on the Amazon Echo Show for Older Adults
Saahithya Gowrishankar, Senior, Global Studies, LAS
(Research Mentor: Travis Kadylak, Human Factors & Aging Laboratory)

MIND Diet Adherence Among Middle-Aged Latinos
Jessica Guachichullca, Junior, Interdisciplinary Health Sciences, AHS
(Research Mentor: Jacqueline Guzman, Department of Kinesiology and Community Health)

The Health Action Process Approach (HAPA) Applied to People with Spinal Cord Injury (SCI)
Yuanting Huang, Senior, Community Health, AHS
(Research Mentor: Chung-Yi Chiu, Department of Kinesiology and Community Health)

US Healthcare Customers Rank Most HCAHPS Questions as Mandatory: A Kano Analysis of HCAHPS Survey
Imadh Khan, Junior, Molecular and Cellular Biology, LAS
(Research Mentor: Sandeep Tripathi, OSF Saint Francis Medical Center)

Serving on the Evaluation Team of Asthma Home Visiting Program
Madison Lamphear, Freshman, Interdisciplinary Health Sciences, AHS
(Research Mentor: Sarah Geiger, Department of Kinesiology and Community Health)

Effects of Stretching, Aerobic and Yoga Exercise on Neurocognition Among Middle Aged and Older Adults: Protocol for the SAY Exercise Trial
Leah Lasher, Junior, Kinesiology, AHS
Daniel Boachie, Junior, Kinesiology, AHS
(Research Mentor: Neha Gothe, Department of Kinesiology and Community Health)

Family Caregivers of older Asian Immigrants: Navigating social and cultural norms in the health care system
Katherine Lim, Junior, Community Health, AHS
(Research Mentor: Minakshi Raj, Department of Kinesiology and Community Health)

Small Talk in the Patient Provider Context: A Systematic Review
Alana Leonhard, Junior, Communication, LAS
(Research Mentor: Lindsay Kelpinski, Communication)

Investigating the Potential of Digital Home Assistants for Older Adults With & Without Mobility Disabilities
Maya Malecki, Junior, Community Health, AHS
(Research Mentor: Travis Kadylak, Human Factors & Aging Laboratory)

Effects of an 8-Week Yoga Intervention on Self-Reported Stress and Cognitive Functioning in Full-Time Employees
Ella Meyering, Sophomore, Molecular and Cellular Biology, LAS
Allison Antman, Junior, Psychology, LAS
(Research Mentor: Madhura Phansikar, Department of Kinesiology and Community Health)

MIND Diet and Physical Activity Levels Among Middle-Aged Latinos
Diana Morales, Junior, Speech and Hearing Science, AHS
(Research Mentor: Susan Aguiñaga, Department of Kinesiology and Community Health)

Suggestions for a Fall Prevention Technology that Combats a Fear of Falling
Nicholas Olivieri, Senior, Community Health, AHS
(Research Mentor: Shannon Mejia, Department of Kinesiology and Community Health)

The Restorative Power of Voice and Advocacy in Medicalized Settings
Omorewo Oshe, Senior, Psychology, LAS
(Research Mentor: Brett Boe Bergmann, Department of Psychology)

Comparative Analysis of Mental Health Policies for Student Athletes in the NCAA Power 5 Conference Schools
Cheyenne Petersen, Junior, Psychology, LAS
Julia Ilecki, Junior, Psychology, LAS
Kaitlin Ratcliff, Junior, Psychology, LAS
Rusi Dong, Junior, Sociology, LAS
Dustin Epstein, Graduated Fall 2020, Chemistry, LAS
(Research Mentor: Caitlin Vitosky Clarke, Department of Kinesiology and Community Health)
Undergraduate Research Week  April 25-May 1, 2021

Do Patient Narratives Improve Illness Self-Care?
Prim Poshyanonda, Junior, Psychology, LAS
Isabella Feret, Sophomore, Psychology, LAS
Natasha Najam, Junior, Psychology, LAS
Emily Albert-Stauning, Junior, Psychology, LAS
(Research Mentor: Daniel Morrow, Department of Educational Psychology)

Identifying Characteristics of Trust Between Physicians and Family Caregivers
Ruchira Rao, Sophomore, Community Health, AHS
(Research Mentor: Minakshi Raj, Department of Kinesiology and Community Health)

Relationship Between Healthy Eating Index Scores and Weight Gain During Early and Late Pregnancy
Abigail Rich, Sophomore, Integrative Biology, LAS
Carolyn Francart, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Arden McMath, Division of Nutritional Sciences)

Clinical Empathy in Speech-Language Pathology and Audiology Graduate Students: Comparing Students Empathy Level Across Training Years
Ella Schoendorff, Junior, Speech and Hearing Science, AHS
Lianna Yang, Junior, Speech and Hearing Science, AHS
(Research Mentor: Keiko Ishikawa, Department of Speech and Hearing Science)

Human Trafficking in the United States: An Interdisciplinary Approach to Reduce the Number of Unidentified Cases in a Healthcare Environment
Tracy Wohlever, Senior, Interdisciplinary Health Sciences, AHS
(Research Mentor: Valeria Bonatti, Global Studies)

Development of a Web-focused Weight Loss Management Program
Mary Yang, Senior, Food Science and Human Nutrition, ACES
Gwendoline Balto, Junior, Food Science and Human Nutrition, ACES
Abigail Fuller, Junior, Food Science and Human Nutrition, ACES
(Research Mentor: Annabelle Shaffer, Division of Nutritional Sciences)

Investigation of the Underlying Factors of Skin Diseases: A Development of Patient Interactive Diary in REDCap
Jennifer Zeng, Senior, Food Science and Human Nutrition, ACES
(Research Mentor: Ian Brooks, School of Information Sciences)

Assessing the Efficacy of a Saroglitazar Nanodrug in Reducing Adiposity in a Murine Model of Diet-Induced Obesity
Sophia Baer, Senior, Animal Sciences, ACES
(Research Mentor: Catherine Applegate, Department of Animal Sciences)

Fall Frequency & Fall Concern in Non-Ambulatory Adults with Spinal Cord Injury
Emma Blomberg, Junior, Kinesiology, AHS
(Research Mentor: Laura Rice, Department of Kinesiology and Community Health)

Trait Neuroticism and Its Role in the HRV and Depression Relationship in an Active Population
Jaclyn (Jackie) Buczkowski, Junior, Kinesiology, AHS
(Research Mentor: Jonathan North, Department of Kinesiology and Community Health)

Differential Relationships Between Changes in Lean and Fat Mass and Aerobic Fitness in Children
Savannah Burkhalter, Junior, Food Science and Human Nutrition, ACES
(Research Mentor: Naiman Khan, Department of Kinesiology and Community Health)

Robot and Older Adults: Perceived Roles and Importance
Weng Ian Chay, Sophomore, Kinesiology, AHS
(Research Mentor: Travis Kadylak, Human Factors & Aging Laboratory)

Effect of Dietary Exposure to Phthalate on Intestinal Development in Piglet Model
Sierra Coyne, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Marcia Monaco Siegel, Department of Food Science and Human Nutrition)

Methodological Considerations for the Enrichment of Bone Marrow Endothelial and Mesenchymal Stromal Cells
Evan Dray, Junior, Molecular and Cellular Biology, LAS
(Research Mentor: Daniel McKim, Department of Animal Sciences)

Relationship Between Temperament and Weight Status at 24 Months: An Analysis
Sarah Gale, Senior, Human Development and Family Studies, ACES
Divya Thomas, Senior, Molecular and Cellular Biology, LAS
Sahi Muppalla, Senior, Psychology, LAS
(Research Mentor: Brenda Koester, Department of Human Development and Family Studies)

Digestive Tolerance of Non-Digestible Soluble Fibers in Adults
Emily Galfano, Senior, Food Science and Human Nutrition, ACES
(Research Mentor: Hannah Holscher, Department of Food Science and Human Nutrition)
Synergistic Suppression of Breast Cancer Cell Proliferation by Combination Use of FOXM1 and CDK4/6 Inhibitors
Chirag Gopinath, Senior, Molecular and Cellular Biology, LAS (Research Mentor: Benita S Katzenellenbogen, Department of Molecular and Integrative Physiology)

Role of Methylation on Lysine 27 of Histone H3 (H3K27) in Chemotherapy Resistance in Testicular Germ Cell Tumors
Aleyah Rattab, Senior, Molecular and Cellular Biology, LAS (Research Mentor: Sarah Spinella, Department of Comparative Biosciences)

Sweet or Salty? Classification of Altered Taste Perception in Self-Reported COVID-19 Cases
Husna Hussaini, Freshman, Sociology, LAS (Research Mentor: Raoul Alfaro, Department of Food Science and Human Nutrition)

Technology-Based Social Engagement Interventions Available for Caregivers of Persons with Dementia
Sarah Jones, Junior, Speech and Hearing Science, AHS (Research Mentor: Raksha Mudar, Department of Speech and Hearing Science)

An Investigation of PFOS Exposure in Cancer Cells
Amy Lee, Sophomore, Bioengineering, ENG (Research Mentor: Wenjie Liu, Department of Bioengineering)

The Effectiveness of Vocal Injury Prevention Methods: A Literature Review
Christina Lee, Senior, Speech and Hearing Science, AHS
Arianna Bastys, Graduated Fall 2020, Speech and Hearing Science, AHS (Research Mentor: Keiko Ishikawa, Department of Speech and Hearing Science)

Relationship Between Strategic Attention and Inhibition in Older Adults with Varying Hearing Ability
Chloe Maghinang, Sophomore, Speech and Hearing Science, AHS (Research Mentor: Raksha Mudar, Department of Speech and Hearing Science)

Effect of Aggressive Breast Cancer Extracellular Vesicles on Breast Cell Metabolism Determined by Fluorescence Lifetime Imaging Microscopy
Elisabeth Martin, Junior, Bioengineering, ENG (Research Mentor: Stephen Boppart, Department of Electrical and Computer Engineering)

Incorporating Placental-Derived Membrane Matrix and Soluble Factors in Mineralized Collagen Scaffolds for Improved Bone Repair
Maxwell Polanek, Sophomore, Chemical Engineering, LAS (Research Mentor: Vasiliki ‘Aliki’ Kolliopoulos, Department of Chemical and Biomolecular Engineering)

Cognitive Control in Individuals with Age-Related Hearing Loss
Grace Rochford, Senior, Speech and Hearing Science, AHS (Research Mentor: Raksha Mudar, Department of Speech and Hearing Sciences)

β-carotene Mitigates Liver Inflammation in an Experimental Model of Atherosclerosis Regression
Sanjana Tamane, Senior, Food Science and Human Nutrition, ACES (Research Mentor: Jaime Amengual, Department of Food Science and Human Nutrition)

Exercise and the Brain: The Role of Hippocampal Activation
Sanjana Venkataraman, Senior, Psychology, LAS (Research Mentor: Justin Rhodes, Department of Psychology)
Picture-Word Interference in Individuals with Mild Cognitive Impairment Sharbel Yako, Sophomore, Molecular and Cellular Biology, LAS (Research Mentor: Raksha Mudar, Department of Speech and Hearing Sciences)

Effects of Habitual Low-Calorie Sweetener Use on Basic Taste Perception Ying Yang, Senior, Food Science and Human Nutrition, ACES (Research Mentor: M. Yanina Pepino, Department of Food Science and Human Nutrition)

Humanities and The Arts

Examining the Teaching and Literacy Practices of Education Justice Project Sophie Casaburi, Freshman, Urban Studies and Planning, FAA (Research Mentor: Logan Middleton, Department of English)

