



RESEARCH  
& CREATIVE  
ACHIEVEMENT  
C O N F E R E N C E  
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THURSDAY, MAY 5, 2022



MERRIMACK COLLEGE

I want to welcome you to explore this year's

## MERRIMACK COLLEGE RESEARCH & CREATIVE ACHIEVEMENT CONFERENCE



At Merrimack, we are deeply committed to promoting and facilitating meaningful, collaborative research and scholarship. The College's mission is to enlighten minds, engage hearts and empower lives, and this conference is designed to celebrate the intertwining of that mission. The Research and Creative Achievements Conference aims to provide a venue where undergraduate and graduate students can present their work. This includes mentored student work with community partnerships that serve to enrich the scholarship, research and creative activity of our students and faculty. These partnerships are critical to strengthening our institutional mission of fostering civic responsibility, addressing societal issues and contributing to the public good.

We are also recognizing faculty research efforts through both school-based presentations and our annual Tolle Lege Celebration. Tolle Lege, which is Latin for "take up and read," was established in 2003 and is sponsored by the McQuade Library. The Tolle Lege Collection, which lives in the library, recognizes the academic scholarship of the Merrimack College community, showcasing and preserving publications from across the College. Each year we honor the spirit and intention of Tolle Lege with a reception where selected faculty contributors speak about their work. This year, our faculty contributors are Andrew Banasiewicz, Ph.D., Kathryn Welby, Ed.D., Michael Hyman, Ph.D., Kirstie Dobbs, Ph.D. and Leena Bharath, Ph.D.

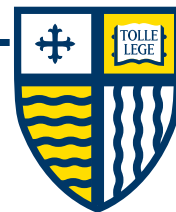
We are excited to celebrate our student researchers, faculty collaborators and mentors who have shown resilience in a complicated and challenging time, as it serves as a testament to perseverance and resourcefulness as well as creativity. Their efforts highlight the importance and value of meaningful inquiry.

On behalf of Merrimack College, I applaud the excellent student and faculty scholarship represented here and take great pride in their accomplishments.

- John "Sean" Condon, Ph.D.

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# ACKNOWLEDGEMENTS

The completion of this undertaking could not have been possible without the assistance and participation from so many whose names may not all be enumerated. Their contributions are sincerely appreciated and gratefully acknowledged. We would especially like to express deep appreciation to the faculty and community partners who supported and mentored student research creative achievement during this academic year.

We would also like to acknowledge the Office of the Provost, the Office of Development and Alumni Relations, the Office of Communications, the Center for Excellence in Teaching and Learning, IT, and the RCAC committee for going above and beyond in their support for the 2022 Research & Creative Achievement Conference.



# SCHEDULE OF EVENTS

## FACULTY PRESENTATIONS | MORNING | HELD VIA ZOOM

**9 A.M.** School of Science and Engineering

**10 A.M.** School of Liberal Arts

## TOLLE LEGE | HELD IN CASCIA HALL

**11 A.M.** 19th Annual Tolle Lege Reception

An annual celebration of faculty research, presented by  
McQuade Library

## FACULTY PRESENTATIONS | AFTERNOON | HELD VIA ZOOM

**12:30 P.M.** Girard School of Business

**1:30 P.M.** Winston School of Education and Social Policy

**2:30 P.M.** School of Health Sciences

## STUDENT RESEARCH & CREATIVE WORK | HELD IN MPR

**3:30-5:30 P.M.** Undergraduate and Graduate Student  
Presentations

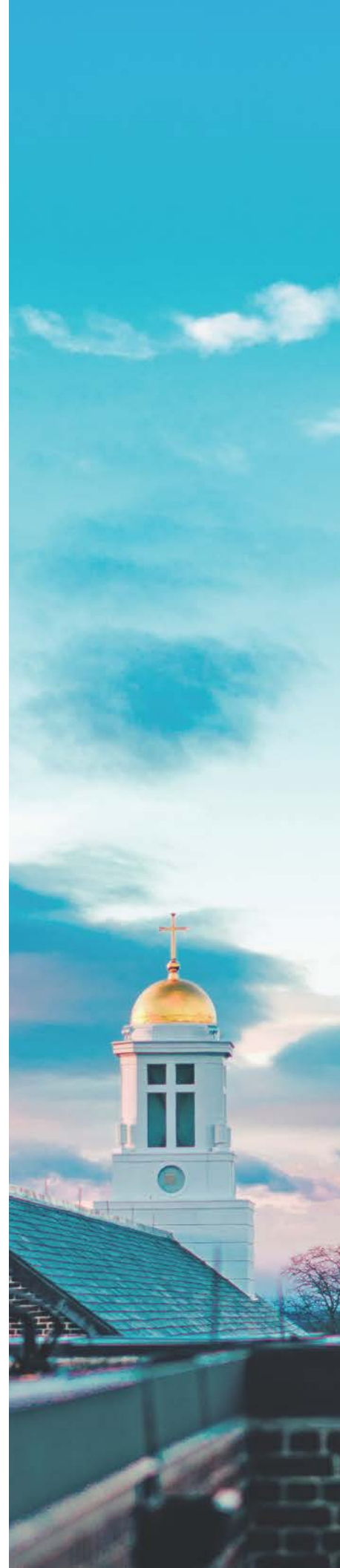


### TO ACCESS ZOOM LINKS

Scan the QR code or visit the  
Research & Creative Achievement  
Conference webpage listed below.



