Welcome to the 24th annual celebration of research and discovery at the University of New Hampshire. The Undergraduate Research Conference is a highlight of the academic year and an exciting showcase of our students’ remarkable ingenuity, talent, and accomplishments.

Launched as a university-wide effort in 2000, the URC exemplifies UNH’s commitment to providing students with great research opportunities and building research partnerships with business and industry that improve the quality of life here in New Hampshire and around the world. This year, more than 1,500 students will present their research, scholarship, and creative works at events across our Durham and Manchester campuses, representing academic achievements in every college.

In addition to highlighting our students’ academic excellence, the URC reflects the dedication and support of hundreds of faculty mentors, whose research and teaching expertise are the hallmarks of a great UNH education. As students work with faculty to develop projects, they also build important life skills in problem solving, project management, and teamwork — qualities that will serve them well as they graduate and pursue successful careers.

We encourage you to explore our students’ engaging final projects and presentations, many of which represent years of hard work, inquiry, and experimentation. Whether you visit a poster session, an oral presentation, or a hands-on demonstration, we think you will be impressed by the students’ knowledge and understanding. We’re delighted to welcome you to the URC, and always appreciate your support for New Hampshire’s flagship public research university.

Best regards,

James W. Dean Jr.
President

Wayne Jones
Provost and Vice President for Academic Affairs
Welcome to the 24th annual celebration of academic excellence at the University of New Hampshire! The URC embodies UNH’s mission to offer students a discovery-based education by encouraging inquiry, exploration, and deeper immersion in their fields of study. This year, more than 1,500 students – mentored by over 300 faculty members and other research advisers – will present their research and scholarship at 20+ URC events on the Durham and Manchester campuses, including symposia, panel and poster sessions, performances, and prize competitions. Student presenters represent disciplines from across the academic spectrum, reflecting the breadth and depth of undergraduate research and scholarship at UNH.

At the Hamel Center for Undergraduate Research, our core mission is to provide resources and financial support for the research, scholarly, and creative projects of UNH students. Our additional role as the administrative home of the URC enables us to broaden our commitment to supporting and showcasing all stages of the research process – including the final stage of communicating research findings to the wider public. For many UNH students, the URC is their first opportunity to present their work to a broad audience. The URC is thus vital in giving students practice in public speaking, communicating complex ideas to a general audience, and developing a deeper understanding of their subject areas. Such experience prepares students to pursue graduate study and to establish and be successful in meaningful careers.

In addition to recognizing our students’ achievements, we also want to recognize the many members of the UNH community whose dedication and enthusiasm are critical to making the URC possible. You will find their names in the acknowledgements at the back of the book. The partnerships between – and shared investment of – students, faculty, staff, and administrators not only ensure the success of the URC but also demonstrate the strength of the UNH community. Thank you for joining us in celebrating our students’ remarkable scholarship!

Paul C. Tsang, Ph.D.
Director, Hamel Center for Undergraduate Research
Professor of Molecular, Cellular, and Biomedical Sciences

Molly Doyle, Ph.D.
Administrative Director, Hamel Center for Undergraduate Research

Amanda Leger, M.A.
URC Coordinator, Hamel Center for Undergraduate Research
URC 2023 Contents

Calendar of Events

Campus Map

Friday, April 14 Events
Paul College of Business and Economics
Paul J. Holloway Prize Innovation to Market Competition
(Bud Albin Challenge Round)
Student Composers’ Concert

Wednesday, April 19 Events
Interdisciplinary Science and Engineering (ISE) Symposium
University-Wide Undergraduate Sustainability Research Symposium
The Naked Arts—Creativity Exposed! (Act I)
UNH Manchester URC Poster Presentations

Thursday, April 20 Events
UNH Manchester URC Cinema Arts Day
History Department URC
The Naked Arts—Creativity Exposed! (Act II)

Friday, April 21 Events
All Colleges Undergraduate Research Symposium
Welcome Breakfast
All Colleges Undergraduate Research Symposium
Oral Presentations, Session A
Poster Presentations, Session A
Oral Presentations, Session B
Poster Presentations, Session B
Oral Presentations, Session C
Paul College of Business and Economics URC
Poster Session I
Poster Session II
Oral Session I
Poster Session III
UNH Manchester URC Engineering Technology Day,
Senior Project Presentations
Languages, Literatures, & Cultures (LLC) Department URC
The Naked Arts—Creativity Exposed! (Act III)
Psychology Department George M. Haslerud URC
College of Health and Human Services (CHHS)
Grimes Award Competition
Honors English URC
Philosophy Department URC
Senior B.A. & B.F.A. Exhibition and Preview Reception

Saturday, April 22 Events
Paul College of Business and Economics First-Year Innovation and Research Experience (FIRE) URC
College of Life Sciences and Agriculture (COLSA) URC
Oral Presentations
Poster Presentations

Wednesday, May 3 Events
Ann Manchester Kelley Nursing Inquiry Day

Wednesday, May 10 Events
Paul College of Business and Economics
Paul J. Holloway Prize Innovation to Market Competition (Championship Round)

Additional Features
Acknowledgments
Student Index
FRIDAY, APRIL 14
1–4 p.m. and 4–7 p.m.
Paul College of Business and Economics
Paul J. Holloway Prize Innovation to Market Competition, Bud Albin Challenge Round
Paul College (5)

8–10 p.m.
Student Composers’ Concert
Paul Creative Arts Center, Bratton Recital Hall (6)

WEDNESDAY, APRIL 19
8 a.m.–5:30 p.m.
Interdisciplinary Science and Engineering (ISE) Symposium
Whittemore Center Arena (8)

9 a.m.–5 p.m.
University-Wide Undergraduate Sustainability Research Symposium
Memorial Union Building, Rooms 330, 332, 334, 336, 338, and 340 (3)

12–2 p.m.
The Naked Arts – Creativity Exposed! (Act I)
Paul Creative Arts Center, Museum of Art (6)

4–6 p.m.
UNH Manchester URC, Poster Presentations
88 Commercial Street, MPR Room 201 and Student Commons, Manchester