Nothing but Warts: Dermal Marking in Early Modern Witch Trials Mary Danner, Senior, History, LAS (Research Mentor: Craig Koslofsky, Department of History)

Politics or Pilgrimage: Nationalism and Hindu Pilgrimage in Late Colonial India Pranav Gulukota, Senior, History, LAS (Research Mentor: Antoinette Burton, Department of History)

A Study of David Jones and the Understanding of the Great War Dylan Gunn, Sophomore, History, LAS (Research Mentor: Peter Fritzsche, Department of History)

An Examination of Depictions of Slavery in Modern Textbooks Audrey Kermgard, Freshman, Elementary Education, EDU (Research Mentor: Jon Hale, Education Policy, Organization and Leadership)

Film Reel Statecraft: Shaping U.S. Perceptions of Latin America Through Film, 1933-1945 Zackary Landers, Sophomore, History, LAS (Research Mentor: Amanda Rector, Spanish and Portuguese)

Discrepancies in Psychology Classes Between University and College-in-Prison Environments Melody Leung, Sophomore, Psychology, LAS (Research Mentor: Logan Middleton, Department of English)

Reggaeton’s Resistance: Bad Bunny & the Aesthetics & Politics of Perreo Issy Marquez, Senior, English, LAS (Research Mentor: Sandra Ruiz, Department of Latina/Latino Studies and Department of English)

La Sublevación de la Mujer Indígena y Su Voz Silenciada; The Rebellion of the Indigenous Women and her Silenced Voice Alexis Martinez, Sophomore, Middle Grades Education, EDU (Research Mentor: Megan Gargiulo, Department of Spanish and Portuguese)

Restarts and Self-Corrections by L2 Learner in Spanish Amanda Oversen, Senior, Speech and Hearing Science, AHS Kathleen Flores, Junior, Psychology, LAS Madalyn Velisaris, Senior, Political Science, LAS (Research Mentor: Kara Yarringon, Department of Spanish and Portuguese)

Puppet Trade: The Importance of the Ryukyus in the Luxury Goods Trade Between the Qing, Satsuma and the Tokugawa Render Symanski, Sophomore, History, LAS (Research Mentor: Kai-Wing Chow, Department of History)

A Restaging of Lynn Nottage’s “Sweat” at Champaign’s Murphy’s Pub Ryan Yapp, Senior, Theatre, FAA (Research Mentor: Kirsten Pullen, Department of Theatre)

Origens of the Reformation: Origen of Alexandria’s Influence on Martin Luther’s and Huldrych Zwingli’s Understandings of Church History Ryan Yoakum, Senior, History, LAS (Research Mentor: Carol Symes, Department of History)

Learning and Human Development

Evaluating the Feasibility of a Structured Sentence Diversity Protocol Mary Buchheit, Senior, Speech and Hearing Science, AHS (Research Mentor: Pamela Hadley, Department of Speech and Hearing Science)

An Investigation of Phenomenon-Based Curriculum and its Effects on Elementary Science Learning and Agency Peyton Carducci, Junior, Elementary Education, EDU (Research Mentor: Christina Krist, Department of Curriculum and Instruction)
Undergraduate Research Week  April 25-May 1, 2021

The Digital Divide and Computer Science Education
Kathy Chen, Freshman, Learning and Education Studies, EDU
(Research Mentor: H. Chad Lane, Department of Educational Psychology)

Is College Worth It? A Combined Analysis of the Effect of a College Education on Health Outcomes, Alongside the Effects of a Liberal Arts College Curriculum
Nick Chomko, Senior, Econometrics and Quantitative Economics, LAS
(Research Mentor: Anthony Sullers, Education Policy, Organization and Leadership)

The Role of Disciplinary Expertise in Shaping Undergraduate Tutor’s Confidence in Writing Center Sessions
Eva Cornman, Junior, Molecular and Cellular Biology, LAS
(Research Mentor: Carolyn Wisniewski, Center for Writing Studies)

Heritage Spanish Speakers and Learners: Attitudes Towards Heritage Language Learning
Andrea Caart, Sophomore, Spanish (Teaching), LAS
(Research Mentor: Salvatore Callesano, Department of Spanish and Portuguese)

The Impact of Maternal Infant-Directed Singing on the Mitigation of Infant Distress and Emotional Self-Regulation
Caitlin Daza, Senior, Human Development and Family Studies, ACES
(Research Mentor: Nancy McElwain, Department of Human Development and Family Studies)

Infant Distress to Limitations and Parental Depression
Courtney Esker, Junior, Human Development and Family Studies, ACES
(Research Mentor: Nancy McElwain, Department of Human Development and Family Studies)

Quantitative Analysis of Principal’s Perceptions of Kindergarten Transition Practices for Children with Disabilities
Kailey Fox, Sophomore, Psychology, LAS
(Research Mentor: Michelle Sands, Department of Special Education)

An Investigation on the Reasons Teachers Continue to Leave the Work Force
Lucia Galan-Garcia, Freshman, Early Childhood Education, EDU
(Research Mentor: Nancy Latham, Department of Curriculum and Instruction)

An Investigation of Preventative Classroom Management Strategies
Lindsay Garthwaite, Freshman, Elementary Education, EDU
(Research Mentor: Cheryl Light Shriner, Department of Special Education)

An Investigation of Teacher Education Preferences in the STEM Field
Lauren Godsell, Sophomore, Middle Grades Education, EDU
(Research Mentor: H. Chad Lane, Department of Educational Psychology)

The Crossroads of History Curricula and Perceptions of America
Abigail Greetis, Freshman, Elementary Education, EDU
(Research Mentor: Jon Hale, Education Policy, Organization and Leadership)

Learning Sign Through Games: An ASL-STEM Vocabulary App
Mona Jawad, Sophomore, Bioengineering, ENG
Aditi Adya, Sophomore, Computer Engineering, ENG
Ethan Gaughan, Sophomore, Bioengineering, ENG
Sri Medisetti, Sophomore, Bioengineering, ENG
(Research Mentor: Lawrence Angrave, Department of Computer Science)

Adolescent Sleep and Academic Outcomes: A Pre- and Post-Pandemic Group Comparison
Jacqueline Lee, Graduated Fall 2020, Psychology, LAS
(Research Mentor: Kelly Tu, Department of Human Development and Family Studies)

Positions of Power and Gender Dynamics in Mexico’s Recogimientos de Mujeres
Jennifer Leon, Junior, Media and Cinema Studies, COM
(Research Mentor: Megan Gargiulo, Department of Spanish and Portuguese)

The Acculturation Rate of Online Learning Across Different Age Groups in East Asia
Qianxu (Morgan) Luo, Senior, Digital Environments for Learning, Teaching, and Agency, EDU
Yani Su, Senior, Digital Environments for Learning, Teaching, and Agency, EDU
(Research Mentor: Emma Mercier, Curriculum & Instruction)

Principals’ Perceptions and Roles Used to Support Children with Disabilities in Transition into Kindergarten
Bridget Marshall, Sophomore, Special Education, EDU
(Research Mentor: Michelle Sands, Department of Special Education)

Relationship Between Early Life Developmental Milestones and Coordination Skills in Later Childhood
Alyssa Martin, Senior, Integrative Biology, LAS
(Research Mentor: Shelby Keye, Department of Kinesiology and Community Health)

Linking Verbs with Events: How Syntactic Bootstrapping Assists Toddlers in Generalizing Novel Verbs
Dana Meyerson, Senior, Psychology, LAS
(Research Mentor: Cynthia Fisher, Department of Psychology)

Do African American Students Feel Increased Comfortability in the Classroom Among African American Teachers?
Kaitlyn Mullings, Freshman, Learning and Education Studies, EDU
(Research Mentor: Rachel Roegman, Education Policy, Organization and Leadership)

Do You Think I Look Cute? Unpacking the Relationship Between Puberty, Opposite-Sex Social Anxiety, and Depression
Samantha Nardella, Senior, Psychology, LAS
(Research Mentor: Karen Rudolph, Department of Psychology)

Exploring Writing Process and Transitioning Behavior in Developmental Writers
Minh Nguyen, Sophomore, Bioengineering, ENG
(Research Mentor: Carolyn Wisniewski, Center for Writing Studies)
Math Anxious Parents’ Response to Children’s Difficulty in a Math Game
Michelle Nutlis, Senior, Psychology, LAS
(Research Mentor: Eva Pomerantz, Department of Psychology)

Language Anxiety in Virtual Reality Classrooms
Diana Pham, Sophomore, Mechanical Engineering, ENG
Savannah Sander, Junior, Psychology, LAS
(Research Mentor: Tricia Thrasher, Department of French and Italian)

The Role of Siblings in Cognitive, Language, and Temperament Development
Isabella Rico, Senior, Human Development and Family Studies, ACES
(Research Mentor: Nancy McElwain, Human Development and Family Studies)

Faculty Perceptions of Gender in Engineering Education
Dale Robbennolt, Junior, Sociology, LAS
(Research Mentor: Tim Liao, Department of Sociology)

Students with Disabilities in Higher Education
Taylor Rossi, Junior, Speech and Hearing Science, AHS
(Research Mentor: Anthony B. Sullers Jr., Educational Policy, Organization, and Leadership)

It’s Not a Book. It’s a BoK—Ruminating in the Margins on the Role of Self-Reflective Journaling in Fostering Personal and Professional Socialization
Paige Saddler, Senior, Social Work, SSW
(Research Mentor: Tara Earls-Larrison, School of Social Work)

Children, Cursing, and Censorship
MaKayla Schrock, Senior, Linguistics, LAS
(Research Mentor: Jeffrey Green, Department of Linguistics)

A UDL-Based Large-Scale Study on the Needs of Students with Disabilities in Engineering Courses
Yiyin Shen, Senior, Computer Science and Statistics, LAS
(Research Mentor: Hongye Liu, Department of Computer Science)

Does Restricting Your Child’s Eating Behaviors Actually Help or Hinder Their Health?
Oviya Sougoumarane, Senior, Integrative Biology, LAS
Sonja Zuleta, Junior, Human Development and Family Studies, ACES
Julia Minkevitch, Senior, Psychology, LAS
(Research Mentor: Brenda Koester, Department of Human Development & Family Studies, Chelsea Hetherington, Department of Human Development & Family Studies)

Life: Molecules, Microbes, and Cellular Processes

Bacterial Toxin Hacks its Way Through the Intestinal Firewall
Joshua Adisumarta, Sophomore, Molecular and Cellular Biology, LAS
(Research Mentor: Steven Blanke, Department of Microbiology)

Breaking Bad… Or Is It? Investigating the Cellular Response During Helicobacter pylori Infection
Sammy Alhayek, Junior, Molecular and Cellular Biology, LAS
(Research Mentor: Ami Seeger, Department of Microbiology)

Molecular Analysis of Arabidopsis thaliana Genes of an Unknown Function
Meghan Burns, Junior, Chemistry, LAS
Jacob Milo, Sophomore, Chemical Engineering, LAS
(Research Mentor: Steven Burgess, Department of Crop Science)

The Effects of Cholesterol on Antimicrobial Peptides
Juan David Campolargo, Freshman, Undeclared, DGS
(Research Mentor: Kevin Jose Cheng, Biophysics)

Physiological Change of Salmonella Under Polyamine Stress
Hsuan-Yu (Taylor) Chen, Junior, Bioengineering, ENG
(Research Mentor: James Slauch, Department of Microbiology, Yumi Iwadate, Department of Microbiology)

Experience is the Best Teacher: How the Deadly Human Pathogen Bacillus anthracis Learned to Overcome Human Immune Responses Through Interactions with Soil Amoebae
Annie Cheung, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Tamilselvam Batcha, Department of Microbiology)