[merrimack.edu/research-and-creative-achievement-conference/](https://merrimack.edu/research-and-creative-achievement-conference/)







# FACULTY PRESENTATIONS | MORNING

**9 A.M.**

**SCHOOL OF SCIENCE AND ENGINEERING**

**Using Data Analytics to Map Food Access in Local Neighborhoods**

*Christopher Stuetzle, Ph.D.*

*Associate Dean, School of Science and Engineering*

*Associate Professor, Computer Science*

**Empowering Student Engagement in Computational Chemistry using Mobile Technology**

*Joseph Chiarelli, Ph.D.*

*Assistant Professor, Chemistry and Biochemistry*

**SCURCA Project: Sustainability Opportunities at Merrimack College**

*Jack Adams, Ph.D.*

*Department Chair, Electrical Engineering*

*Associate Professor, Electrical Engineering*

**Contamination of Maine Lakes by Pharmaceuticals and Personal Care Products**

*William G. McDowell, Ph.D.*

*Assistant Professor, Biology*

**Motivation and Aspiration of Rural High School Students**

*Brigid K. Killian, Ed.D.*

*Lecturer, Mathematics*



# FACULTY PRESENTATIONS | MORNING

(CONTINUED)

10 A.M.

SCHOOL OF LIBERAL ARTS

**Public Theology for Urgent Times: Scholarship at the Service of a Non-academic Broader Public**

*Maria Teresa Davila, Ph.D.  
Associate Professor of Practice,  
Religious and Theological Studies*

**Exploration Before Imperialism: The Sahara and Arctic as Multicultural Sites in the Early 19th Century**

*Thomas Anderson, Ph.D.  
Department Chair, History  
Associate Professor, History*

**Crises and Social Media in the Age of Misinformation**

*Kilhoe "Miranda" Na, Ph.D.  
Assistant Professor, Communication and Media*

**Presidential Rhetoric and the Self-Determination Era in Federal Indian Policy**

*Anne Flaherty, Ph.D.  
Department Chair, Political Science and Public Policy  
Associate Professor, Political Science and Public Policy*

**A Polar Bear Drowns in Evaporated Seas**

*Jonathan Latiano, M.F.A.  
Assistant Professor, Art/Art History*





**11 A.M.**

**PRESENTED BY MCQUADE LIBRARY**

# 19TH ANNUAL TOLLE LEGE RECEPTION

In 2003 McQuade Library established the Tolle Lege Collection - a special collection of faculty, staff, student, and alumni published work - to recognize and celebrate the academic scholarship of the Merrimack College community. Each year, authors published during the previous academic year are honored with a reception, and selected contributors speak about their work.

Representing the College's five schools, this year's speakers include the following faculty members:

## **SCHOOL OF SCIENCE AND ENGINEERING**

### **Industry Practitioner-Turned Academician: Infusing Theory into Practice**

*Andrew Banasiewicz, Ph.D.*

*Director, Graduate Programs Data Science and Analytics*

*Professor of Practice, Data Science and Analytics*

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## **WINSTON SCHOOL OF EDUCATION AND SOCIAL POLICY**

### **The Opioid Epidemic and Remote Learning - Uncovering Challenges and Advocating for Solutions in Two Studies**

*Kathryn Welby, Ed.D.*

*Director, K-12 Teacher Preparation Program*

*Assistant Professor of Practice, Education and Community Standards*

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## **GIRARD SCHOOL OF BUSINESS**

### **Factors Impacting the Relationship Between Prices and Earnings**

*Michael Hyman, Ph.D.*

*Assistant Professor, Accounting*

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## **SCHOOL OF LIBERAL ARTS**

### **Growing Up Pandemic: A New Generation of Youth in Revolt**

*Kirstie Dobbs, Ph.D.*

*Lecturer, Political Science*

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## **SCHOOL OF HEALTH SCIENCES**

### **It Is Not Me, It Is My Age That Makes Me Inflammatory**

*Leena Bharath, Ph.D.*

*Assistant Professor, Nutrition and Public Health*



# FACULTY PRESENTATIONS | AFTERNOON

**12:30 P.M.**

**GIRARD SCHOOL OF BUSINESS**

**How Does Social Media Influence the Financial Market?  
The Case From Taking Investment Tips From Reddit Wall  
Street Bet Forum**

*Fan Chen, Ph.D.*

*Department Chair, Accounting and Finance*

*Associate Professor, Finance*

**Esg Investing Strategies,  
for Profit and for Purposes Can Coexist**

*Fan Chen, Ph.D.*

*Department Chair, Accounting and Finance*

*Associate Professor, Finance*

**Green Bonds and Environmental Misconduct**

*Omer Unsal, Ph.D.*

*Assistant Professor, Finance*



**1:30 P.M.**

**WINSTON SCHOOL OF  
EDUCATION AND SOCIAL POLICY**

**Memoir, History, and Criminology:  
Exploring Arson in My Home Town**

*Karen Hayden, Ph.D.*

*Professor, Criminology and Criminal Justice*

**Examining Advocacy for English Learners Through an Equity  
Literacy Lens**

*Stephanie Garrone-Shufron, Ph.D.*

*Assistant Professor, Education*

**Early College and Dual Enrollment: National and Local Impact**

*Russell B. Olwell, Ph.D.*

*Associate Dean, Winston School of Education and Social Policy*

*Professor, Education*

**Project LEAP: An Early Algebra Intervention for Elementary  
Grades**

*Rena Stroud, Ph.D.*

*Assistant Professor, Education and Community Studies*





# FACULTY PRESENTATIONS | AFTERNOON

(CONTINUED)