THURSDAY, APRIL 20
9 a.m.–12 p.m.
UNH Manchester URC, Cinema Arts Day
88 Commercial Street, Screening Room 456, Manchester

12–3 p.m.
History Department URC
Memorial Union Building, Rooms 330, 332, and 334 (3)

12:40–2 p.m.
The Naked Arts – Creativity Exposed! (Act II)
Paul Creative Arts Center, Museum of Art (6)

FRIDAY, APRIL 21
9–9:30 a.m.
All Colleges Undergraduate Research Symposium Welcome Breakfast
Memorial Union Building, Granite State Room (4)

9:30 a.m.–1:25 p.m.
All Colleges Undergraduate Research Symposium
Memorial Union Building, Granite State Room and various rooms (3)

9 a.m.–2:30 p.m.
Paul College URC
Paul College (5)

9 a.m.–12 p.m.
UNH Manchester URC, Engineering Technology Day
Senior Project Presentations
88 Commercial Street, MPR Room 201, Manchester

12–5 p.m.
Languages, Literatures, & Cultures (LLC) Department URC
Murkland Hall, Room G17 (4)

12:15–1:25 p.m.
The Naked Arts – Creativity Exposed! (Act III)
Memorial Union Building, Theatre I (3)

1–3 p.m.
Psychology Department
George M. Haslerud URC
McConnell Hall, Room 220 (2)

1–4 p.m.
College of Health and Human Services (CHHS) Grimes Award Competition
Pettee Hall, Room G10 (7)

2–3:30 p.m.
Honors English URC
Hamilton Smith Hall, Room 205 (1)

2–8 p.m.
Philosophy Department URC
Hamilton Smith Hall, Room 210 (1)

6–8 p.m.
Senior B.A. & B.F.A. Exhibition and Preview Reception
The exhibition will remain open until May 13.
Paul Creative Arts Center, Museum of Art (6)

SATURDAY, APRIL 22
8 a.m.–3 p.m.
Paul College First-Year Innovation and Research Experience (FIRE) URC
Paul College (5)

8:15 a.m.–12 p.m.
College of Life Sciences and Agriculture (COLSA) URC
Memorial Union Building, Granite State Room and MUB Theatre II (3)

WEDNESDAY, MAY 3
2–5 p.m.
Ann Manchester Kelley Nursing Inquiry Day
Memorial Union Building, Strafford Room (3)

WEDNESDAY, MAY 10
1–5 p.m.
Paul College of Business and Economics
Paul J. Holloway Prize Innovation to Market Competition, Championship Round
Paul College (5)

All events are free and open to the public.
(Building numbers are bold and in parentheses.)
URC 2023 Campus Map

BUILDING KEY
1. Hamilton Smith Hall
2. McConnell Hall
3. Memorial Union Building (MUB)
4. Murkland Hall
5. Paul College
6. Paul Creative Arts Center
7. Pettee Hall
8. Whittemore Center Arena

UNH Manchester
88 Commercial Street
Manchester, N.H.

For directions to UNH Manchester
go to manchester.unh.edu/directions-parking or call (603) 641-4124.
Peter T. Paul College of Business and Economics
Paul J. Holloway Prize Innovation to Market Competition

Bud Albin Challenge Round

Friday, April 14
1-4 p.m. and 4-7 p.m.
Paul College

The Bud Albin Challenge acts as the Semi-Final Round of the Holloway Prize Innovation to Market Competition. Twenty teams present their business concepts to a panel of industry judges. From here, six will be selected to move on to the Championship Round.

Student Composers’ Concert

Friday, April 14
8-10 p.m.
Paul Creative Arts Center, Bratton Recital Hall

The UNH Student Composers’ Concert is an annual event that features the music of undergraduate and graduate students of the Music Department. The music is newly composed, and is almost exclusively performed by fellow music students.

Wesley Coffin
Music
Scherzo for 113
Adviser: Andrew Boysen

Wesley Coffin
Music
The Devil on Your Shoulder
Adviser: Andrew Boysen

Kyle Cook
Music
Fractures
Adviser: Michael Shun

Kyle Cook
Music
Tonnetz CycleLR
Adviser: Michael Shun

Michael Crowley
Music Education
El Chupacabra
Adviser: Michael Shun

Emme Johnson
Art: Studio Art, Music
The Sleeping Legend
Adviser: Michael Shun

Seth Rupp
Music
Composition for Solo Bass Clarinet
Adviser: Michael Shun

Amanda White
Music
A Song, Perhaps with Other Performers
Adviser: Michael Shun

Interdisciplinary Science & Engineering (ISE) Symposium

Poster Presentations

Wednesday, April 19
8 a.m.–5:30 p.m.
Whittemore Center Arena

The ISE Symposium welcomes and encourages scientific presentations from undergraduate students in all colleges and departments. The event features undergraduate research that contributes to or benefits from an interdisciplinary science and engineering perspective.

Biology

Group Leader: Vicki Jeffers

Kelsey Alimandi
Biology

Hannah Manning
Biomedical Science

Individual Behavioral and Neurobiological Markers Associated with Vulnerable to Alcohol Use Phenotype
Adviser: Sergios Charntikov

Joshua Berthiaume
Biomedical Science

Bromodomain Proteins Are Important Epigenetic Regulators in the Parasite Toxoplasma gondii
Adviser: Vicki Jeffers

Jaxson Libby
Biochemistry, Molecular and Cellular Biology

Investigation of Mechanical Regulation on STAT3 Activity
Advisers: Linqing Li, Sarah Walker

Emily Pratt
Biochemistry, Molecular and Cellular Biology

Targeting STAT3 in TNBC Using GSK3β and Integrin Inhibitors
Adviser: Sarah Walker
Chemical Engineering

Group Leader: Nan Yi

Katherine Austin
Bioengineering
Low-Cost Gold-Leaf Sensing Platform for Detection of Infectious Diseases
Adviser: Jeffrey Halpern