Role of Nuclear Receptor Liver Small Heterodimer Partner (SHP) and Farnesoid X Receptor (FXR) in Gallbladder Physiology
Nathaniel Dang, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Sayee Anakk, Department of Molecular and Integrative Physiology)

Investigating the Role of a Novel Cation Transporter in Bacterial Metal Homeostasis and Assessing the Importance of a Cambialistic Superoxide Dismutase in Staphylococcus aureus
Matthew Gao, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Thomas Kehl-Fie, Department of Microbiology)

Metabolic Regulation by FXR-Induced Long Non-Coding RNA, FincoR
Deepa Prakashini Govindasamy Rajagopal, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Jinjing Chen, Department of Molecular and Integrative Physiology)

Endothelin-2 in Ovulation
Eugene Ham, Senior, Molecular and Cellular Biology, LAS
Ellie Cho, Junior, Molecular and Cellular Biology, LAS
(Research Mentor: CheMyong Jay Ko, Department of Comparative Biosciences)

Understanding the Role that Manganese Transporters and a Small RNA have on the Ability of Staphylococcus aureus Superoxide Dismutases to Combat Oxidative Stress
Destiny Henning, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Thomas Kehl-Fie, Department of Microbiology)
Discovery of Ribosomally Synthesized and Post-Translationally Modified Peptides (RiPPs) to Understand Natural Product Roles in Plant-Bacteria Interactions
Edward Huang, Junior, Integrative Biology, LAS
(Research Mentor: Qi Qi Tian, Chemistry, Biochemistry)

The Effects of MYD88 S209R on Cell Death
Christopher Jones, Senior, Community Health, AHS
(Research Mentor: Sufia Bakshi, National Institutes of Health)

Give Me a Break: Mitochondrial Defense Against Bacteria
Rachel Jones, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Steven Blanke, Department of Microbiology)

Novel Paenibacillus and Pseudomonas Species Reduce the Symbiotic Effectiveness of Ensifer melliloti in Co-Inoculations of Medicago truncatula
James Kosmopoulos, Junior, Integrative Biology, LAS
(Research Mentors: Katey Heath, Department of Plant Biology & Rebecca Batstone, Carl R. Woese Institute for Genomic Biology)

Construction and Purification of Recombinant Wildtype and Catalytically Inactive Mutants of DNT and CNF1 Protein Toxins from E. coli
James Lopez, Junior, Molecular and Cellular Biology, LAS
(Research Mentor: Brenda Anne Wilson, Department of Microbiology)

Give Me a Break: Mitochondrial Defense Against Bacteria
Rachel Jones, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Steven Blanke, Department of Microbiology)

A Sticky Situation: VacA, a Carcinogenic Toxin
Sean McAllister, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Steven Blanke, Department of Microbiology)

Oviduct Glycans Suppress Release of the Sperm Acrosome but Have No Effect on Motility
Katie Mc Morrow, Junior, Animal Sciences, ACES
(Research Mentor: David Miller, Department of Animal Sciences)

War of the Worlds: How the Bacterial “Alien” Campylobacter jejuni uses a Bacterial Directed-Energy Weapon, Cytolethal Distending Toxin, to Invade into a New Home
Kyra Meyer, Junior, Molecular and Cellular Biology, LAS
(Research Mentor: Molly Crowder, Department of Microbiology)

Characterization of a Conjugative Plasmid, pM164, in Archaeon, Sulfolobus islandicus
Allison Narlock, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Rachel Whitaker, Department of Microbiology)

Conditional Knockout (cKO) of the Negative Elongation Factor (Nelf) in Sertoli Cells of Mice Impairs Function Without Affecting Their Survival and Maintenance
Saakshi Pothina, Senior, Molecular and Cellular Biology, LAS
(Research Mentor: Helena Zomer, Department of Comparative Biosciences)

The Sporene Identity: Germination-Mediated Escape of Intracellular Bacillus anthracis Spores from Infected Macrophage Cells
Shreya Rao, Sophomore, Molecular and Cellular Biology, LAS
(Research Mentor: Tamilselvam Batcha, Department of Microbiology)
Life: Plants and Animals 1

Body Shape Diversity and Evolution of South American Catfishes of the Superfamily Aspredinoidea Using 2D and 3D Geometric Morphometrics
Alexis Alvey, Junior, Integrative Biology, LAS (Research Mentor: Milton Tan, Illinois Natural History Survey)

Physiological Assessment of Non-Photochemical Quenching in Arabidopsis thaliana
Meghan Blaszynski, Junior, Integrative Biology, LAS (Research Mentor: Steven Burgess, Department of Plant Biology)

Tomato Variety Influences Herbivore Induced Plant Volatiles
Erinn Dady, Senior, Earth, Society and Environmental Sustainability, LAS (Research Mentor: Esther Ngumbi, Department of Entomology)

Identification of Fungi in Gorongosa National Park, Mozambique
Grace Iovinelli, Freshman, Integrative Biology, LAS (Research Mentor: Jason Karakehian, Department of Plant Biology)

Incubation Activity, Water Drawdowns, and Predation Risk at Least Bittern (Ixobrychus exilis) Nests in Central Illinois
Kellyn Johnson, Sophomore, Earth, Society and Environmental Sustainability, LAS (Research Mentor: Stephanie Schmidt, Department of Natural Resources and Environmental Sciences)

Relationship of Estrous Detection Patch Scores at Time of Estrous Synchronization and Artificial and Cow Body Condition Score, Days Postpartum, and Conception Rates
Nicholas Kertz, Senior, Animal Sciences, ACES (Research Mentor: Daniel Shike, Department of Animal Sciences)

Analysis of High-Speed Video Footage
Catherine Koterba, Freshman, Undeclared, DGS (Research Mentor: Hannah Darcy, Department of Evolution, Ecology, and Behavior)

Fungal Diversity of Gorongosa National Park, Mozambique
Caden LaFond, Junior, Natural Resources and Environmental Sciences, ACES (Research Mentor: Jason Karakehian, Department of Plant Biology)

Investigating the Role of the Serotonergic Nervous System in Heterodera Glycines Feeding Behavior
Kanika Leang, Sophomore, Biochemistry, LAS (Research Mentor: Nathan Schroeder, Department of Crop Sciences)

An Investigation of Successional Responses to Eastern Hemlock Mortality Using Tree Core Data
Katelyn McBride, Senior, Integrative Biology, LAS (Research Mentor: Jennifer Fraterrigo, Department of Natural Resources and Environmental Sciences)

Host-Symbiont Interactions Influence on Soybean Response to Acidic Soil pH
Nevers Mushimata, Senior, Molecular and Cellular Biology, LAS (Research Mentor: Katy Heath, Department of Plant Biology)

Illinois Hemp Insect Pests
Victoria Newman, Senior, Crop Sciences, ACES (Research Mentor: Nick Seiter, Department of Crop Sciences)

Pesticide-Virus Interactions in Honey Bees (Apis mellifera): Insights from a Novel Class of Insecticide (Butenolide)
Vincent Prayugo, Senior, Molecular and Cellular Biology, LAS (Research Mentor: Adam Dolezal, Department of Entomology)

Analysis of How Mycorrhizal Fungi Impact Trees Based on Species
Ebony Rankin, Freshman, ACES Undeclared, ACES (Research Mentor: Joseph Edwards, Program in Ecology, Evolution and Conservation Biology)

To Host or Not to Host: An Investigation on the Scent or Heat Preferences of the Amblyomma americanum and Dermacentor variabilis ticks
Sarah Smail, Freshman, Integrative Biology, LAS (Research Mentor: Erica Jean Hernandez, Department of Entomology)

Effects of Centrifugation on Motility and Longevity of Equine Sperm
Mikaila Smith, Senior, Animal Sciences, ACES (Research Mentor: Kevin Kline, Department of Animal Sciences)

Response Selectivity to Conspecific Songs in the Zebra Finch
Katharine Stenstrom, Senior, Integrative Biology, LAS (Research Mentor: Mark Hauber, Department of Evolution, Ecology, and Behavior)
Salamander Bite Force in Response to Different Food  
Jonathan Tinoco, Senior, Integrative Biology, LAS  
(Research Mentor: Hannah Darcy, Department of Evolution, Ecology, and Behavior)

Does the Dilution Effect Operate in the Human Microbiome?: A Review of Microbial Diversity Studies and Human Health Outcomes  
Fahren Zackery, Senior, Integrative Biology, LAS  
(Research Mentor: Brian Allan, Department of Evolution, Ecology, and Behavior)

Life: Plants and Animals 2

Behavioral Responses to Nests and Eggs in Brood Parasitic and Parental Bird Species  
Angela Alburei, Senior, Integrative Biology, LAS  
(Research Mentor: Mark Hauber, Department of Evolution, Ecology, and Behavior)

Grisly Bears: Cannibalism and its Patterns in Bear Species  
Emanuel Alexander, Junior, Animal Sciences, ACES  
(Research Mentor: Maximilian Allen, Department of Natural Resources and Environmental Sciences)

Population Variation in Brain Size in Three-Spined Stickleback Fish  
Eric Arredondo, Junior, Integrative Biology, LAS  
(Research Mentor: Alison Bell, Department of Evolution, Ecology, and Behavior)

Sorghum Bicolor Induces a Rhizosphere Priming Effect in Soil from Zea Mays Fields  
Iryna Blazhkevych, Sophomore, Earth, Society and Environmental Sustainability, LAS  
(Research Mentor: Charles Hyde, Program in Ecology, Evolution, and Conservation Biology)

To Cull or Not to Cull: Is Lyme Disease a Motivating Factor Behind White-Tailed Deer Population Control?  
Anil Chakravorty, Senior, Integrative Biology, LAS  
(Research Mentor: Brian Allan, Department of Entomology)

Genome Evolution and Comparative Synteny Between Ecologically Divergent Icefish Species  
Shehani Gunawardena, Senior, Integrative Biology, LAS  
(Research Mentor: Angel G. Rivera-Colón, Department of Evolution, Ecology, and Behavior)

An Investigation of Genetic Variants Involved in Fox Domestication  
Miranda Hamilton, Junior, Integrative Biology, LAS  
(Research Mentor: Anna Kukekova, Department of Animal Sciences)

Larval Survival Following Transgenesis in Amphiprion ocellaris  
Emma Ibanez, Sophomore, Molecular and Cellular Biology, LAS  
Veronica Pronitcheva, Junior, Molecular and Cellular Biology, LAS  
(Research Mentor: Justin Rhodes, Department of Psychology)

Investigating Ornate Box Turtle Emergence in Southern Illinois Prairies  
Izabelle Jaquet, Junior, Natural Resources and Environmental Sciences, ACES  
(Research Mentor: Devin Edmonds, Department of Natural Resources and Environmental Sciences)

Effects of Mowing on Forage Availability and Quality During the Summer  
Michelle Johnson, Senior, Animal Sciences, ACES  
(Research Mentor: Daniel Shike, Animal Sciences)

Study of Aquarium Fish Response via Water Cortisol Levels  
Rebecca Latham, Junior, Animal Sciences, ACES  
(Research Mentor: John Bieber, Department of Natural Resources and Environmental Sciences)

Characterizing Variations of the DRD4 Gene of White-tailed Deer (Odocoileus virginianus)  
Rachel Lupas, Junior, Molecular and Cellular Biology, LAS  
(Research Mentor: Nohra Mateus-Pinilla, Illinois Natural History Survey)

Hatching Failure Dissected: Examining Factors that Lead to Embryonic Mortality Across Altricial Bird Species  
Michael Miller, Senior, Natural Resources and Environmental Sciences, ACES  
(Research Mentor: Alex DiGiovanni, Department of Natural Resources and Environmental Sciences)