**2:30 P.M.**

**SCHOOL OF HEALTH SCIENCES**

**The Relationship Between Psychological Determinants of Physical Activity and Physical Activity Levels in African American Men**

*Alvin Morton, M.S.  
Lecturer, Health Sciences*

**Development of a Family Feeding Checklist to Support Healthy Habits in Lawrence, MA: the COMER study**

*Eleanor Shonkoff, Ph.D.  
Assistant Clinical Professor, Nutrition and Public Health*



**3:30 P.M.**



# **UNDERGRADUATE AND GRADUATE STUDENT RESEARCH AND CREATIVE WORK: THE GIRARD SCHOOL OF BUSINESS**

**1. Death and Taxes**

*Timothy Corliss, Undergraduate*

**2. Herbalife Audit**

*Kaitlyn Kaufman, Undergraduate*

**3. Blockchain and Crypto  
Organization/Alternative Investment  
Fund**

*Paul Papageorgiou, Ryan Zollo,  
Undergraduate*

**4. Alternative Investment Fund**

*Blockchain and Crypto Organization,  
Undergraduate*

**5. In Depth Case Analysis: Google**

*Andrew Augusto, Undergraduate*

**6. Sherwin Williams**

*Eliza Whitfield, Undergraduate*

**7. Eli Lilly Strategic Analysis and  
Company Growth**

*Matthew Robert Venuti, Undergraduate*

**8. Five Below Comparative Analysis**

*Kyle DeMaio, Undergraduate*

**9. The Strategies and Goals of SpaceX**

*Frank Scherkenbach, Undergraduate*

**10. Marketing in Real Estate**

*Sofia Vasconcelos, Undergraduate*

**11. Merrimack Fixed Income Fund**

*Dylan Fernandez, Undergraduate*

**12. Our Duties Towards Refugees**

*Riley Jooss, Undergraduate*

**13. The Gender Pay Gap and Women in  
Entrepreneurship**

*Taylor Hubert, Undergraduate*

**14. Merrimack Investment Fund**

*Bianca Baldassaro, Renea Lombardi,  
William Eagan, Undergraduate*

**15. Mental Fitness Project**

*Michael Hardy, Undergraduate*





**3:30 P.M.**



# **UNDERGRADUATE AND GRADUATE STUDENT RESEARCH AND CREATIVE WORK: SCHOOL OF HEALTH SCIENCES**

**16. The Influence of Blood Flow  
Restriction Training on the Post-  
Operative ACL**

*Lisa Mendez, Graduate*

**17. Tethered Spinal Cord Syndrome:  
A Case Study**

*Mary Spierito, Graduate*

**18. The Trials of a Freshman Student  
Athlete: A Case Study**

*Jarrold Martin, Graduate*

**19. Transverse Myelitis: A Case Study**

*Mallory Armstrong, Graduate*

**20. Athletic Trainer's Management of  
Concussions in Deaf and Hard of  
Hearing Individuals: A Case Study**

*Katelyn Richardson-Miller, Graduate*

**21. Athletes and COVID-19:  
A Case Study**

*Ashley Desko, Graduate*

**22. The LatarJet Procedure:  
A Case Study**

*Elise C. Murphy, Graduate*

**23. Osteochondritis Dissecans of the  
Knee: A Case Study**

*Olivia Shapiro, Graduate*

**24. The Brostrom Procedure:  
A Case Study**

*Bianca Gallotto, Graduate*

**25. Utilizing Advanced Software for  
Injury Prevention Screening:  
A Case Study**

*Sam Ohearn, Graduate*

**26. Surgical Reconstruction of the  
Rotator Cuff: A Case Study**

*Chiara Corazzini, Graduate*

**27. Hip Adduction to Abduction  
Strength Ratios as an Injury Prediction  
Factor: A Case Study**

*Caleb Scott, Graduate*

**28. Long-term Rehabilitation in MACI  
Procedure: Case Study**

*Devon Choi, Graduate*

**29. Importance of Intrinsic Foot  
Musculature Strengthening in Lower  
Extremity Injury Prevention &  
Rehabilitation: A Case Report**

*Hope Tula, Graduate*

**30. Displaced Fracture of the Scapula  
with Bankart and Hill Sachs Lesion from  
Anterior Dislocation: A Case Study**

*Danny Wang, Graduate*

**31. A Case Study:  
The Bridge Enhanced ACL Repair**

*Joseph Qualter, Graduate*

**32. The Effects Of Dry Needling:  
A Case Study**

*Alyssa Drouin, Graduate*

**33. A Look at a Catastrophic  
Knee Injury**

*Ian Ganley, Graduate*

**34. Disparities in Healthcare: A Case  
Study**

*Krysta Cruz, Graduate*

**35. Shockwave Therapy: A Case Study**

*Stephanie Wilson, Graduate*

**36. Femoroacetabular Impingement:  
A Case Study**

*Allyson Sauter, Graduate*

**37. Clinical Relevance of Plantar  
Flexion Passive Goniometric  
Measurement at Rearfoot Versus  
Forefoot**

*Noel Riley, Graduate*

**38. Limiting Mitochondrial STAT3  
Improves Immune Cell Mitochondrial  
Function and Inflammation**

*Emelia Zukowski, Graduate*

**39. Confidence and Anxiety When  
Returning to Play Post-Injury**

*Gianna Sciarappa, Undergraduate*

**40. Compassion Fatigue Among  
Emergency Department Nurses:  
Implications for Patient Outcomes &  
Exploration of Interventions**