Jackie Desrosiers
Chemical Engineering
Novel 3D Printing Process for Improved Mechanical Properties of Tissue Engineering Scaffolds
Adviser: Kyung Jae Jeong

Matt Libby
Chemical Engineering
Lithium Purification Using Bioinspired Redox-Active PyroGallol
Adviser: Young Jo Kim

Samuel Mercer
Chemical Engineering
Contrasting Methanol Dehydration Analogues across Bronsted-Acid Catalysts
Advisers: David Hibbitts, Hansel Montalvo-Castro

Matthew Noyer
Chemical Engineering
Direct Carbon Dioxide Conversion to Methane over Nickel-Based Catalysts
Adviser: Nan Yi

Chemistry

Group Leader: Stacey Hughes

Somkene Alakwe
Biochemistry, Molecular and Cellular Biology
Bioreactor-Based Production and Purification of pDNA and Protein for Materials Science Applications
Adviser: Nate Oldenhuis

Samuel Ashooh
Biochemistry, Molecular and Cellular Biology
Cysteine-β-thiolactone for Facile Polymerization of Hydrogel Crosslinkers and Polycysteine Tags
Adviser: Nate Oldenhuis

Alex Cheung
Chemistry
Demonstrating Paper Spray Ionization for a High School Teaching Environment
Adviser: Anyin Li

Matt Cummins
Chemistry
Methodizing Chiral HPLC to Resolve Diastereomic Racemic Mixtures of Metal Sequestering Peptide Chelators
Adviser: Roy Planalp

Owen Durant
Chemistry
Novel Plasmid DNA Macroyclic Bottlebrush Polymers
Adviser: Nate Oldenhuis

Kelsey MacCallum
Biochemistry, Molecular and Cellular Biology
Development of 3D Cell Cultures through Noncytotoxic Native Chemical Ligation
Adviser: Nate Oldenhuis

Lydia Milam
Chemistry
Oxidative Studies for the Degradation of Organic Dyes
Adviser: Roy Planalp

Adase Ntumi
Chemistry
Pyridine Functionalized Carbon Dots for Photocatalysis with Cobaloxamine
Adviser: Christine Caputo

Sydney Sigua
Chemistry
Synthesis and Chemistry of Novel Aromatic Hydrocarbons
Adviser: Richard Johnson

Civil and Environmental Engineering — Design

Group Leaders: Eshan Dave, Philippe Kalmogo, Anthony Puntin

Anthony Accardi
Joseph Clark
Zachary Goin
Sean Goodman
Jameson Miller
Civil Engineering
Jaffrey, NH, Multipurpose Rail Trail Bridge Replacement
Advisers: Yashar Eftekhar Azam, Steve Reichert, Ryan Trudeau

Mark Adler
Owais Khalid
Nicholas Mason
Civil Engineering
Justin Coralli
Lauren McNaughton
Environmental Engineering
Former Little Jack’s Restaurant Redevelopment
Advisers: Kenneth Flesher, Philippe Kalmogo

Heidi Booher
Sebastian Jones
Miranda Pierre
Nathaniel Trueworthy
Civil Engineering
Chebeague Island Stone Warf
Adviser: Fei Han

Anthony Cogliano
Ben Hodsdon
Zach Scarpola
Christopher Trovato
Civil Engineering
Nolan McGovern
Environmental Engineering
Concord Mixed-Use Development
Adviser: Anthony Puntin

Matthew Cusano
Wyatt Garrett
Ryan McLaughlin
Bhargavi Nimoji
Civil Engineering
Anna Gombas
Civil Engineering, German Haverhill Downtown Redevelopment Project
Adviser: Anthony Puntin
Jeremy Harvey
Andrew LeBlanc
Ryan May
Ethan Payne
Angus Reid
Nicholas Wong
Civil Engineering
Fryeburg Hangar Project
Advisers: Matthew Low, Sydney Seney

Seth Reed
Douglas Reitmeyer
Moise Reveil
Cameron Sweet
Charles Wetherbee
Civil Engineering
Bridge Replacement — Mason Road over Great Brook — Milford, NH
Adviser: Raymond Cook

Civil and Environmental Engineering — Investigation
Group Leaders: Eshan Dave, Philippe Kalmogo, Anthony Puntin

Meghan Abbey
Environmental Engineering
Daniel Bartus
Jacqueline Borruso
Joshua Brown
Paige Hornbeck
Cormac MacPhail
Lauren Robbins
Eddie Schluter
Dustin Wells
Civil Engineering
Douglas Coulter
Mechanical Engineering
ASCE Concrete Canoe
Adviser: Eshan Dave

Meghan Abbey
Michael Mercer
Environmental Engineering
Jake Morrier
George Smith
Tim Spencer
Civil Engineering
Transportation Planning U.S. Route 302 at Intervale Cross Road
Adviser: Jo Sias

Evan Bollman
Andrew Fleming
Environmental Engineering
Justin Gagne
Civil Engineering
Alyssa Karlson
Environmental Conservation and Sustainability, Environmental Engineering
ChildVoice Lukome Center Wastewater Redesign
Adviser: M. Robin Collins

Margaret Daney
Jeremy Larkin
Nicholas Querrazzi
Environmental Engineering
Patrick Gunter
Evan Proulx
Civil Engineering
Twin State Railroad Rails-to-Trails Project
Adviser: Anthony Puntin

Joshua Dow
Sunjay Sood
Environmental Engineering
Jacob Stephens
Civil Engineering
Nashawannuck Brook Restoration
Adviser: Julie Paprocki

Civil and Environmental Engineering — Research
Group Leaders: Eshan Dave, Philippe Kalmogo, Anthony Puntin

Kush Basnet
Kaylee Molan
Nora Sinno
Ivy Trudeau
Environmental Engineering
Izzy Medeiros
Civil Engineering
Design of Drinking Water Treatment Facility for Manchester — Merrimack River
Adviser: James Malley

Michael Bidonde
Briar Brogna
Max Fortin
Environmental Engineering
Nathan Salas
Environmental Engineering, Sustainability
Dover, NH — Citywide PFAS Sampling Program
Adviser: Paula Mouser