Above and Belowground Biomass of Sorghum Bicolor and its Relation to Exudate Output  
Madison Stoltz, Junior, Integrative Biology, LAS  
(Research Mentor: Charles Hyde, Program in Ecology, Evolution, and Conservation Biology)

Genomic Signatures of Domestication in the Red Fox (Vulpes Vulpes)  
Anastasiya Sushkova, Sophomore, Biochemistry, LAS  
(Research Mentor: Anna Kukekova, Department of Animal Sciences)

Differential Gene Expression of Daphnia dentifera in Response to a Fungal Pathogen  
Emily Terrill, Senior, Integrative Biology, LAS  
(Research Mentor: Carla Cáceres, Department of Evolution, Ecology, and Behavior)

Hybrid Algal-Carbonate Substrates for Enhanced Coral Reef Restoration  
Haley Tholen, Senior, Engineering Mechanics, ENG  
(Research Mentor: Amy Wagoner Johnson, Department of Mechanical Science and Engineering)

Chronic Wasting Disease in Fetal Spleens Tissues of White-tailed Deer (WTD)  
YiYing Tung, Junior, Natural Resources and Environmental Sciences, ACES  
(Research Mentor: Nohra Mateus-Pinilla, Illinois Natural History)
Media and Culture

Friends, Follows, and Feelings: Diverse Online and Offline Social Interactions Predict Racial Empathy and White Guilt
Semira Abera, Senior, Psychology, LAS
Eleanor Humphreys, Junior, Psychology, LAS
Madeleine Fowler, Senior, Psychology, LAS
Yujia Bai, Senior, Psychology, LAS
Anna Wruck, Senior, Psychology, LAS
(Research Mentor: Emily Blevins, Department of Psychology)

An Analysis into How Authoritarian Regimes Build Popularity Through Social Media
William Bu, Sophomore, Statistics and Computer Science, LAS
(Research Mentor: Lucie Lu, Department of Political Science)

A Qualitative Analysis of the Media’s Portrayal of Desalination
Toby George, Freshman, Political Science, LAS
(Research Mentor: Brian O’Neill, Department of Sociology)

Is “NewsNation” Really as Neutral as it Advertises?
Jackson Janes, Sophomore, Journalism, COM
Josie Alameda, Sophomore, Journalism, COM
(Research Mentor: Mira Sotirovic, Department of Journalism)

An Analysis of How Celebrity Worship Affects Children’s Online Language Intensity
Ayesha Mehta, Sophomore, Communication, LAS
(Research Mentor: Abbey Schneider, Department of Communication)

Use of Facebook Groups in Illinois Local Politics
Claire O’Brien, Junior, Journalism, COM
(Research Mentor: Emily Van Duyn, Department of Communication)

The Study of Gen Z’s Interaction with Social Commerce Advertisements
Grace Tessitore, Junior, Advertising, COM
Kenna Hansen, Senior, Advertising, COM
Evan Hawkins, Senior, Advertising, COM
(Research Mentor: Michelle Nelson, Department of Advertising)

Investigating the Influence of Parenting Styles on Children’s Online Language Intensity in the Context of Celebrity Worship: Emotion Regulation as a Mediator
Sherry Zhang, Junior, Media and Cinema Studies, COM
(Research Mentor: Chen Chen, Department of Communication)

Numbers and Computation

Charging Station Location Study to Support Electric Vehicle Evacuation Preparedness
Simon Balisi, Junior, Industrial Engineering, ENG
(Research Mentor: Denissa Sari Darmawi Purba, Department of Civil and Environmental Engineering)

Random Sums, Broken Sticks, and Intersecting Cylinders
Judy Chiang, Sophomore, Mathematics, LAS
Yifan Zhang, Junior, Mathematics, LAS
Wei Wang, Sophomore, Mathematics, LAS
(Research Mentor: A J Hildebrand, Department of Mathematics)

Homotopy, Modular Forms, and the Spectrum Q(l)
Garrett Credi, Freshman, Mathematics, LAS
Xi Wang, Senior, Mathematics, LAS
Matthew Niemiro, Freshman, Mathematics, LAS
(Research Mentor: Vesna Stojanoska, Department of Mathematics)

The Development of a Tool to Test Probabilistic Programming Models
Ankitha Damisetty, Sophomore, Computer Science, ENG
Sanjana Sarkar, Sophomore, Computer Science, ENG
(Research Mentor: Saikat Dutta, Department of Computer Science)

Anxiety Detection
Tongyun Huang, Senior, Mathematics and Computer Science, LAS
Ryu Okubo, Junior, Computer Engineering, ENG
(Research Mentor: Abdul Alkurdi, Department of Mechanical Science and Engineering)

Using MODFLOW Modeling to Investigate Unexplained Chloride Fluctuations in Will County’s Shallow Dolomite Municipal Wells
Valerie Smykalov, Sophomore, Geology, LAS
(Research Mentor: Cecilia Cullen, Illinois State Water Survey)

Portable Power Monitor for Neural Networks on Mobile Devices
Victor Szabo, Sophomore, Computer Science, ENG
(Research Mentor: Atul Sandur, Department of Computer Science)

Theorem Proving in Lean
Kay Thompson, Junior, Mathematics, LAS
Tyler Behme, Sophomore, Mathematics, LAS
Andrew Yin, Freshman, Mathematics, LAS
Noble Wulfraat, Junior, Mathematics and Computer Science, LAS
(Research Mentor: Philipp Hieronymi, Department of Mathematics)

On Cyclic and Nontransitive Probabilities
Pavle Vukasovic, Sophomore, Mathematics, LAS
(Research Mentor: A J Hildebrand, Department of Mathematics)

Random Strategies in the Iterated Prisoners Dilemma
Xiaorui Wang, Senior, Econometrics and Quantitative Economics, LAS
(Research Mentor: A J Hildebrand, Department of Mathematics)
Politics, Policy, and Society

With Added Theory: A Contemporary Analysis of Political Thought
Isaiah Adams, Junior, Anthropology, LAS
(Research Mentor: Kristin Bail, Department of Political Science)

Jessica Angel, Senior, Political Science, LAS
(Research Mentor: Jessica Alexandra Angel, Department of Political Science)

Voices from the Bench: Evidence from Administrative Courts
Reva Balakrishnan, Freshman, Economics, LAS
(Research Mentor: Luzmarina Garcia, Department of Political Science)

Exploring the Relationship Between Perceived Supports, Barriers, and Race in Bystander Intervention for Racial Microaggressions
Lauren Batiste, Junior, Statistics, LAS
Keziah Buabeng, Senior, Agricultural and Consumer Economics, ACES
(Research Mentor: Andrea Kunze, Department of Educational Psychology)

An Examination of Student-Athlete Identity Tensions and Administrative Policies
Emma Eckenstein, Junior, Communication, LAS
Sophia Mastroianni, Senior, Communication, LAS
(Research Mentor: Luisa Ruge-Jones, Department of Communication)

The Struggle for Liberation and Belonging of the Sahrawi Refugee Community in Tindouf, Algeria and the Role of the U.N.
Victoria Esparza, Senior, Political Science, LAS
(Research Mentor: Amanda Rector, Department of Spanish and Portuguese)

Examining the Political Atmosphere of Sub-Saharan Discrimination Technology
Kathleen Findlay, Sophomore, Statistics, LAS
(Research Mentor: Tolgahan Dilgin, Department of Political Science)

Operationalizing Discrimination Technology
Miles Hayward, Junior, Econometrics and Quantitative Economics, LAS
(Research Mentor: Tolgahan Dilgin, Department of Political Science)

2020 Voting Behaviors: Did Racial Colorblindness and Authoritarian Views Matter
Kolin Heck, Senior, Psychology, LAS
(Research Mentor: Helen Neville, Department of Educational Psychology)

Education and Racism in the United States: A Living History of African American Muslims’ Experiences
Neil Kasbekar, Sophomore, Economics, LAS
(Research Mentor: Noor Doukmak, Global Studies in Education)

Foreign Policy Attitudes: Big Five Personality Traits and Risk Attitudes
Ami Punatar, Senior, Political Science, LAS
(Research Mentor: Aleksander Ksiazkiewicz, Department of Political Science)

A Serious Leisure Perspective on the Role of Fandoms in the Creation of Community and Identity
Kirin Schlabitz, Senior, Anthropology, LAS
(Research Mentor: Caitlin Maclennan Brooks, Department of Recreation, Sport and Tourism)

Should Governments Subsidize or Mandate the Supply of Renewable Energy?
Tyler Swanson, Sophomore, Agricultural and Consumer Economics, ACES
(Research Mentor: Renata Endres, Department of Agricultural and Consumer Economics)

The Effects of Racial Residential Segregation on Black Health
Miciah Wilkerson, Senior, Human Development and Family Studies, ACES
(Research Mentor: Anthony Sullers, Department of African American Studies)

The Impact of International Aid on the Development of African Nations
Bénédicte Yenyi Mulumba, Senior, Journalism, COM
(Research Mentor: Yujeong Yang, Department of Political Science)

Sexual and Gender Minority Populations’ Housing Instability in Rural Areas and Health Outcomes
Hanna You, Senior, Human Development and Family Studies, ACES
(Research Mentor: Jasmine Routon, Department of Human Development and Family Studies)

Comparing Multi-level Values and Behaviors of Stakeholders in Interior Alaska
Genevieve Zilmer, Senior, Integrative Biology, LAS
(Research Mentor: Carena van Riper, Department of Natural Resources and Environmental Sciences)
Science and Technology

Fabrication of Voxelized Chiral Photonic Nanostructure
Liam Ackerman, Senior, Electrical Engineering, ENG
(Research Mentor: Lynford Goddard, Department of Electrical and Computer Engineering)

Role of ORCA in Repressive Histone Methylation
Darya Asoudegi, Junior, Molecular and Cellular Biology, LAS
(Research Mentor: Supriya Prasanth, Department of Cell and Developmental Biology)

The Sandusky Watershed and Phosphorous Pollution
Marisa Ban, Freshman, Agricultural and Biological Engineering, ENG
(Research Mentor: Kevin Wallington, Department of Civil and Environmental Engineering)

The Effect of Time and Temperature On Solid-State Caramelization of Sucrose
Grace Boileau, Sophomore, Food Science and Human Nutrition, ACES
(Research Mentor: Shelly Schmidt, Department of Food Science and Human Nutrition)

Can Robots Be the Future of Successful Aging for Older Adults? My Experience Working in the Human Factors and Aging Lab
Maxwell Chan, Junior, Industrial Design, FAA
(Research Mentor: Travis Kadylak, Human Factors & Aging Laboratory)

Vibrational Analysis of Adsorbates Involved in CO, Reduction on Ag Nanoparticles
Maya Chattoraj, Junior, Chemistry, LAS
(Research Mentor: Prashant Jain, Department of Chemistry)

Using a Rule-Based Model to Simulate Strand Escape from an [n]-Rung Ladder, Accounting for Diagonal Bond Formation and Rotation
Thomas Constertina, Junior, Computer Science and Chemistry, LAS
(Research Mentor: Morgan Cencer, Department of Chemistry)

Analysis of Stallion Semen Longevity
Kelly Cook, Senior, Animal Sciences, ACES
(Research Mentor: Kevin Kline, Department of Animal Sciences)

Nonlinear Wave Mixing in Phononic Materials with Periodic Rough Contacts
Songyuan Cui, Junior, Mechanical Engineering, ENG
(Research Mentor: Ganesh Patil, Department of Mechanical Science and Engineering)