*Jessica Van Heynigen, Undergraduate*



## UNDERGRADUATE AND GRADUATE STUDENT RESEARCH AND CREATIVE WORK (CONTINUED)

**41. Off-Season Training Program - Collegiate Men's Ice Hockey**  
*Anna Perrotti, Undergraduate*

**42. Measuring Range of Motion and Muscle Strength Beyond 90 Degrees of Shoulder Abduction**  
*Sarah Lombardi, Nicole Catino, Undergraduate*

**43. Resistance Training and How It Compares to a Healthy Lifestyle**  
*Jenna Wike, Undergraduate*

**44. Hip Internal Rotation Range of Motion Measured in Weight Bearing by use of a Universal Hand-held Goniometer**  
*Drew Bechtold, Undergraduate*

**45. Physical Activity as a Form of Prevention and Treatment: Optimizing Our Own Health**  
*Janelle Bryant, Undergraduate*

**46. How Does a Health Coaching Course Improve Self-Efficacy Among Health Sciences Students? A Qualitative and Quantitative Approach**  
*Corey Kilroy, Undergraduate*

**47. How to Incorporate Diversity, Equity, and Inclusion Into Physician Assistant Curriculums: An Exploratory Research Project From the Perspective of a Prospective PA Student**  
*Madison Rawnsley, Undergraduate*

**48. Evaluating Aerobic Capacity In Division I Female Collegiate Swimmers**  
*Alexa Tejeda, Undergraduate*

**49. Development of a Family Feeding Checklist to Support Healthy Habits in Lawrence, MA: The COMER Study**  
*Eleanor Shonkoff, Lauren Bregoli, Yarielis PerezCastillo, Undergraduate*

**50. Hip Abduction and Adduction Strength to BodyWeight Ratio Measured By Use of a Dynamometer**  
*Charlie O'Connor, Brianna CoCo, Undergraduate*

**51. The Neurological Effects of Isolation: A Review of How Solitary Confinement May be Linked to Negative Behavior and Mental Health Problems**  
*Jessica D'Entremont, Kelsey Eaton, Undergraduate*

**52. Occupational Therapy Interventions in Children with Autism Spectrum Disorder (ASD)**  
*Sam Gianfrancesco, Undergraduate*

**53. Mood and Athletic Performance**  
*Danielle Pollay, Undergraduate*

**54. Obesity and Fatty Acids Promote Mitochondrial Translocation of STAT3 by ROS-Dependent Mechanisms**  
*Marco Sannella, Undergraduate*

**55. Knee And Ankle Motion While Biking Forward versus Backward**  
*Mia Monopoli, Undergraduate*



3:30 P.M.



# UNDERGRADUATE AND GRADUATE STUDENT RESEARCH AND CREATIVE WORK: SCHOOL OF LIBERAL ARTS

**56. College Faculty Members' Communication when a Student Discloses a Concussion**  
*Cara Cahill, Graduate*

**57. The Power of a Picture: The Role of Infographics in Public Health Messages**  
*Taylor Hogan, Undergraduate*

**58. Social Media: Distraction or Decline of Mental Health?**  
*Leah Hall, Undergraduate*

**59. Working in the Family Business**  
*Michael Bernard, Undergraduate*

**60. My Journey With the Storm Group as an Undergraduate**  
*Keisha-Shanelle Dicaire, Undergraduate*

**61. Norfolk County District Attorney's Office**  
*Jack Randall, Undergraduate*

**62. My Internship**  
*Matthew Tansey, Undergraduate*

**63. Undergraduate Growth**  
*Brooke Yemma, Undergraduate*

**64. DEA Internship**  
*Jake Michael Harrison, Undergraduate*

**65. Massachusetts State Police Andover Barracks**  
*Peter McAllister, Undergraduate*

**66. Internship: Nolan and Perroni Lawyers With Their Involvement of Unions and Wrongful Termination**  
*Cullen Burke, Undergraduate*

**67. Theoretical Mathematical Models for Worker Cooperatives and Cooperation**  
*Liam Ó Cearúil, Undergraduate*

**68. Book: Out of Our Element Comic**  
*Jubilee Newton, Undergraduate*

**70. Do You Recognize These People? An Experiment on Memory and Recognition**  
*Victoria Duff, Amanda Parker, Kelsey Carignan, Noah Taylor, Undergraduate*

**71. Mandela Effects: What Do You Remember?**  
*Aly Bauer, Abby Low, Mandi Miller, Kiki Roust, Undergraduate*

**72. Memory: Is Color Primed By Color Memory Task?**  
*Syandene Inniss, Sophia White, Kylee Trela, Undergraduate*

**73. Can You Remember?**  
*Julia Ricci, Kathryn Sullivan, Brooke McEachern, Margaret Allen, Undergraduate*

**74. Think Fast: How Does Time Affect Memory?**  
*Jessica Weeks, Amanda Valentin, Caitlyn O'Connor, Undergraduate*

**75. Environmental Impact on Memory**  
*Jessica Rodriguez, Helen Vasquez, Daniel O'Connor, Undergraduate*

**76. Are You Studying Effectively?**  
*Jessica Rodriguez, Helen Vasquez, Daniel O'Connor, Undergraduate*

**77. Interrupting the Phonological Loop**  
*Ashley Farfaras, Larissa Bunmee, Samantha Karavias, William Dinkel, Undergraduate*

**78. Monkey See, Monkey Do, Monkey Type**  
*Madelyn Mallaghan, Meagan Ellis, Jake Harrison, Keisha-Shanelle Dicaire, Undergraduate*