Alexis Eaton
Environmental Engineering, Sustainability
The Influence of Dissolved Oxygen on the Degradation and Transformation of NEFOSF within a Secondary Wastewater Treatment Bioreactor System
Adviser: Paula Mouser

Sunjay Sood
Environmental Engineering
Natural Shoreline Armor Characteristics in the Great Bay
Adviser: Thomas Ballestero

James Wood
Environmental Engineering
Prediction of Movement of Spilled Oil under Ice
Adviser: Nancy Kinner

Computer Science — Data Science
Group Leaders: David Benedetto, Matthew Plumlee, Craig Smith

Christopher Acampora
Lucas Guerrette
Sanen Imchen
Computer Science
Julia Hilinski
Analytics and Data Science
Raw Dough, Raw Data: Optimizing Wholesale Distribution for When Pigs Fly Bakery
Adviser: Matthew Plumlee

Lingyun Chen
Computer Science
Anushreeya Gurung
Analytics and Data Science
Benicio Liu
Information Technology
NextStep Data Analysis Team
Adviser: David Benedetto

Bobby DeVito
Eric Klein
Forrest Mitchell
Computer Science
Roads of the Sea
Advisers: Christos Kastrisios, Craig Smith
Nia Eaton  
Computer Science  
Jason Staples  
Analytics and Data Science, Sustainability  
Brock Therrien  
Information Technology  
*Transforming Energy Optimization*  
Adviser: Craig Smith

Zach Girouard  
Christopher Hattub  
Computer Science  
*Hunter Sansoucie*  
Analytics and Data Science  
Ben Stone  
Information Technology  
*Gas and Oil Usage and Predictions*  
Adviser: Craig Smith

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**Computer Science — Applications**

Group Leaders: David Benedetto, Matthew Plumlee, Craig Smith

Cameron Allen  
Lali Ntwali  
Zichao Yi  
Information Technology  
*Charles Stumpf*  
Computer Science, Information Technology  
*USS Albacore VR Experience*  
Adviser: Matthew Plumlee

Ramya Amin  
Minh-Thi Detzel  
Alexander Mitchell  
Information Technology  
*Galvion Software Release Management*  
Adviser: David Benedetto

Nathan Blake  
Computer Science  
Gopal Timsina  
Kambal Vaidya  
Information Technology  
*NextStep Health Feature Development*  
Adviser: David Benedetto

Taylor Colby  
Joe Marcinuk  
Cameron Ooze  
Computer Science  
Alon Varshaver  
Information Technology  
*EMR Skills Development*  
Adviser: Matthew Plumlee

Mitchell Cormier  
Jason MacMillan  
Beau Ramsey  
Information Technology  
*Jimmy Fitzgibbons*  
Computer Science  
*Interactive Scientific Visualization in .HTML*  
Adviser: Matthew Plumlee

Matthew Cusack  
Joshua Knauer  
Luke Knedeisen  
Information Technology  
*Pirail*  
Adviser: David Benedetto

James Msaddi  
Orianne Sinclair  
Kathleen Terwilliger  
Information Technology  
*Hunter Remick*  
Computer Science  
*Nearview: Aerial Drone Mapping for Environmental Services*  
Advisers: David Benedetto, Stefan Claesson

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**Earth Sciences**

Group Leader: Joel Johnson

Sammie Beck  
Environmental Sciences  
*Analyzing the Rate of Historical River Channel Change in NH*  
Adviser: Anne Lightbody

Gavin Drake  
Environmental Sciences  
*Estimating River Change in New England Using Past Aerial Photography*  
Adviser: Anne Lightbody

Zoe Kendall  
Earth Sciences  
*Microbial Community Respiration in the Gulf of Maine*  
Adviser: Kai Ziervogel

Aidan Lutz  
Earth Sciences  
*Contact Metamorphism of the Kittery Formation at Cape Neddick, Maine*  
Adviser: Jo Laird

Zach Marti  
Environmental Sciences  
*How Topography Affects the Recovery of Vegetation after a Major Forest Fire Burn in the Western U.S.*  
Adviser: Michael Palace
Matthew McKinney  
Environmental Sciences  
*Mercury in Sediments of Great Bay Estuary, NH*  
Adviser: Maria Florencia Fahnestock

Katherine Wieck  
Earth Sciences  
*Occurrence of Per- and Polyfluoroalkyl Substances (PFAS) in New Hampshire Biosolids*  
Adviser: Paula Mouser

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**Electrical and Computer Engineering**

*Group Leader: Richard Messner*

Skyler Baumer  
Computer Engineering

Blaise O’Mara  
Electrical Engineering  
*EEG-Based Spanish Language Proficiency Classification: A Power Spectrum and Cross-Spectrum Analysis*  
Advisers: Ronald Croce, Wayne Smith

Dylan Callahan  
Nick Snyder  
Electrical Engineering

Adam Elsner  
Logan White  
Information Technology  
*EVO Moped Conversion*  
Adviser: Noah MacAdam

Jared Fortier  
Computer Engineering  
*How Do Different Non-Driving-Related Tasks Affect Taking Back Control in Automated Vehicles? A Within-Subjects Study Using the Minisim Driving Simulator*  
Adviser: Andrew Kun

Demetrios Galatis  
Electrical Engineering  
*Audio Visualizer*  
Adviser: Richard Messner

Cameron Gavin  
Nicholas Green  
Nicholas Quinlan  
Computer Engineering  
*Thor’s Hammer*  
Adviser: Dean Sullivan

Jie Huang  
Francis Molino  
Matthew Rollend  
Electrical Engineering  
*Trike for the Visually Impaired*  
Adviser: John LaCourse

Emilie Leavitt  
Wesley Newsam  
Computer Engineering  
*BlueSweeper: Bluetooth Frame Injection for Existing Peripheral Connections*  
Adviser: Dean Sullivan

Marc Patnaude  
Nick Wallace  
Aaron Weiss  
Electrical Engineering  
*Vacuum Tube Audio Amplifier*  
Adviser: Richard Messner