Studying Cloud Top Environmental Properties for Understanding Ice Processes
Vikram Dara, Sophomore, Computer Science and Statistics, LAS
(Research Mentor: Puja Roy, Department of Atmospheric Sciences)

Characterizing Factors Controlling Flank Eruptions on Hawai’i’s Mauna Loa-Kīlauea Volcanic System
Brooke Dykstra, Senior, Geology, LAS
(Research Mentor: Patricia Gregg, Department of Geology & Robert Goldman, Department of Geology)

Time-Course of Sex Change from Male to Female in Anemonefish
Abigail Histed, Junior, Psychology, LAS
Sarah Craig, Junior, Psychology, LAS
(Research Mentor: Justin Rhodes, Department of Psychology)

Reverse Engineering Hydraulic Modeling Visualization Tools by Implementing Delaunay Triangulation using Java
Brittany Ho, Freshman, Undeclared, DGS
(Research Mentor: Zhi Li, Department of Civil and Environmental Engineering)

The Stability of Polymer Coated Quantum Dots
Jack Hovey, Freshman, Chemical Engineering, LAS
(Research Mentor: JuYeon Lee, Department of Chemistry)

An Investigation of Ocular Epigenetic Alterations upon Corticosteroid Exposure
Vincent Lam, Sophomore, Bioengineering, ENG
(Research Mentor: Wenjie Liu, Department of Bioengineering)

Exploring the Source of D-Serine in Caenorhabditis elegans: Optimization
Nissa Larson, Senior, Agricultural and Biological Engineering, ENG
(Research Mentor: Tian (Autumn) Qiu, Beckman Institute for Advanced Science and Technology)

Multiscale-Modeling of Sterols in Membrane Environment
Andrew Lee, Sophomore, Chemistry, LAS
(Research Mentor: Taras Pogorelov, Department of Chemistry)

Understanding the Older Adults’ Consideration of Robot Appearance and Function
Jennifer Lee, Senior, Interdisciplinary Health Sciences, AHS
(Research Mentor: Megan Bayles, Department of Kinesiology and Community Health)
Predicting the Stability of Inorganic Compounds via Computational and Numerical Methods  
Josh Leeman, Sophomore, Materials Science and Engineering, ENG  
(Research Mentor: Daniel Shoemaker, Department of Materials Science and Engineering)

Exercise and Brain Interaction: Effects of Optogenetic Manipulation on Hippocampus  
Shipping Li, Senior, Psychology, LAS  
(Research Mentor: Justin Rhodes, Department of Psychology)

Electrophysiological Analysis of Microglia and Neuron Co-Cultures  
Jason Liu, Junior, Molecular and Cellular Biology, LAS  
Parker Meyer, Junior, Molecular and Cellular Biology, LAS  
(Research Mentor: Karla Ramos-Cruz, Department of Bioengineering)

Engineering Single Crystals to Exhibit Dichroism: Toward Next-Generation Polarizers  
Rachel Liu, Sophomore, Chemical Engineering, LAS  
(Research Mentor: Gonzalo Campillo-Alvarado, Department of Chemical and Biomolecular Engineering, Ying Diao, Department of Chemical and Biomolecular Engineering)

Ion Transport and Viscoelasticity in Dynamic Network Electrolytes of Varying Linker Length  
Patricia Mata, Senior, Chemical Engineering, LAS  
(Research Mentor: Patricia Mata, Department of Materials Science and Engineering)

Developing New Analytical Platforms for the Detection of Acetylcholine Using Nanoscale Interface Between Two Immiscible Electrolyte Solutions (nanoITIES) Electrodes  
Conrad Milton, Junior, Chemistry, LAS  
(Research Mentor: Mei Shen, Department of Chemistry)

Computer Generated Music  
Natalia Ozymko, Senior, Computer Science, ENG  
(Research Mentor: Wade Fagen-Ulmschneider, Department of Computer Science)

Phosphorus Pollution in Lake Erie  
Anay Patel, Freshman, Atmospheric Sciences, LAS  
(Research Mentor: Kevin Wallington, Department of Civil and Environmental Engineering)

Development of Multimodal Imaging Agents for Early Diagnosis of Alzheimer’s Disease  
Shrey Patel, Senior, Chemical Engineering, LAS  
(Research Mentor: Liviu Mirica, Department of Chemistry)

Sub-Chronic Exposure to Di(2-ethylhexyl) Phthalate and Its Effects on the Colon of Adult Female Mice  
Alyssa Ramir, Senior, Animal Sciences, ACES  
(Research Mentor: Romana Nowak, Department of Animal Sciences)

Haider Sarwar, Senior, Biochemistry, LAS  
(Research Mentor: Yi Lu, Department of Chemistry)

Molecular Interaction Networks Are Interdependent  
Tyler Schwarz, Junior, Biochemistry, LAS  
(Research Mentor: Tarun Mahajan, Department of Bioengineering)

An Investigation on Meiotic Disruption in Female Oocytes by Iodoacetic Acid  
Royal Shrestha, Sophomore, Molecular and Cellular Biology, LAS  
(Research Mentor: Yiheng Ping, Department of Comparative Biosciences)

Calcium Dynamics Between Cells with Different Retinal-Based Opsins  
Brian Tibble, Senior, Molecular and Cellular Biology, LAS  
(Research Mentor: Stephen Boppart, Department of Electrical and Computer Engineering)

Interfacial Interactions of Additives for Cu Electrodeposition in the Absence of Cu Ions  
Gabriella Zervakis, Sophomore, Chemistry, LAS  
(Research Mentor: Christopher Bandas, Department of Chemistry)

Social Science and Human Behavior 1

An Updated Meta-Analysis - Men and Things, People and Women  
Nadine Alkharrat, Senior, Psychology, LAS  
(Research Mentor: Daniel Newman, Department of Psychology, Anoop Javalagi, School of Labor and Employment Relations)

Perceptions of Meditation Among Catholic Latinxs  
Anya Bhagwakar, Senior, Interdisciplinary Health Sciences, AHS  
(Research Mentor: Susan Aguiñaga, Department of Kinesiology and Community Health)

Can Conversational Agents Teach Older Adults?  
Isabella Feret, Sophomore, Psychology, LAS  
Saloni Sahni, Sophomore, Information Sciences, SIS  
(Research Mentor: Dan Morrow, Department of Educational Psychology)

A Longitudinal Investigation of Impulsivity and Drinking Behavior Associated with Sensitivity to the Emotional Rewards of Alcohol  
Elizabeth Garrity, Senior, Psychology, LAS  
(Research Mentor: Walter James Venerable III, Department of Psychology)

Mission Possible: Exploring the Experiences of First Generation College Students from an Urban Community Participating in a Student Support Scholarship Program on a Predominately White Campus  
Trey Harris, Senior, Middle Grades Education, EDU  
Jarissa Vega, Senior, Psychology, LAS  
Jose Vital Perez, Senior, Advertising, COM  
Kelin Mendoza, Senior, Community Health, AHS  
(Research Mentor: Duwania Turner, Campus Center for Advising and Academic Services)
<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Mentor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic Latina Mother’s Perspectives of Adolescent Depression and Yoga Yoga</td>
<td>Gabrielle Inawat, Junior, Kinesiology, AHS</td>
<td>(Research Mentor: Susan Aguinaga, Department of Kinesiology and Community Health)</td>
</tr>
<tr>
<td>An Exploration of Dating Violence Norms Among Early Adolescents</td>
<td>Alexis Krones, Junior, Social Work, SSW</td>
<td></td>
</tr>
<tr>
<td>An Exploration of Dating Violence Norms Among Early Adolescents</td>
<td>Sarah Aronson, Junior, Social Work, SSW</td>
<td></td>
</tr>
<tr>
<td>An Exploration of Dating Violence Norms Among Early Adolescents</td>
<td>Amanda Yeazel, Senior, Social Work, SSW</td>
<td>(Research Mentor: Rachel Garthe, School of Social Work)</td>
</tr>
<tr>
<td>Semantic and Affective Spreading Activation, Speech Coherence and Psychometric Schizotypy</td>
<td>Wen Li, Senior, Psychology, LAS</td>
<td>(Research Mentor: Howard Berenbaum, Department of Psychology)</td>
</tr>
<tr>
<td>Examining the Relationship Between Trust and Real-Time Response Latency in Radio-Telephone Mediated Communication of Multi-Team Systems (MTSs)</td>
<td>Luyuyang Li, Senior, Communication, LAS</td>
<td>(Research Mentor: Luisa Ruge-Jones, Department of Communication)</td>
</tr>
<tr>
<td>Suicidal Ideation: A Systemic Review</td>
<td>Neil Mueller, Senior, Psychology, LAS</td>
<td>(Research Mentor: Nidia Gracia-Ruedas, Department of Educational Psychology)</td>
</tr>
<tr>
<td>Childhood Trauma Stress-System Sensitization and Pregnancy</td>
<td>Rosalie Ruhmlman, Senior, Psychology, LAS</td>
<td>(Research Mentor: Heidemarie Laurent, Department of Psychology)</td>
</tr>
<tr>
<td>A Meta-Analytic Review of the Big Five Personality Traits and Political Conservatism</td>
<td>Jacob VanDeWoestyne, Senior, Psychology, LAS</td>
<td>(Research Mentor: Anoop Javalagi, School of Labor and Employment Relations)</td>
</tr>
<tr>
<td>Muslim Youth's Perspectives on Social Media and Activism</td>
<td>Ruoqing Wang, Sophomore, Digital Environments for Learning, Teaching, and Agency, EDU</td>
<td>(Research Mentor: Noor Doukmak, Education Policy, Organization and Leadership)</td>
</tr>
<tr>
<td>An Examination of Interdisciplinary Diversity and its Effect on Team Progress</td>
<td>Allison Wasielewski, Senior, Communication, LAS</td>
<td></td>
</tr>
<tr>
<td>Associations Between Parenting Practices and Acceptance of Dating Abuse Norms Among 7th Grade Students</td>
<td>Amanda Yeazel, Senior, Social Work, SSW</td>
<td>(Research Mentor: Rachel Garthe, School of Social Work)</td>
</tr>
<tr>
<td>Associations Between Parenting Practices and Acceptance of Dating Abuse Norms Among 7th Grade Students</td>
<td>Alexis Krones, Junior, Social Work, SSW</td>
<td></td>
</tr>
<tr>
<td>Associations Between Parenting Practices and Acceptance of Dating Abuse Norms Among 7th Grade Students</td>
<td>Sarah Aronson, Junior, Social Work, SSW</td>
<td></td>
</tr>
</tbody>
</table>