**79. The Gingerbread Boy**  
*Emma Bouvier, Kari Diamantopoulos, Kelly Corrigan, Naajaa Barnor, Undergraduate*

**80. Exploring the Role of Environment on Memory**  
*Alexandra Gioia, Jenna Gordon, Katarina Everhardt, Keeley Rego, Undergraduate*



## UNDERGRADUATE AND GRADUATE STUDENT RESEARCH AND CREATIVE WORK (CONTINUED)

**81. How Background Conversation Influences the Ability to Recall Words**  
*Logan Wolf, Kristina Coffey, Clarisa Cameron, Dianelys Difo, Undergraduate*

**82. Story-Telling Recall and Rehearsal Experiment**  
*Kelly Patch, Jane Pavluk, Tea Dellanno, Undergraduate*

**83. Do you Wonder? Can Curiosity be Taught?**  
*Christopher Sokol (Presenter), Raymond J. Shaw, Christina Hardway, Michael Stroud, Diane Shaw, Undergraduate*

**84. Group Therapy: The Answer to Decreasing Depressive Symptoms & Improving Grades Amidst Covid-19 Social Isolation?**  
*Kylee Trela, Undergraduate*

**85. Social Emotional Functioning and Attention**  
*Paige DesRosiers, Undergraduate*

**86. How Viewing Pictures Of Nature Versus Urban Impacts Mood**  
*Kelly Patch, Undergraduate*

**87. Perception of Aging and Older People from Undergraduate Students' Point of View**  
*Sophia E. White, Undergraduate*

**88. Women's and Gender Studies Under Siege**  
*Niamh Lynch, Undergraduate*

**89. "Nothing to Lose": Anti-Fat Bias in America**  
*Lauren Noonan, Undergraduate*

**90. Podcasting as the Great Equalizer**  
*Michael Senoff, Undergraduate*

**91. The Trauma of Incarceration for Black Mothers**  
*Jordan Wrzesien, Undergraduate*

**92. Together Burning Bright: An Exploration on the Influence of Early 2000's Emo Bands on the LGBT+ Community**  
*Kassandra Daley, Undergraduate*

**93. Visual and Performing Arts Department Annual Student Exhibition and Website Featuring Senior Capstone Projects**  
*Rylan Benedict, Henry Cassidy, Fiona Casey, David Driscoll, Jubilee Newton, Lauren Pardue, Oneida Struga, Gabriela Terrones, Kyle DeMaio, Hayley Dougela, Kassandra Daley, Evan Guerrero, Sarah Scougall, Izzy Fox, Hannah Aspinwall, Undergraduate*



3:30 P.M.



## UNDERGRADUATE AND GRADUATE STUDENT RESEARCH AND CREATIVE WORK: SCHOOL OF SCIENCE AND ENGINEERING

### 94. A Cellular Model of Down Syndrome: Creation of RPE-1 Trisomy 21 ROCK2 Knockout Cell Lines using CRISPR

*Lordina Anderson, Ava Dimmick, Dia Douglas, Catherine Duran, Alexis Fernandes, Morgan Murray, Lauren Nixdorf, Jennifer Badji, Maureen Rosenthal, Callahan Seymour, Bridget Shanahan, Jacob Thibault, Graduate*

### 95. A Cellular Model of Down Syndrome: Improved Cell Fitness in RPE-1 Trisomy 21 ROCK2 Knockout Cell Lines

*Lordina Anderson, Autumn Bates, Catherine Duran, Kylie Ward, Riley Williams, Dr. Janine LeBlanc-Straceski, Graduate*

### 96. A Cellular Model of Down Syndrome: Confirmation of ROCK2 Protein Knockout in Trisomy 21 RPE-1 Cells

*Lordina Anderson, Jennifer Badji, Morgan Murray, Christina Shoushani, Jacob Thibault, Riley Williams, Dr. Janine LeBlanc-Straceski, Graduate*

### 97. A Cellular Model of Down Syndrome: Confirmation of ROCK2 Protein Knockout in Trisomy 21 RPE-1 Cells

*Lordina Anderson, Jennifer Badji, Morgan Murray, Christina Shoushani, Jacob Thibault, Riley Williams, Graduate*

### 98. Antioxidant Properties of Curcumin and Ursolic Acid on Breast Cancer Cells

*Jennifer Pereira-Badji, Makayla Richard, Josephine Modica-Napolitano, Azam Noori, Graduate*

### 99. Antioxidant Properties of Curcumin and Ursolic Acid on Breast Cancer Cells

*Jennifer Pereira-Badji, Makayla Richard, Josephine Modica-Napolitano, Azam Noori, Graduate*

### 100. Detection Antibiotic Resistance Genes in the Merrimack River Using Molecular Detection Methods

*Christina Shoushani, Rebecca Kendall, Callahan Seymour, Graduate*

### 101. The Effect of Plant Metabolites on Mitochondrial Bioenergetic Function

*Annick Guerin, Graduate*

### 102. Elesclomol Project: Exploring the Mechanism of Mitochondrial Toxicity and Therapeutic Potential of a Novel Drug Combination for Selective Anticancer Activity

*Morgan Murray, Jacob Thibault, Graduate*

### 103. Investigating a Novel Drug Combination for Selective Anti-Cancer Activity

*Morgan Murray, Jacob Thibault, Graduate*

### 104. Antibiotic Resistance Genes in The Merrimack River

*Christina Shoushani, Callahan Seymour, Rebecca Kendall, Graduate*

### 105. HHMI SEA PHAGES Project: A Bold Hypothesis for Shygu2

*Sophia Beland, Skylar DiMartino, Erin Lincoln, BIO2018 SP2022 Students, Dr. Janine LeBlanc-Straceski, Undergraduate*