Levi Poland  
Electrical Engineering  
*Noise Cancelling Speaker*  
Adviser: John LaCourse

William Ralston  
Evan Stenger  
Electrical Engineering  
*Distance and Velocity Measuring Radar*  
Adviser: Nicholas Kirsch

Eric Smith  
Electrical Engineering  
*Magnetic Stripe and RFID Skimming Device with Bluetooth Functionality*  
Adviser: Dean Sullivan

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**Innovation Scholars — Group A**

*Group Leader: Shawna Hollen*

Andrea Bartus  
Meghan Herlihy  
Bioengineering  
*Sabby Clemmons*  
Electrical Engineering  
*Electrospinning of Dextran-Based Polysaccharide to Fabricate Nanofibers for Cell Culture*  
Adviser: Linqing Li

Alex Bernard  
Undeclared

Seth Carl  
Ryan MacKay  
William Metz  
Mechanical Engineering  
*Eco Fill*  
Advisers: Elizabeth Mamros, Benjamin Mitchell

Anthony Bilodeau  
Mechanical Engineering  
*Hydroponic Bay*  
Advisers: Elizabeth Mamros, Benjamin Mitchell

Catherine Bodenrader  
Sociology

Josephine Crotty  
Mechanical Engineering  
*Plant Drainage Analysis*  
Advisers: Elizabeth Mamros, Benjamin Mitchell

Matthew Breton  
Engineering Physics

Ronan Fleming  
Chemical Engineering

Naya Leslie  
Bioengineering  
*Fibrin-Based Biomaterials Modulate Breast Cancer Cells Migration*  
Adviser: Linqing Li

Torsten Diesel  
Physics

Ali Osman  
Computer Science  
*Human Factor in Internet Virality*  
Adviser: Dean Sullivan

Elisabeth Drakatos  
Undeclared

Alexander White  
Analytics and Data Science  
*Album Cover Analysis*  
Adviser: Dean Sullivan

Kaleigh Wilson  
Mechanical Engineering  
*Articulating Figure*  
Advisers: Elizabeth Mamros, Benjamin Mitchell
Innovation Scholars — Group B

Group Leader: Shawna Hollen

Joseph Aubut  
Mechanical Engineering

Sam Harms  
Mechanical Engineering

Matthew McCoy  
Mechanical Engineering

E-Bike Transmission Design  
Advisers: Elizabeth Mamros, Benjamin Mitchell

Camden Bergeron  
Ocean Engineering

Gabriel Pointer  
Ocean Engineering

Observation of King Tide Floods in Hampton, New Hampshire, Using Basic Sensors  
Advisers: Savannah DeVoe, Diane Foster

Emma Burr  
Undeclared

Brendan Gage  
Mathematics

James Macchi  
Biology

Daniel Nelson  
Earth Sciences

Future of Hampton’s Beach: Measuring Coastal Erosion with GPS and Beach Profile Data  
Advisers: Savannah DeVoe, Diane Foster

Douglas Coulter  
Mechanical Engineering

Hydraulic Locomotion  
Advisers: Elizabeth Mamros, Benjamin Mitchell

Diego Gatti  
Mathematics

Alec Mercer  
Mechanical Engineering

Tyler Simone  
Analytics and Data Science

Wireless Water Quality Monitoring with Arduino and LoRa  
Adviser: Kyle Ouellette

Carson Loughridge  
Mathematics

Real-Time Optimization of UNH Bike Share System  
Adviser: Dean Sullivan

Jarrett Madru  
Chemical Engineering

Joshua Riley  
Physics

Miniature Piano  
Advisers: Elizabeth Mamros, Benjamin Mitchell

Ian Stewart  
Civil Engineering

Tesla Turbine  
Advisers: Elizabeth Mamros, Benjamin Mitchell

Innovation Scholars — Group C

Group Leader: Shawna Hollen

Mekan Annayew  
Mechanical Engineering

Pedro Doukas  
Geo de Clermont

Ultrasonic Levitation  
Advisers: Elizabeth Mamros, Benjamin Mitchell

Onyeka Ariguzo  
James Brackett

Deconstructing Material Dimensionality to Regulate Ovarian Cancer Growth  
Adviser: Linqing Li

Christopher Bartos  
Engineering Physics

Ava Chretien  
Kaylee Murphy

Environmental Engineering

Aife Ruane  
Environmental Sciences

Development of New Blue Robotics  
Pressure Temperature Sensors to Monitor Sunny Day Flooding  
Advisers: Savannah DeVoe, Diane Foster

Benjamin Blumsack  
Mechanical Engineering

Jane McCue  
Environmental Engineering

George Nigro  
Civil Engineering

2023 Hampton Beach Weather Station Deployment  
Advisers: Savannah DeVoe, Diane Foster

Colin Casey  
Electrical Engineering

Guitar Distortion Pedal  
Advisers: Elizabeth Mamros, Benjamin Mitchell

Amelia Gelina  
Jason Gomez

Chemical Engineering  
Metal Organic Frameworks for Drug Delivery  
Adviser: Aylin Aykanat

Drew Gulley  
Civil Engineering

Giovanni Ionfrida  
Paul Marino

Mechanical Engineering  
Trash vs. Technology: Building a 3D Constructed RC Car Out of Used Parts  
Advisers: Elizabeth Mamros, Benjamin Mitchell

Wyatt McLaughlin  
Mechanical Engineering

Ski Bike Conversion  
Advisers: Elizabeth Mamros, Benjamin Mitchell

Mechanical Engineering — Competition and Clubs

Group Leaders: Juan Bautista, Anthony Puntin

Grant Arnold  
Jacob DeSousa

Dan Maille  
Mechanical Engineering

Christian Baduria  
Preston Collette

Yicheng Su  
Computer Science

Alison Kim  
Art: Studio Art, Mechanical Engineering

Quad-X Swarm  
Adviser: May-Win Thein
Nikhil Bala  
Nathan Logan  
Jose Navarro  
Computer Science  
Benjamin Brockway  
Cameron Charette  
James Ennis  
Hayden Herrick  
Owen Payeur  
Peter Yankowski  
Mechanical Engineering  
LunaSwarm: NASA Robot Mining Competition  
Adviser: May-Win Thein