## Social Science and Human Behavior 2

<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Mentor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Cultural Adaptation of the ASSIST Program for Latinx Families of Youth with Autism Spectrum Disorder</td>
<td>Yarit Alcantara, Senior, Linguistics, LAS</td>
<td>(Research Mentor: Janeth Aleman Tovar, Department of Special Education)</td>
</tr>
<tr>
<td>Applying Posterior Probability Thresholds to Traditional Cranial Trait Sex Estimation Methods</td>
<td>Tricia Avent, Senior, Anthropology, LAS</td>
<td>(Research Mentor: Cris Hughes, Department of Anthropology)</td>
</tr>
<tr>
<td>Children's Confidence in Their Thinking About Climate, Environment, and Weather</td>
<td>Jenna Brody, Junior, Social Work, SSW</td>
<td>(Research Mentor: Ross Toedte, Department of Educational Psychology)</td>
</tr>
<tr>
<td>How Do I Do This ASDFJKL: an Investigation into the Syntax of Keysmashing</td>
<td>Stephanie Chen, Senior, Linguistics, LAS</td>
<td>(Research Mentor: Jeffrey Green, Department of Linguistics)</td>
</tr>
<tr>
<td>Posters for Prevention: A Case Study of Chicago Public Schools’ Mass Messaging Campaign Against Child Sexual Abuse</td>
<td>Ella Dennis, Freshman, Psychology, LAS</td>
<td>(Research Mentor: Aggie Rieger, Department of Psychology)</td>
</tr>
<tr>
<td>A Meta-Analytic Review of Machiavellianism and Counterproductive Work Behaviors</td>
<td>Kenna Ducoff, Senior, Psychology, LAS</td>
<td>(Research Mentor: Anoop Javalagi, School of Labor and Employment Relations)</td>
</tr>
<tr>
<td>Does Neuroticism Moderate the Association of Schizotypy and Negative Affect in Daily Life</td>
<td>Laura Hernandez, Senior, Psychology, LAS</td>
<td>(Research Mentor: Thomas Kwapil, Department of Psychology)</td>
</tr>
<tr>
<td>I-Rural: Reimagining Illinois Rural Tourism</td>
<td>Ke'Asia Keaton, Sophomore, Molecular and Cellular Biology, LAS</td>
<td>(Research Mentor: Caitlin Brooks, Department of Recreation, Sport and Tourism)</td>
</tr>
<tr>
<td>'Why do we love this team?’ Motivations and Leisure Benefit of Spectatorship of Women Basketball for Older Women</td>
<td>Jacob Li, Junior, Econometrics and Quantitative Economics, LAS</td>
<td>(Research Mentor: Xingxing Wu, Department of Recreation, Sport and Tourism)</td>
</tr>
<tr>
<td>Development and Investigation of a Novel Exercise Personality Questionnaire</td>
<td>Erin Markowitz, Sophomore, Molecular and Cellular Biology, LAS</td>
<td>(Research Mentor: Allyson Box, Department of Kinesiology and Community Health)</td>
</tr>
</tbody>
</table>
Making Sense of Evidence in Meta-Analytic Studies on Psychotherapy Outcomes

Latunde Sapara, Senior, Psychology, LAS
(Research Mentor: Jodi Schneider, School of Information Sciences)

Testing the Temporal Precedence of Family Functioning and Child Psychopathology

Ashley Serna, Senior, Psychology, LAS
(Research Mentor: Daniel Briley, Department of Psychology)

The Mediation Effect of Resilience on the Link Between Explicit Emotional Regulation and Endorsed Trauma

Roli Sharma, Junior, Psychology, LAS
(Research Mentor: Wendy Heller, Department of Psychology)

Cognitive Flexibility and Cued Task-Switching in Cognitively Healthy Young Adults

Kelly Trevillian, Junior, Speech and Hearing Science, AHS
(Research Mentor: Raksha Mudar, Department of Speech and Hearing Science)

The Impact of Alcohol and Social Ostracism on Cognitive Performance in Group Settings

Jiachen Yu, Senior, Psychology, LAS
(Research Mentor: Catharine Fairbairn, Department of Psychology)

Investigating How BDSM Practitioners Communicate Pain and Privacy Boundaries in Online Communities

Yexin "Veronica" Zhu, Senior, Communication, LAS
(Research Mentor: Megan Farnworth, Department of Communication)

The Association Between Early Traumatization and Psychopathic Traits

Haley Paffumi, Senior, Psychology, LAS
(Research Mentor: Dolores Albarracin, Department of Psychology)

Cognitive Control in Persons with Mild Cognitive Impairment

Holly Panfil, Freshman, Speech and Hearing Science, AHS
(Research Mentor: Raksha Mudar, Department of Speech and Hearing Science)

An Investigation into the Use of School Resource Officers

Allie Pappas, Freshman, Middle Grades Education, EDU
(Research Mentor: Rebecca Hinze-Pifer, Department of Education)

How Navigation Information Affects Perceptions of Time and Space in Urban Environments

Yinuo Peng, Junior, Psychology, LAS
Edith Yao, Sophomore, Statistics, LAS
(Research Mentor: Emily Hutchinson, Department of Urban and Regional Planning)

The Effect of Group Membership on Praise

Duoduo Qi, Senior, Psychology, LAS
(Research Mentor: Sean Laurent, Department of Psychology)

How Does Reading in One Language Affect Speaking in a Second Language? A Priming Study with Bilinguals

Paulina Renteria, Sophomore, Speech and Hearing Science, AHS
(Research Mentor: Irati Hurtado, Department of Spanish and Portuguese)
The Image of Research is a multidisciplinary competition celebrating the diversity and breadth of undergraduate student research at the University of Illinois at Urbana-Champaign. All undergraduate students were invited to submit entries consisting of an image and brief text that articulates how the image relates to the research. The Image of Research is organized by the Scholarly Commons of the University Library and the Office of Undergraduate Research and is supported by a generous gift to the Scholarly Commons from the Division of Intercollegiate Athletics.

To view past entries, please visit: https://publish.illinois.edu/imageofresearch/undergraduate-image-of-research/undergraduate-past-competitions/

**One Kid, One Computer on the Shoulders of Illini Scientific Giants**

Juan David Campolargo, Freshman, Systems & Industrial Engineering, ENG

We went from having four main “core elements” composed of earth, fire, water, and air to being able to describe the dynamics such as motion, interactions, speed of molecules with our fingers using a tool we called “computers.”

This picture isn't just a bunch of atoms and molecules such as water, POPC, and others. Well, it is. Besides that, this picture represents the work of thousands researchers and scientists that came before me, and by using chemistry, biology, physics, and computer science allow an 18-year-old undergrad to engage in cutting-edge research, carrying the torch of scientific progress forward.

Let's continue working on the shoulders of giants, especially giants from the University of Illinois at Urbana-Champaign who developed NAMD and VMD.

And that's exciting!!
Visualization of Isosurfaces of Electron Density

Zixuan Chen, Senior, Computer Science, ENG

I built this visualization of isosurfaces of electron density in Blender. The image is a snapshot of electron density that is ejected from a thin piece of aluminum after an energetic proton impacted the material. These processes happen in radiation environments, including nuclear reactors and outer space, but are also used in research labs to manipulate and characterize materials. From visualizations like this, we learn how the radiation affects the material and the time scales following ion impact.

In Clenches

Isabel Hughes, Sophomore, Chemical Engineering, LAS

I am fabricating Platinum nanoelectrodes capable of detecting minuscule amounts of reactive oxygen species in cancer cells. The cutting edge aspect of my work is that I am working to be able to detect smaller amounts of these species than ever before by plating my electrodes with Prussian Blue complexes. This image depicts the cyclic voltammetry set up in a Faraday cage for plating my electrode with Prussian Blue and detecting the reactive species. Because this research has to do so much with cancer treatment, a disease that has evaded scientist’s curing, the pictured alligator clips clench onto a potential cure.
Active Feminization of the Brain in Anemonefish

**Veronica Pronitcheva,** Junior, Molecular & Cellular Biology, LAS

Amphiprion ocellaris, also known as clownfish or anemonefish, live in small groups of 2-4 fish symbiotically in association with sea anemones on coral reefs of the Indo-Pacific. This image depicts a female clownfish emerging from an anemone within its blue-lighted coral reef tank. Clownfish are protandrous hermaphrodites meaning they start their lives off as male and then change sex into female, only if they achieve social dominance (alpha position) in the group. During the feminization process, the brain changes first while the testes shrink away. Within the first few months, new neurons sprout up in an area of the brain that controls the gonads. Long before eggs develop, and the fish display female sex hormones, the fish behave as a female sometimes for years before they produce eggs. Anemonefish disrupt the traditional definition of sex, and provide a useful model for understanding how the female brain develops in absence of sex hormones.

Penalized Information-Relaxation Bounds for Airline Recovery

**Bingyu Zhou,** Junior, Industrial & Enterprise Systems Engineering, ENG

Large-scale airline recovery management is a near-real time dynamic programming problem that designed to manage the airline flight networks. Our research focus is on the algorithm improvement for the minimum cost route selection for airlines’ disruption management. The image presented is an abstract artistic illustration on the research focus. The airplane’s choice consists of many interconnected routes, but an algorithm needs to decide the optimal path with the help of data and computational technologies.

Another message behind this artistic illustration is that we, often faced with the inadequate information and numerous uncertainties during our research, and even in our life, need to find the optimal path to our own destination, hopefully with the help of these technology improvements.
Compound Bubble Dynamics
Amrit Singh, Junior, Mechanical Engineering, ENG

Gas bubble dispersions in liquid media are ubiquitous in nature and industry. Often, such gas bubbles are enclosed within a layer of particulate matter or within a liquid that is different from the surrounding media, resulting in a three-phase compound bubble interface. Shown here is the underwater formation of a gas bubble within a droplet of silicone oil. This process, too quick and small to discern with the naked eye, is revealed through the wonders of high speed photography. Captured at 2000 frames per second, the bubble pinch-off dynamics can be carefully analyzed and quantified. Through our research, we hope to enrich the theory of compound bubble dynamics, resulting in better models that can be applied to a wide range of fields such as power generation or water desalination. So the next time you’re sipping a glass of champagne or enjoying a foam bath, spare a thought for the humble bubble – there’s much more going on than meets the eye!
The Office of Undergraduate Research (OUR) is committed to supporting Illinois undergraduates in all aspects of their research endeavors. Through Conference Travel Grants and Research Support Grants, OUR offers financial support to fund students’ research and creative activities across all disciplines on campus. For more information on these grants and how they may support you during your research journey, please visit: http://undergradresearch.illinois.edu/students/funding.html

Conference Travel Grant (CTG)

The Conference Travel Grant (CTG) provides undergraduate students with awards of up to $350 to subsidize costs associated with presenting their research posters, papers, or creative works at in-person and virtual professional conferences. This year, we proudly supported 13 students in presentations of their scholarly and creative endeavors at a wide range of conferences.

For more information, please visit:
http://go.illinois.edu/OUR_CTG

FALL 2020 WINNERS:

Sophie Luijten, Junior, Global Studies, Spanish, LAS
Research Mentor: Çağlayan Başer, Social Sciences Division at New York University Abu Dhabi

Vignesh Sella, Senior, Aerospace Engineering, ENG
Research Mentor: Michael Lembeck, Department of Aerospace Engineering (ENG)

The Effects of Climate Change on Women’s Security

Development of a Nytrox-Paraffin Hybrid Rocket Engine
SPRING 2021 WINNERS:

**Friends, Follows, and Feelings: Diverse Online and Offline Social Interactions Predict Racial Empathy and White Guilt**

**Semira Abera**, Senior, Psychology, LAS
Research Mentor: Emily Blevins (Department of Psychology)

**Yujia (Grace) Bai**, Senior, Psychology and English, College of LAS
Research Mentor: Emily Blevins (Department of Psychology)

**Current Situation and Defects of Mental Health Service for Student-athletes**

**Rusi Dong**, Sophomore, Sociology, LAS
Research mentor: Caitlin Vitosky Clarke (Department of Sociology)

**Friends, Follows, and Feelings: Diverse Online and Offline Social Interactions Predict Racial Empathy and White Guilt**

**Madeleine (Maddie) Fowler**, Senior, Psychology, LAS
Research Mentor: Emily Blevins (Department of Psychology)

**Eleanor Humphreys**, Junior, Psychology, LAS
Research Mentor: Emily Blevins (Department of Psychology)

**Small Talk in the Patient-primary Care Physician Context: A Systematic Review**

**Alana Leonhard**, Junior, Communication, LAS
Research Mentor: Lindsay Kelpinski (Department of Communication)

**Studying the Potential Politicization of Public Health Crises in American News Media**

**Jefferson Mathews**, Sophomore, Department of Statistics, College of Liberal Arts & Sciences
Research Mentor: Jodi Schneider (School of Information Sciences)

**Maya Mosley**, Senior, Psychology, LAS
Research Mentor: Jodi Schneider (School of Information Sciences)

**Studying the Potential Politicization of Public Health Crises in American News Media**

**Anna Wruck**, Senior, Psychology, LAS
Research Mentor: Nathan Todd (Department of Psychology)

**GCN in Text-Rich Network**

**Xiangchen Song**, Senior, Mathematics & Computer Science, LAS
Research Mentor: Jiawei Han (Department of Computer Science)

**SAIL-VOS 3D: A Synthetic Dataset and Baselines for Object Detection and 3D Mesh Reconstruction from Video Data**

**Jiahong Wang**, Senior, Electrical and Computer Engineering, ENG
Research Mentor: Alexander Schwing (Department of Electrical and Computer Engineering)
Research Support Grant (RSG)

The Research Support Grant (RSG) provides students from all disciplines with the funds necessary to conduct research or creative projects during the academic year both on and off campus (including summer terms). Awards are issued up to $2,000 and are meant to cover research travel costs, living expenses incurred during academic breaks, and materials or other ancillary costs. This past fall, we celebrate the 9 funded projects of students and give gratitude to those mentors that have supported this scholarly work.