### 106. A Bold Hypothesis for Shygu2

*Sophia Beland, Skylar DiMartino, Erin Lincoln, Undergraduate*

### 107. A Cellular Model of Down Syndrome: Improved Cell Fitness in RPE-1 Trisomy 21 ROCK2 Knockout Cell Lines

*Lordina Anderson, Autumn Bates, Catherine Duran, Kylie Ward, Riley Williams, Undergraduate*

### 108. Survey of Antimicrobial Activity from Bacteria Soil Samples Collected at Residential Sites using Molecular Detection Methods

*Kurtis Stadnicki, Undergraduate*

### 109. Non-Hormonal Contraceptive Innovations

*Ava Dimmick, Undergraduate*

### 110. Production and Analysis of Bacillus Bioactive Compounds

*Kegan Newcomb, Emerson Thayer, Undergraduate*



# UNDERGRADUATE AND GRADUATE STUDENT RESEARCH AND CREATIVE WORK (CONTINUED)

## 111. Analysis of Candida Glabrata Replication in Macrophages

*Sarah Montgomery, Jared Smith, Undergraduate*

## 112. Impact of Silver Nanoparticles on Betta splendens Behavior and the Phytoremediation Potential of Lemna minor L.

*Morgan Brutus, Leigh Guerra, Matthew Nyklicek, Chris McGinnis, Sydney Elmer, Azam Noori, Dave MacLaren, Undergraduate.*

## 113. Assessing the Effect of Certain Plant Metabolites on the Growth and Proliferation of Human Breast Cancer Cells

*Lauren Nixdorf, Bridget Shanahan, Dr. Azam Noori, Dr. Josephine Modica-Napolitano, Undergraduate*

## 114. The North Atlantic Right Whale: Threatened by Extinction

*Callie Toothaker, Undergraduate*

## 115. Analysis of Heavy Metals in Baby Food

*C. McNeill, Amanda McVey, Carla Balague, Stephanie Brincklow, Morgan Brutus, Rebecca Kendall, Derek Naehle, Matthew Nyklicek, Victor Privetera, Hannah Rollins, Megan Sargent, Kurtis Stadnicki, Megan Thatcher, Jordan Wentworth, Stephen Theberge, Brandi Baldock, Undergraduate*

## 116. What Controls the Reactions Between Silver Nanoparticles and DNA?

*Megan Sargent, Undergraduate*

## 117. Photostrictive Polymer Thread Project

*Jordan Wentworth, Brendan Lavallee, Parker Todd, Samantha Fagundes, Undergraduate*

## 118. Data Science Capstone Project

*Laney Tillman, Undergraduate*

## 119. The Data Science Lifecycle

*Martin Lopez, Undergraduate*

## 120. Analysis of the Severity of Car Accidents Across the United States

*Shannon Bedard, Undergraduate*

## 121. Waffle House Windmill

*John Ryan, Declan Dorgan, Ryan Dacy, Andre Larose, Ben Nourai, Undergraduate*

## 122. The Lads

*Bryce Vega, Nathan Lajeunesse, Jacob Vergow, Thomas Marsden, Christian Benghazi, Undergraduate*

## 123. Rider Power Optimization

*Meaghan O'Brien, Undergraduate*

## 124. Predicting Highway Traffic Delay

*Daniel Kaplan, Nicholas Salvi, Garald Seip, Undergraduate*

## 125. Fire Emblem: Warrior's Wager

*Liam Ó Cearúil, David Collins, Enrique Ortiz, Undergraduate*

## 126. Consequences of United States Policies in Latin America

*Matthew Patterson, Undergraduate*

## 127. Developing a Computational Chemistry Experience in General Chemistry Class Using Ipads

*Itzel Guzman, Kurtis Stadnick, Undergraduate*

## 128. Plant Growth and Stress Responses Due to Piezoelectric Effects

*Liam Ó Cearúil, Morgan Brutus, Matthew Maio, Bhagyashree Dere, Undergraduate*

## 129. Measurement of Host-Guest Complexes Using Alpha, Beta, and Hydroxypropyl Cyclodextrins

*Megan Sargent, Undergraduate*



**3:30 P.M.**



# **UNDERGRADUATE AND GRADUATE STUDENT RESEARCH AND CREATIVE WORK: WINSTON SCHOOL OF EDUCATION AND SOCIAL POLICY**

**130. This Fence Makes No Sense:  
Developing a Community Engagement  
Curriculum for Swampscott, MA**  
*Elana Zabar, Graduate*

**131. Redefining "Comprehensive"  
Sexual Education: A Pedagogy of  
Empowerment and Social Justice for K-  
12 Sex Education**  
*Nina June Lee, Graduate*

**132. "I've Never Met a Happy Addict":  
The Impact of and the Police Officers  
Reflection on the Opioid Crisis**  
*Juliana DiRamio, Graduate*

**133. How to Become A Law  
Enforcement Officer in the 21st Century**  
*Ryan Botto, Graduate*

**134. Community Policing:  
The Foundation of Trust between the  
Police and Society**  
*Thomas Crowley, Graduate*

**135. Enhanced Training and Tactics for  
Law Enforcement**  
*Michael Blando, Graduate*

**136. Women in Law Enforcement**  
*Meaghan Hudson, Graduate*

**137. Accountability in 21st Century  
Policing**  
*Daniel Lordan, Graduate*

**138. Lights, (Body) Camera, Action!:  
Reviewing Empirical Research on Body-  
Worn Cameras**  
*Richard Glynn, Graduate*