Rachel Breton  
Ecogastronomy, Entrepreneurial Studies  
Aidan Cadogan  
Civil Engineering, Sustainability  
Allison Childs  
Katie Dold  
Daniel Sheehan  
Ocean Engineering  
Luke Conroy  
Teddy Evans  
Mechanical Engineering  
Madeline Strange  
Environmental Engineering  
Swellular — Wave Powered Communications System for First Responders — MECC Competition  
Advisers: Erin Bell, Erin Hale, Martin Wosnik

Max Carpenter  
Mechanical Engineering, Whillam Grissino  
Dan Joyce  
Jared Lariviere  
Thomas LeHoullier  
William MacDonald  
Alice Wade  
Brandon Weeks  
Mechanical Engineering  
Mason McDonald  
Computer Science  
Dylan Parmentier  
Engineering Physics  
UNH SEDS Hybrid Rocketry  
Adviser: Todd Gross

Matt Colucci  
Caleigh D'Angelo  
Jesse Hight  
Jessica Jin  
Jordan LeClair  
Matt Mouser  
Brooke Shepard  
Mechanical Engineering  
Amina Nefic  
Environmental Engineering  
U.S. Department of Energy Solar Decathlon  
Adviser: Felix DeVito

Jacob Deem  
Alexander Fragomeni  
Jack Gray  
Wade Mitchell  
Matthew Scaringella  
Graham Ten Haken  
Mechanical Engineering  
UNH Baja SAE 2022-2023  
Adviser: Todd Gross

Connor Floyd  
Nicholas Gould  
Sean Leahy  
Emmett O'Brien  
Jordan Oligny  
Robert Scammon  
Kiana Sherman  
Maxwell Szczapa  
Sam Tower  
Luke Waterman  
Daniel dos Santos  
Mechanical Engineering  
UNH Precision Racing (FSAE)  
Adviser: Todd Gross

Finn Callahan  
James Cheever  
Tyler Ricard  
Adam Taatjes  
Mechanical Engineering  
Helmet Testing Platform  
Adviser: Todd Gross

Jonathan DiGiosa  
Jalen Galan  
Brett Goldstein  
Derek Jackson  
David Pekkala  
Mechanical Engineering  
UNH Pedicab Project  
Advisers: Juan Bautista, Brent Bell

Riley Drew  
Collin Edminster  
Nathaniel McCarville  
Jake Terrell  
Mechanical Engineering  
CNC Machine Automatic Door — REMCO  
Advisers: Brad Kinsey, Mike Locke

Estuardo Pinto  
Jason Provencher  
Shane Toma  
Mechanical Engineering  
Bladed Disk Defect Detection Using Machine Learning  
Adviser: John Roth

Mechanical Engineering — Research

Group Leaders: Juan Bautista, Anthony Puntin

Ian Connor  
Rebecca Dorzens  
Garrett Mallard  
Avonlea Westhoff  
Mechanical Engineering  
Robotic Blacksmithing in Space  
Adviser: Brad Kinsey

Matt Eaton  
Mechanical Engineering  
Development of In-Plane Torsion Testing Fixture and Experiment for Sheet Metal  
Adviser: Jinjin Ha

Mechanical Engineering — Industry

Group Leaders: Juan Bautista, Anthony Puntin

Corey Breault  
Corey Olson  
Camden Welch  
Mechanical Engineering  
Northeast Passage Sled Hockey  
Adviser: Todd Gross
Nicole Forno  
Eli Lemieux  
Mechanical Engineering  
The Subsea Science Sprinkler: Understanding Uniform Flow along a Controlled-Source Array through Combined Theoretical and Empirical Methods  
Adviser: Elizabeth Weidner

Eli Webber  
Mechanical Engineering  
Use of Nano Indentation for Determination of Local Properties in Dual Phase Steels  
Adviser: Marko Knezevic

Ocean Engineering

Group Leader: May-Win Thein

Aaron Belesca  
Mechanical Engineering  
Amelia Finnell  
Marine, Estuarine and Freshwater Biology  
Nature-Based Shore Protection to Stabilize Estuarine Sediment  
Advisers: Diane Foster, David Fredriksson, Raymond Grizzle, Krystin Ward

Kendall Boniecki  
Annie Duong  
Ian Lindberg  
Mechanical Engineering  
Zachary DiCicco  
Clifton Sullivan  
Harrison Ursitti  
Computer Science  
Colby Tuttle  
Ocean Engineering  
Marine and Naval Technological Advancements for Robotic Autonomy (MANTA RAY) KRILL DEVELOPMENT: U.S. Navy’s Unpiloted Underwater Vehicle  
Advisers: Matthew Plumlee, Yuri Rzhanov, May-Win Thein

Aidan Boucher  
Christina Karagianis  
Computer Engineering  
Ethan Danielson  
Eli Lemieux  
Joshua Minard  
Thomas Oliver  
Mechanical Engineering  
Zachary DiCicco  
Clifton Sullivan  
Harrison Ursitti  
Computer Science  
Maggie Enderle  
Stephanie Rota  
Samuel Whitney  
Ocean Engineering  
Mia Seitz  
Marine, Estuarine and Freshwater Biology  
Project MANTA RAY: Ghost Unpiloted Performance Platform Submersible (GUPPS)  
Advisers: Matthew Plumlee, Yuri Rzhanov, May-Win Thein

Hunter Clark  
Christopher Redard  
Mechanical Engineering  
Natalie Cook  
Ocean Engineering  
Zachary DiCicco  
Clifton Sullivan  
Harrison Ursitti  
Computer Science  
Project MANTA RAY: Unpiloted Underwater Vehicle with Support from Autonomous Surface Vehicle Network  
Advisers: Matthew Plumlee, Yuri Rzhanov, May-Win Thein