For more information, please visit:
http://go.illinois.edu/OUR_RSG

FALL 2020 WINNERS:

Simulation of Novel Transistors for Computing that can Operate under Extreme Temperature and Voltage
Sevan Brodjian, Sophomore, Computer Engineering, ENG
Research Mentor: Can Bayram (ENG)

Heritage Spanish Speakers and Learners: Attitudes Towards Heritage Language Learning
Andrea Czart, Sophomore, Global Studies & Spanish, LAS
Research Mentor: Salvatore Callesano (LAS)

3D Printing of Bio-Inspired Soft Actuators Based on UV Curable Inks for Subaquatic Propulsion
Jonghyun Hwang, Senior, Mechanical Engineering, ENG
Research Mentor: Girish Krishnan, Department of Industrial and Enterprise Systems Engineering (ENG)

Neurogenomic Mechanisms Underlying Tradeoffs Between Courtship and Aggression in Threespine Sticklebacks
Mira McLain, Senior, Integrative Biology (Honors), LAS
Research Mentor: Alison Bell (LAS)

Development of a Nytrox-Paraffin Hybrid Rocket Engine
Vignesh Sella, Senior, Aerospace Engineering, ENG
Research Mentor: Michael Lembeck, Department of Aerospace Engineering (ENG)

A DNA-break-repair-independent Homologous Pairing System Promoted by Matching Euchromatin Regions Along Homologous Chromosomes
Royal Shrestha, Sophomore, Molecular and Cellular Biology (Honors), LAS
Research Mentor: Yiheng Peng, Department of Comparative Biosciences (Vet Med)

Optogenetic Manipulations in Exercise Induced Brain Interactions
Sanjana Venkataraman, Senior, Psychology, LAS
Research Mentor: Justin Rhodes (LAS)

Residential Electric Vehicle Charging Patterns and their Management
Joe Ye, Sophomore, Civil and Environmental Engineering, ENG
Research Mentor: Eleftheria Kontou, Department of Civil and Environmental Engineering (ENG)

Seccomp eBPF Support in the Linux Kernel
Yifei Zhu, Senior, Computer Engineering, ENG
Research Mentor: Tianyin Xu (ENG)
Undergraduate Research Apprenticeship 2021 Cohort

The Undergraduate Research Apprenticeship Program (URAP@UI) offers undergraduate students with little or no research experience the opportunity to work with advanced graduate students on their research projects. Through a one-on-one research experience with their graduate student mentor and participation in GC295-Introduction to Research, undergraduate students have the opportunity to learn what it means to do research, create knowledge, and produce scholarship.

This year, we received a record number of applications with close to 400 students competing for 76 available spots in the program. Below we showcase and celebrate the 76 undergraduate scholars as well as their graduate student mentors and thank them for an outstanding semester.

More information about URAP can be found at: https://undergradresearch.illinois.edu/programs/urap.html

**Isaiah Adams**, Junior, Socio/Cultural Anthropology + Linguistics, LAS
Research Mentor: Kristin Bail, Political Science

**Jacob Albus**, Freshman, Statistics and Computer Science, LAS
Research Mentor: Anastasia Olga Tzirides, Learning Design & Leadership

**Yarit Alcantara**, Senior, Linguistics, LAS
Research Mentor: Janeth Aleman-Tovar, Special Education

**Allison Antman**, Junior, Psychology and Spanish, LAS
Research Mentor: Madhura Phansikar, Kinesiology

**Reva Balakrishnan**, Freshman, Economics, LAS
Research Mentor: Luzmarina Garcia, Political Science

**Simon Balisi**, Junior, Industrial Engineering, ENG
Research Mentor: Denissa Sari Darmawi Purba, Civil & Environmental Engineering

**Marisa Ban**, Freshman, Agricultural and Biological Engineering, ENG
Research Mentor: Kevin Wallington, Civil & Environmental Engineering

**Lauren Batiste**, Junior, Statistics and Spanish, LAS
Research Mentor: Andrea Kunze, Educational Psychology

**Sydney Bell**, Sophomore, Molecular and Cellular Biology, Minor Spanish, LAS

**Iryna Blazhkevych**, Sophomore, Earth, Society, and Environmental Sustainability, LAS

**Jenna Brody**, Junior, Social Work, SSW
Research Mentor: Ross Toedte, Educational Psychology

**William Bu**, Sophomore, Statistics and Computer Science, LAS
Research Mentor: Lucie Lu, Political Science

**Keziah Buabeng**, Senior, Agriculture and Consumer Economics, ACES
Research Mentor: Andrea Kunze, Educational Psychology

**Juan David Campolargo**, Freshman, Systems and Industrial Engineering, ENG
Research Mentor: Kevin Cheng, Biophysics & Quantitative Biology

**Sophie Casaburi**, Freshman, Urban Studies & Planning, Economics, FAA
Research Mentor: Logan Middleton, English and Center for Writing Studies

**Lisa Chasanov**, Freshman, Spanish and Sociocultural & Linguistic Anthropology, LAS
Research Mentor: Hanna Dahlstrom, Library & Information Science

**Nick Chomko**, Senior, Econometrics and History, LAS
Research Mentor: Anthony B. Sullers Jr, EDU Policy, Organization & Leadership

**Ankitha Damisetty**, Sophomore, Computer Science, ENG
Research Mentor: Saikat Dutta, Computer Science

**Vikram Dara**, Sophomore, Statistics & Computer Science, LAS
Research Mentor: Puja Roy, Atmospheric Science

**Ella Dennis**, Freshman, Psychology and English, LAS
Research Mentor: Agnes Rieger, Psychology
<table>
<thead>
<tr>
<th>Name</th>
<th>Class, Major(s), School</th>
<th>Research Mentor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hrishikesh Deshmukh</td>
<td>Sophomore, Computer Sci.</td>
<td>Tolgahan Dilgin, Political Science</td>
</tr>
<tr>
<td>Victoria Esparza</td>
<td>Senior, Spanish &amp; Pol. Sc.</td>
<td>Amanda Rector, Spanish and Portuguese</td>
</tr>
<tr>
<td>Yemariam Eyob</td>
<td>Senior, Community Health</td>
<td>Fikriyah Winata, Geography &amp; GIS</td>
</tr>
<tr>
<td>Kathleen Findlay</td>
<td>Sophomore, Statistics</td>
<td>Tolgahan Dilgin, Political Science</td>
</tr>
<tr>
<td>Kailey Fox</td>
<td>Sophomore, Psychology</td>
<td>Michelle Sands, Special EDU</td>
</tr>
<tr>
<td>Toby George</td>
<td>Freshman, Political Sci.</td>
<td>Brian F. O’Neill, Sociology</td>
</tr>
<tr>
<td>Quinn Greven</td>
<td>Sophomore, Chemistry</td>
<td>Mingfei Chen, Geology</td>
</tr>
<tr>
<td>Jessica Guachichulca</td>
<td>Junior, Interdiscipl. Hlth Sc.</td>
<td>Jacqueline Guzman, Kinesiology</td>
</tr>
<tr>
<td>Ashna Gupta</td>
<td>Sophomore, Economics</td>
<td>Luzmarina Garcia, Political Science</td>
</tr>
<tr>
<td>Miles Hayward</td>
<td>Junior, Econometrics &amp; Quat. Econ.</td>
<td>Tolgahan Dilgin, Political Science</td>
</tr>
<tr>
<td>Michael Herrada</td>
<td>Sophomore, Human Nutrition</td>
<td>Raul Alfaro, Food Science and Human Nutrition</td>
</tr>
<tr>
<td>Brittny Ho</td>
<td>Freshman, Undeclared</td>
<td>Zhi Li, Civil &amp; Environmental Engineering</td>
</tr>
<tr>
<td>Jack Hovey</td>
<td>Freshman, Chemical &amp; Biomol. Eng.</td>
<td>JuYeong Lee, Chemistry</td>
</tr>
<tr>
<td>Husna Hussaini</td>
<td>Freshman, Sociology</td>
<td>Raul Alfaro, Food Science and Human Nutrition</td>
</tr>
<tr>
<td>Grace Iovinelli</td>
<td>Freshman, Biology</td>
<td>Jason Karakehian, Plant Biology</td>
</tr>
<tr>
<td>Izabelle Jaquet</td>
<td>Junior, Natural Res. &amp; Env. Sc.</td>
<td>Devin Edmonds, Natural Resources &amp; Environmental Sciences</td>
</tr>
<tr>
<td>Kellyn Johnson</td>
<td>Sophomore, Earth, Soc. &amp; Env. Sustain.</td>
<td>Stephanie Schmidt, Natural Resources &amp; Environmental Sciences</td>
</tr>
<tr>
<td>Ke'Asia Keaton</td>
<td>Sophomore, Mol. &amp; Cell. Biol.</td>
<td>Caitlin Brooks, Recreation, Sport &amp; Tourism</td>
</tr>
<tr>
<td>Rosemary Komes</td>
<td>Junior, Earth, Soc. &amp; Env. Sustain.</td>
<td>Jennifer Zavaleta Cheek, Natural Resources &amp; Environmental Sciences</td>
</tr>
<tr>
<td>Catherine Koterba</td>
<td>Freshman, Undeclared: Pre-Health Track</td>
<td>Hannah Darcy, Evolution, Ecology, &amp; Behavior</td>
</tr>
<tr>
<td>Sarika Kumar</td>
<td>Freshman, Biology</td>
<td>Jacqueline Guzman, Kinesiology</td>
</tr>
<tr>
<td>Caden LaFond</td>
<td>Junior, Natural Res. &amp; Env. Sc.</td>
<td>Jason Karakehian, Plant Biology</td>
</tr>
<tr>
<td>Vincent Lam</td>
<td>Sophomore, Bioengineering</td>
<td>Wenjie Liu, Bioengineering</td>
</tr>
<tr>
<td>Zackary Landers</td>
<td>Freshman, History</td>
<td>Amanda Rector, Spanish and Portuguese</td>
</tr>
<tr>
<td>Amy Lee</td>
<td>Sophomore, Bioengineering</td>
<td>Wenjie Liu, Bioengineering</td>
</tr>
<tr>
<td>Jennifer Leon</td>
<td>Junior, Media &amp; Cinema Studies</td>
<td>Megan Gargiulo, Spanish</td>
</tr>
<tr>
<td>Melody Leung</td>
<td>Sophomore, Psychology</td>
<td>Logan Middleton, English--Writing Studies</td>
</tr>
<tr>
<td>Jacob Li</td>
<td>Junior, Econometrics &amp; Quat. Econ.</td>
<td>Xingxing Wu, Recreation, Sport &amp; Tourism</td>
</tr>
<tr>
<td>Bridget Marshall</td>
<td>Sophomore, Special Edu.</td>
<td>Michelle Sands, Special Education</td>
</tr>
<tr>
<td>Alexis Martinez</td>
<td>Sophomore, History, Pol. Sci. &amp; Span.</td>
<td>Megan Gargiulo, Spanish</td>
</tr>
<tr>
<td>Eric Nieto</td>
<td>Freshman, Engineering Undeclared</td>
<td>Zhi Li, Civil &amp; Environmental Engineering</td>
</tr>
</tbody>
</table>
Anay Patel, Freshman, Atmospheric Sciences, LAS
Research Mentor: Kevin Wallington, Civil & Environmental Engineering