**139. An Exploration of the Juvenile  
Mental Health Court and its  
Effectiveness on Recidivism Rates**  
*Allison Maynard, Graduate*

**140. Defining the Police Mission**  
*Devin Neal, Dr. Nicole Scott, Graduate*

**141. Battered Women Who Kill Their  
Abusers: A Criminological Perspective**  
*Julia O'Brien, Graduate*

**142. An In-Depth Look into Social Work  
as a Career**  
*Autumn Truessale, Graduate*

**143. Pursuing a Career in Law  
Enforcement**  
*Patrick Adams, Graduate*

**144. A Guide to a Career in Law  
Enforcement**  
*Jack Alberici, Graduate*

**145. The Importance of Juvenile  
Diversion**  
*Brenda Guerrero, Graduate*

**146. Municipal Policing in  
Massachusetts**  
*Stephanie Mixon, Graduate*

**147. Educational Programming in  
Correctional Facilities: Moving Beyond  
Recidivism as the Primary Purpose for  
Program Implementation**  
*Anna Liff, Graduate*

**148. The Fallout of the War on Drugs:  
How We Got Here and Where We  
Will Be**  
*Eric Fournier, Graduate*

**149. Handler and Canine: Exploring the  
Career Path of a K-9 Officer**  
*Krystle Thomaszewski, Graduate*

**150. Career Path: Policies & Problems  
Within The Drug Enforcement  
Administration**  
*Alexander Turanski, Graduate*

**151. Career Path: Policies & Problems  
Within The Drug Enforcement  
Administration**  
*Alexander Turanski, Graduate*

**152. To Certify or Not to Certify? A  
Proposed Graduate Course and  
Universal Certification for Forensic  
Expert Witnesses**  
*Charolette Caron, Graduate*



## UNDERGRADUATE AND GRADUATE STUDENT RESEARCH AND CREATIVE WORK (CONTINUED)

**153. Preventing and Responding to Juvenile Crime: Importance of Intervention and Rehabilitation**  
*Michaela Noviello, Graduate*

**154. Enhancing the Police Officer Experience: The Impact of Higher Education on Police Officer Performance and Benefits**  
*Alexander Gildea, Graduate*

**155. The Secret Struggles of Law Enforcement: Ending the Stigma Through Counseling**  
*Kelsey Daly, Graduate*

**156. The Secret Struggles of Law Enforcement: Ending the Stigma Through Counseling**  
*Kelsey Daly, Graduate*

**157. What Makes My Client Guilty? Discussing the Processes, Effects, and Costs of Wrongful Convictions**  
*Shawn Page, Graduate*

**Talk: Using Research and Theory to Guide Practice: Transracial Asian American Adoptee College Students**  
*Lilian Chang, Emma Magadan, Graduate*

**158. Correlation Between Teacher Absenteeism and Students Academics**  
*Tania Tasmin Haque, Graduate*

**159. Improving Empathy for 5th Grade Females**  
*MacKenzie Hayward, Graduate*

**160. Promoting Self-Assertion in the Classroom**  
*Samantha Mullin, Graduate*

**161. Expanding Hopeful Thinking With Middle School Students**  
*Quinn Beattie, Graduate*

**162. Examining Barriers to Attendance and Student Success at Amesbury High School**  
*Katelyn Leboeuf, Graduate*

**163. Student Engagement in the Postsecondary Process**  
*Caroline Scannell, Graduate*

**164. Social Emotional Learning: Curriculum Assessment of a Small Rural Middle School**  
*Alexander M. Caissie, Graduate*

**165. Exploring the Effects of Mindful Practice for Stress and Self-Compassion Levels in High Achieving High School Students**  
*Summer Beals, Graduate*

**166. Student Social Groups Focused On Friendship Building**  
*Cassidy Tyros, Graduate*

**167. The Effectiveness of High School Students' 504 Accommodations**  
*Christie Caliendo, Graduate*

**168. EVC Theory of Motivation and Academic Achievement**  
*Alexa Savvas, Graduate*

**169. Investigating the Relationship between Academic Achievement and Attendance in an Urban Middle School**  
*Alexandra Howe, Graduate*

**170. The Relationship Between Movement and Anxiety in Students in a Lower Income City**  
*Alexa Popp, Graduate*

**171. Physical & Mindful Interventions for Elementary Students Struggling with Anxiety**  
*Kathleen Romano, Graduate*

**172. Empathy and Its Effect on Bullying and Aggressive Behaviors**  
*David Grandmaison, Graduate*

**173. Curriculum Assessment of Social Emotional Learning in a Small Rural Middle School: Evaluating Outcomes and Perceptions of Current Curriculum Delivery**  
*Alexander M. Caissie, Graduate*

**174. Control Your Narrative (C.Y.N): A Narrative Therapy-Based Group for Improving Adolescent Coping Skills**  
*Ryan Cutillo, Graduate*





# UNDERGRADUATE AND GRADUATE STUDENT RESEARCH AND CREATIVE WORK (CONTINUED)

**175. Introducing an Intervention Resource Guide to Elementary School Classroom Teachers as a Response to an Increase in School Counseling Referrals**