Phillip Cooper  
Ocean Engineering  
Gwenyth Hultquist  
Anthropology, Mechanical Engineering  
Corey Petix  
Marine, Estuarine and Freshwater Biology  
Restoration Acoustics  
Adviser: Michelle Fournet

Matthew Furletti  
Eli Silovich  
Ocean Engineering  
Lumpfish Variable Flow Chamber  
Advisers: Elizabeth Fairchild, Tracy Mandel, Shelby Perry, Martin Wosnik

Cole Henke  
Ocean Engineering  
Nick Pitkin  
Mechanical Engineering  
Data-Collection System for Using Oysters as Bioindicators  
Advisers: Brittany Jellison, Easton White

Physics

Group Leader: Nathaly Santiesteban

Kelly Bisson  
Engineering Physics  
3UCubed: Calibration of Ultraviolet Photomultiplier Tube  
Adviser: Marc Lessard

Logan McHaney  
Engineering Physics  
Increasing the Pass Rate of XMA’s Thin Film Products by Analyzing the Thickness Distribution in the Sputtering System  
Adviser: Shawna Hollen

Gavin Smith  
Physics  
Investigating Layer Dependence in NbTe2 Using Scanning Probe Microscopy  
Adviser: Shawna Hollen

James Wirth  
Engineering Physics  
Reducing the Variability and Cost of Determining the Coefficient of Friction of Various Lubricants  
Adviser: John Roth
University-Wide
Undergraduate
Sustainability Research Symposium

Oral Presentations

Wednesday, April 19
9 a.m.–12 p.m. and 1:30–4:30 p.m.
Memorial Union Building, Rooms 330, 332, 334, 336, 338, and 340

Students from all disciplines present research on a broad range of sustainability challenges — addressing environmental stewardship, social well-being, and economic vitality to meet our present needs, while ensuring the ability of future generations to meet their needs. Undergraduates doing sustainability research who present at this Symposium are automatically considered for the new UNH Sustainability Awards.

Phoebe Adame
Environmental Sciences, Sustainability

Elise Bender
Management, Sustainability

Grace Cannon
Marketing, Sustainability

Jordan Moyer
Information Systems and Business Analytics, Sustainability
UNH Thrift Store
Advisers: Jennifer Andrews, Alex Freid, Erin Hale

Jacob Allgaier
Community and Environmental Planning

Larissa Biette
Art: Studio Art, Sustainability

Cole Burnham
Psychology, Sustainability

Elisabeth Hunter
Anthropology, Sustainability

Lilianna Vornehm
Community and Environmental Planning, Sustainability

Planning for Climate Change in Strafford County
Advisers: Jen Czysz, Erin Hale, Autumn Scott

Julie Bobyock
Environmental Sciences, Sustainability

Kylie DeFeo
Sustainability, Zoology

Marley Gonsalves
Marine, Estuarine and Freshwater Biology, Sustainability

Matt Oriente
Information Systems and Business Analytics, Sustainability

Potential for HydroPhos in New Hampshire
Advisers: Erin Hale, Wilfred Wollheim

Raeanne Breton
Ecogastronomy, Entrepreneurial Studies

Aidan Cadogan
Civil Engineering, Sustainability

Allison Childs
Katie Dold

Daniel Sheehan
Ocean Engineering

Luke Conroy
Teddy Evans
Mechanical Engineering

Madeline Strange
Environmental Engineering

Swellular — Wave Powered Communications System for First Responders — MECC Competition
Advisers: Erin Bell, Erin Hale, Martin Wosnik

Joseph Caswell
Management, Sustainability

Brayden Danforth
English, Sustainability

Bridget Danielson
Economics, Sustainability

Holly Magowan
Community and Environmental Planning, Sustainability

Review of the Current Status of Agrivoltaics
Advisers: Erin Hale, Beth McGuinn, Rebecca Sideman

Zara Cheney
Business Administration, Sustainability

Alexis Eaton
Environmental Engineering, Sustainability

Ned Kayarian
Information Systems and Business Analytics, Sustainability

Jason Staples
Analytics and Data Science, Sustainability

The Implementation of a Solar Parking Lot with Electric Vehicle Charging Stations at UNH’s Durham Campus
Advisers: John Aber, Erin Hale

Isabella Dee
Environmental Conservation and Sustainability

How the Life Cycles of Tobacco, Smoke, and Nicotine Products Affect Us and the Environment
Advisers: Nancy Bushinsky, Jade Chalkley

Alexis Eaton
Catey Selby
Environmental Engineering, Sustainability

Molly Kent
English, Women’s and Gender Studies

Samantha Pearson
Physics

Honors College Sustainability Pathway
Advisers: Catherine Peebles, Fiona Wilson

Leah Glidden
Management, Sustainability

Mckenna Wilson
Finance, Sustainability

Sustainable Fisheries Financing
Advisers: Erin Hale, Lindsey Williams

Samantha Pearson
Physics

Honors College Sustainability Pathway
Advisers: Catherine Peebles, Fiona Wilson

Leah Glidden
Management, Sustainability

Mckenna Wilson
Finance, Sustainability

Sustainable Fisheries Financing
Advisers: Erin Hale, Lindsey Williams
University-Wide Undergraduate Sustainability Research Symposium

Poster Presentations

**Wednesday, April 19**
9:40–11 a.m. and 12–1 p.m.
Memorial Union Building, Room 340

Students from all disciplines present research on a broad range of sustainability challenges — addressing environmental stewardship, social well-being, and economic vitality to meet our present needs, while ensuring the ability of future generations to meet their needs. Undergraduates doing sustainability research who present at this Symposium are automatically considered for the new UNH Sustainability Awards.