Yinuo Peng, Junior, Psychology, LAS
Research Mentor: Emily Hutchinson, Urban & Regional Planning

Diana Pham, Sophomore, Mechanical Engineering, ENG
Research Mentor: Tricia Thrasher, French

Rui Qian, Junior, Natural Resources & Environmental Sciences, ACES
Research Mentor: Jennifer Zavaleta Cheek, Natural Resources & Environmental Sciences

Ebony Rankin, Freshman, ACES Undeclared, ACES

Paulina Renteria, Sophomore, Speech and Hearing Science, AHS
Research Mentor: Irati Hurtado, Spanish Linguistics

Taylor Rossi, Junior, Speech and Hearing Sciences, AHS
Research Mentor: Anthony B. Sullers Jr, Education Policy, Organization & Leadership

Savannah Sander, Junior, Psychology, French, LAS
Research Mentor: Tricia Thrasher, French

Sanjana Sarkar, Sophomore, Computer Science, ENG
Research Mentor: Saikat Dutta, Computer Science

Ingrid Schaller, Freshman, Earth, Society & Environmental Sustainability, LAS
Research Mentor: Jennifer Zavaleta Cheek, Natural Resources & Environmental Sciences

Kirin Schlabitz, Senior, Anthropology, LAS
Research Mentor: Caitlin Brooks, Recreation, Sport & Tourism

Tyler Schwarz, Junior, Biochemistry, LAS
Research Mentor: Tarun Mahajan, Bioengineering

Madison Stoltz, Junior, Integrative Biology, LAS
Research Mentor: Charles Hyde, Ecology, Evolution & Conservation Biology

Yani Su, Senior, Learning and Education Studies, EDU
Research Mentor: Anastasia Olga Tzirides, Learning Design & Leadership

Victor Szabo, Sophomore, Computer Science, ENG
Research Mentor: Atul Sandur, Computer Science

Jonathan Tinoco, Senior, Integrative Biology, LAS
Research Mentor: Hannah Darcy, Evolution, Ecology & Behavior

Ruoning Wang, Sophomore, Learning and Education Studies, EDU
Research Mentor: Noor Doukmak, Global Studies in Education

Shulamit Wu, Freshman, Political Science, LAS
Research Mentor: Hanna Dahlstrom, Library & Information Science

Edith Yao, Sophomore, Statistics, LAS
Research Mentor: Emily Hutchinson, Urban & Regional Planning

Gabriella Zervakis, Sophomore, Chemistry, LAS
Research Mentor: Christopher Bandas, Chemistry

Siyao Zhang, Junior, Community Health, AHS
Research Mentor: Lila Cardell, Agricultural and Consumer Economics
Good mentoring requires substantial support, time, and commitment. This year we invited the undergraduate presenters on our program to speak about their experiences with their research mentors. The following represents but a small showing of the overwhelming response we received, and we would like to further recognize and offer thanks to all those who mentor undergraduate researchers at Illinois.

“Dr. Garthe, I cannot express how thankful I am for your overwhelming support, encouragement, and kindness throughout my research endeavors. My efforts would not have been possible without you!”

- Alexis Krones
(Junior, Social Work)

Research Mentor: Rachel Garthe, School of Social Work

“Dr. Angrave, thank you so much for your support of this project this semester! Your feedback and sponsorship has meant the world to our team. A huge thank you to Colin Lualdi as well, for supporting us and helping us make essential connections for our app!”

- Mona Jawad
(Sophomore, Bioengineering)

Research Mentor: Lawrence Angrave, Department of Computer Science
"Thank you, Professor Hildebrand! I really enjoyed our meaningful research process and learned a lot from it! Thank you so much for your support and inspiration throughout this project. You have guided me in our research every step along the way while providing invaluable insights and advice. In addition, thank you for all the help and advice that you provided throughout my whole senior year!"

- Xiaorui Wang
(Senior, Econometrics and Quantitative Economics)

Research Mentor: A.J. Hildebrand, Department of Mathematics

"Thank you Dr. Flaherty for the support you’ve given us in the creation of this project and the time you’ve taken to teach us about the research process! The skills and knowledge you’ve imparted on us have been invaluable and will continue to drive our passions forward throughout our careers.

-Kelsey Libert
(Junior, Speech and Hearing Science)

and Lisa Lemajeur
(Junior, Interdisciplinary Health Sciences)

Research Mentor: Mary M. Flaherty, Department of Speech and Hearing Science

Alyssa, thank you so much for all your support through my time in college! Working with you has helped me learn and grow academically and has given me skills that I will use for the rest of my life!

- Caroline Egan
(Junior, Human Development and Family Studies)

Research Mentor: Alyssa Billington, Department of Human Development and Family Studies
Thank you Allyson Box, Jonathan North, and Dr. Petruzzello for supporting me through the development of my symposium presentation, introducing me to the field of kinesiology, and inspiring me to continue to pursue research.

- Erin Markowitz
(Sophomore, Molecular and Cellular Biology)

Dear Aggie, I am so grateful for the guidance, unwavering support, and constant encouragement you have given me this past semester. Working with you has shown me how enjoyable and impactful research can be, and I am so excited to continue researching under your guidance in the future!

- Ella Dennis
(Freshman, Psychology)

Research Mentor: Allyson Box, Department of Kinesiology and Community Health

Dr. Wisniewski, thank you for all your work in making me (and everyone you meet) a better writer, educator, researcher, and person. You’re the best!

- Kat Williams
(Junior, Media and Cinema Studies)

Research Mentor: Carolyn Wisniewski, Center for Writing Studies
Supporting Undergraduate Research

The Office of Undergraduate Research is proud to collaborate with many offices that promote and support undergraduate research and scholarship at Illinois.

National and International Scholarships

Every year, University of Illinois students successfully compete for prestigious national and international scholarships, supported and guided by the National and International Scholarships (NIS) Program. NIS aims to help high-achieving Illinois undergraduates and alumni prepare for these scholarships through valuable advising and feedback for applicants. Students should consider applying for one or more awards if you are dedicated to a mission or vocation, whether it is research, policy or service-based! If you are interested in pursuing such awards, NIS can help you unlock your potential and become a stronger candidate. Interested students—from freshmen to recent alumni—are encouraged to visit NIS to discuss these opportunities. For more information, please contact us!

The Office of Undergraduate Research applauds the work by NIS and proudly congratulates the following winners of these competitive scholarships.

The Goldwater Scholarship

Are you a STEM researcher? The Barry M. Goldwater Scholarship recognizes students who demonstrate a strong commitment to a research career in math, science, or engineering. Successful applicants display intellectual curiosity and intensity and possess potential for significant future contributions in their chosen field. The Goldwater scholarship is for juniors or exceptional sophomores who are current U.S. citizens, U.S. nationals, or resident aliens. In addition to receiving one- or two-year $7,500 awards, Goldwater scholars also become part of a prestigious and elite cohort. Applicants should be committed to pursuing a Ph.D. in the research fields of mathematics, sciences, or engineering.

Deadline: The campus deadline is November 29, 2021.

For more information and support with applying, please contact NIS.

RECENT WINNERS:

Sriyankari Chitti  
William Lyon  
Philip Kocheril
The Udall Scholarship

Are you a passionate environmentalist? The Udall Scholarship awards $7,000 to sophomores or juniors who are taking action to address environmental concerns and are committed to a career related to the environment. There are also awards for Native American students interested in Tribal policy or health care. The Udall scholarship honors the legacies of Morris Udall and Stewart Udall, whose careers had a significant impact on Native American self-governance, health care, and the stewardship of public lands and natural resources. Students must be U.S. citizens, U.S. nationals, or U.S. permanent residents. A successful applicant will have a GPA of 3.0 or higher and demonstrate leadership and a commitment to service.

Deadline: The campus deadline is February 3, 2022.
For more information and support with applying, please contact NIS.

RECENT WINNERS:

Joseph Kreiling
Jonah Messinger

The Fulbright Scholarship

Are you looking for an exciting way to spend a year abroad after you graduate? The Fulbright U.S. Student Program awards approximately 2,200 full scholarships annually for U.S. citizen students and alumni to pursue an academic year experience in over 140 countries worldwide. Students and alumni may apply to pursue a research project or a graduate degree program abroad. In addition, applications may be submitted to spend one year as an English Teaching Assistant(ETA) in any of almost 80 countries. The University of Illinois has been recognized by The Chronicle of Higher Education as a Top Producing Institution of Fulbright student awards for 10 out of the past 11 years.

Deadline: The campus deadline is August 30, 2021.
For more information and support with applying, please contact NIS.

RECENT WINNERS:

Aboorva Sivasankaran
Deniz Namik
Alicia Barbas
Schwarzman Scholars

Are you aspiring to be a global leader in your field? Schwarzman Scholars is a program for the next generation of young leaders, anchored in a fully-funded, 11-month Master's Degree in Global Affairs at Beijing's Tsinghua University. The experience encompasses amazing opportunities in and outside the classroom, including extensive leadership training, a network of senior mentors, optional internships, career development, and travel seminars around China. Schwarzman Scholars prepares young leaders for a world where China plays a vital role. Scholars learn from world-class faculty and guest speakers about the emergence of China as an economic and political force through a rigorous and dynamic core curriculum. Students and alumni of any citizenship are eligible, though deadlines differ for students holding passports from Greater China.

Deadline: The campus deadline is August 26, 2021.

Writers Workshop

A research university is a writing university. The Writers Workshop provides support for all writers in the campus community—undergraduate and graduate students, post-doctorates, faculty, and staff—via writing consultations, writing groups and retreats, and webinars and presentations. By doing so, the Writers Workshop advances the mission of the University to create an inclusive learning environment that fosters students' abilities to achieve their academic, professional, and personal goals.

The Writers Workshop supports all forms of academic and professional writing, at any stage of the writing process. We provide feedback on essays, research papers, personal statements, cover letters, theses and dissertations, manuscripts for publication, presentations, digital compositions, and anything between and beyond.

Find more information at:
https://writersworkshop.illinois.edu/

University Library

Librarians and staff provide innovative services, technology, collections, and environments to enhance collaboration and exploration; engage students in the inquiry process and educate them in their roles as content consumers and creators in the design, production, and delivery of content and media for research, discovery, and learning; and anticipate new and emerging needs to facilitate undergraduate student success.
Invest in Scholars Today

Gifts of all sizes will help the Office of Undergraduate Research support the success of undergraduate students involved in research and creative activities at Illinois. All funds go directly to students through grants and awards.

http://undergradresearch.illinois.edu/giving
Thanks to Our Sponsors

Stevick Foundation