*Bryce Henderson, Graduate*

**176. Increasing Elementary School Students' Knowledge of Optimistic Thinking**

*Courtney Otero, Graduate*

**177. The Effects of an Empathy Based Bullying Lesson on Bullying Behavior**

*Shyann DiGiovanni, Graduate*

**178. Improving Empathy for 5th Grade Male Students**

*Eleanora Parravano, Graduate*

**179. Collaborative Educational Perspective: What Are Some Educational Challenges Ell and Slife Educators Experience in the Classroom?**

*Yanira Taveras, Graduate*

**180. Kindness Challenge and the Effects on Empathy and Prosocial Behavior: A School-Based Intervention**

*Grace LaMuraglia, Graduate*

**181. The Chelsea HUB Program: Transforming Community Policing**

*Roby Deschenes, Graduate*

**182. The Invisible Offender: A Content Analysis of Black Serial Killers and Media**

*Janelle Havens, Graduate*

**183. Battered Women Who Kill Their Abusers: A Criminological Perspective**

*Julia O'Brien, Graduate*

**184. State House Security Internship**

*Christopher Kelleher, Undergraduate*

**185. Is Mother's Immigrant Documentation Status Associated With Their Children's Resilience to Intimate Partner Violence Exposure?**

*Lauren Gilmartin, Undergraduate*

**186. Is Mother's Immigrant Documentation Status Associated With Their Children's Resilience to Intimate Partner Violence Exposure?**

*Lauren Gilmartin, Undergraduate*

**187. Massachusetts State Police**

*Jack Flaherty, Undergraduate*

**188. My Undergraduate Internship**

*Alyssa Gagliardi, Undergraduate*

**189. Practicum in Correctional Education at the Billerica House of Correction**

*Amanda McVey, Julia Washburn, Undergraduate*

**190. Inside the Lowell District Court**

*Lauren Baudo, Undergraduate*

**191. Poster Presentation: DYS**

*Taylor Nolasco, Undergraduate*

**192. Court Service Center**

*Noah Dimaio, Undergraduate*

**193. Nantucket Police Department Community Service Officer Program**

*Donald Anastasi, Undergraduate*

**194. Drug Recovery Programs at Boston Municipal Court**

*Daniel O'Connor, Undergraduate*

**195. My Experiences At The Department of Youth Services (DYS)**

*Matthew Brehon, Undergraduate*

**196. Lawrence Court Service Center/UZR**

*Sara Connolly, Undergraduate*

**197. Basic Human Rights**

*Sara Connolly, Haylee Marchand, Undergraduate*

**198. Tewksbury Hospital Agency Security/Eagle Investigation Services**

*Lucas Slane, Undergraduate*

**199. My Internship Experience With the STIRM Group and Elder Law**

*Caitlin Perkins, Undergraduate*



## UNDERGRADUATE AND GRADUATE STUDENT RESEARCH AND CREATIVE WORK (CONTINUED)

**200. Virtual Court Service Center Internship**

*Brianna Dube, Undergraduate*

**201. Billerica House of Correction**

*Mercedes Greeley, Undergraduate*

**202. The Lionheart Foundation**

*Madeline Marcucci, Undergraduate*

**203. The Suffolk District Attorneys Office**

*Celine O'Dowd, Undergraduate*

**204. My Time at The Lowell District Courts**

*Wes Petrone, Undergraduate*

**205. Lawrence Police Department**

*Jadyn Ruimwijk, Undergraduate*

**206. The STIRM Group**

*Catherine Holland, Undergraduate*

**207. Merrimack College Police Department Student Security Officer**

*Benjamin Pulvino, Undergraduate*

**208. Student Security for Merrimack College**

*Lillian McManus, Undergraduate*

**209. Internship at MERGE: Diverse Abilities Inclusion Consulting**

*Kelsey Eaton, Undergraduate*

**210. Massachusetts State Police**

*Sebastian Gruber, Undergraduate*

**211. Legal Internship at Kalabokis Law, PLLC**

*Kiera Scott, Undergraduate*

**212. Massachusetts State Police**

*Felice Genuario, Undergraduate*

**213. Lawrence Court Service Center**

*Kayleigh Greenfield, Undergraduate*

**214. Massachusetts State House Security**

*Chris Kelleher, Undergraduate*

**215. The Importance of Search and Seizure**

*Kayleigh Greenfield, Undergraduate*

**216. Is Russia Ukraine War Just?**

*Pamela Euler, Andrew Mac, Undergraduate*

**217. An Introduction to Counseling**

*Jessica Flynn, Undergraduate*

**Video: Push and Pull with Kindergartners**

*Abby Federici, Maggie Franz, Undergraduate*

**Video: Kindergarten: Effects of Sunlight**

*Keaghan Curley, Lillian See, Undergraduate*

**Video: Teaching Lessons on Sunlight at the Wetherbee School**

*Victoria Carter, Fiona Twomey, Undergraduate*

**Video: Pushing and Pulling with Kindergartners**

*Emma Giosi, Alyssa DiBlasi, Undergraduate*

**Video: Forces and Motion**

*Sophie Meyers, Victoria Conti, Undergraduate*

**Video: Our Journey with Sunlight**

*Angelica Watson, Abby Ricciardeli, Undergraduate*

**Video: Heating Up With First Graders**

*Jessica Ferraro, Fiona Nagle, Undergraduate*

**Video: What a World: Teaching Fourth Grade**

*Alyson Cipro, Gabriella Marchese, Undergraduate*

**Video: Teaching Erosion to Fourth Grader at Wetherbee**

*Adriana Wallis, Shania Berard, Undergraduate*

**Video: Energy**

*Matthew Cavoli, Adrian Hawley, Undergraduate*