Brooke Kane  
Business Administration, Sustainability  
Nathan Salas  
Environmental Engineering, Sustainability  
Suzanne Scharff  
Sustainability, Women’s and Gender Studies  
Daisy Young  
English, Sustainability  
Racial Equity in New Hampshire Farm to School  
Advisers: Erin Hale, Stacey Purslow  
Nathan Maybach  
Sustainability, Women’s and Gender Studies  
Improving Public Health, Sustainability, and Community: Cat Trax Bike Share  
Advisers: Jennifer Andrews, Jade Chalkley

Molly Norton  
Environmental Conservation and Sustainability, International Affairs  
The Factors of Food  
Adviser: Allison Leach

Luke Nugent  
Forest Technology  
A Cost-Benefit Analysis of Shelter Wood Silviculture and Solar Panel Lease Payments for a 30-Acre Tract of Land in New Hampshire  
Adviser: Ranjit Bawa

Matt Oriente  
Information Systems and Business Analytics, Sustainability  
An Analysis of Corporate Carbon Reduction Targets  
Adviser: Fiona Wilson

Jason Plant  
Entrepreneurial Studies  
Growth Drivers and Inhibitors of the B Corp Movement  
Adviser: Fiona Wilson

Brett Schultz  
Entrepreneurial Studies, Sustainability  
The Role of Carbon Offsetting in Small Businesses’ Sustainability Practices  
Adviser: Jennifer Andrews

Anyaa Teehan  
Environmental Conservation and Sustainability  
What Will It Take to Make UNH Truly Zero Waste?  
Advisers: Jennifer Andrews, Alex Freid

Alexandra Vergara  
English Teaching  
Changemaker Education and Trash2Treasure: Student Engagement with Sustainability  
Adviser: Jade Chalkley

Jillian Zube  
Philosophy, Political Science  
Sustainable War Technology  
Adviser: Jen Spindel

**ECOG 701: EcoGastronomy Capstone**

Adviser: Dan Winans

Teagan Bowe  
Ecogastronomy, Hotel and Hospitality Management  
Drink Local: The Impact of Local Wineries throughout New England

Raeanne Breton  
Ecogastronomy, Entrepreneurial Studies  
Boston’s Best: A Culinary Tourism Value Chain Tour

Madeline Bronder  
Anthropology, Ecogastronomy  
Do Your Taste Buds Know How to Think? The Divide of Language in the World of Wine

Caitlyn Cerasale  
Ecogastronomy, Sustainable Agriculture and Food Systems  
Growing Green: How DIY Hydroponics Can Introduce Sustainable Food Sources for College Students

Reshma Giji  
Earth Sciences, Ecogastronomy  
Pallet to Plate: The Sustainable Life of an Oyster

Julia Landcastle  
Ecogastronomy, Nutrition  
A Study of Food Waste: The Importance of Community Connection

Gemma Rose  
Ecogastronomy, Nutrition  
The Benefits and Barriers of Utilizing Local Grains in Baking
**MKTG 620: Sustainability in Marketing**

Adviser: Shuili Du

Melanie Baillargeon  
Daniel Taylor  
Marketing  
Melissa Duggan  
Business Administration  
Brandon Langdon  
Finance, Marketing  
*One Step Apparel: Tackling Ocean Pollution One Step at a Time*

Grace Cannon  
Marketing, Sustainability  
Luke Curtis  
Abigael Fillion  
Tyler Lemay  
Marketing  
Tamara Thierus  
Business Administration, Marketing  
*Ecolicious Juicery: Giving a New Life to Imperfect Produce*

Warner Casey  
Margaret Gerard  
Evan MacDonald  
Olivia McCarren  
Marketing  
Jenna Gluck  
Environmental Conservation and Sustainability  
*The Slow Burn of Fast Fashion*

Avery Cecchetti  
Business Administration  
Ross Green  
Finance  
Thomas McCauley  
Marketing  
Ciera Schwarzer  
Business Administration, Marketing  
*Wildcat Kitchen: Reducing Food Waste*

Nolan Duffy  
Daniel Marino  
Marketing  
Krysta Mack  
Management, Marketing  
Jadyn Raftery-Smart  
Business Administration, Management, Marketing  
*Second Chance: Repair and Reuse for a Healthier Planet*

Allison Ivers  
Entrepreneurial Studies, Marketing  
Nora Lucy  
Ashley Phillips  
Vanessa Smith  
Marketing  
*Stitch N’ Save: Making Fashion Sustainable*

Nolan Kirk  
Finance, Marketing  
Ashley Martin  
Sophia Pagliazzo  
Marketing  
Tyler Tang  
Management, Marketing  
*The High Price of Fast Fashion*

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**The Naked Arts—Creativity Exposed! (Act I)**

**Wednesday, April 19**  
**12–2 p.m.**  
**Paul Creative Arts Center, Museum of Art**

This event exposes the inner creative process of artists working in various disciplines. Presenters will describe the process, research, and other creative aspects undertaken to bring an artistic creation from initial inspiration to the stage or gallery. This may include a performance or excerpts from their work to illustrate their creative scholarship.

Aubrey Benoit  
English/Journalism  
*A Love Letter from My Therapist*  
Adviser: David Blair

Molly Kent  
English, Women's and Gender Studies  
*A Starved September*  
Adviser: Thomas Payne

Julie LaRue  
Art: Studio Art  
*ConWoman: Pro(tagonist)s and Con(vention)s*  
Adviser: Julee Holcombe

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Molly Maynard  
Fine Arts  
*Removed from Time: A Poetic Experience*  
Adviser: Julee Holcombe

Lily Neher  
Communication, Theatre  
*Dance as Communication*  
Advisers: Tom Alsip, Assaf Benchetrit

Gabrielle Suleiman  
Theatre  
*Body Dysmorphia in the Theatre and Dance Industry*  
Adviser: Tom Alsip

Rhi Watkins  
Dance, English/Journalism  
*We Will Not Be Silenced*  
Adviser: Tom Alsip
UNH Manchester Undergraduate Research Conference

Poster Presentations

Wednesday, April 19
4–6 p.m.
88 Commercial St., MPR Room 201 and Student Commons, Manchester

The UNHM URC Poster Presentations showcase students’ independent research and internship projects, service learning activities and civic engagement projects in the learning lab of the city of Manchester.

Karla Almanzar Sandoval
Jesse Arsenault
Mariah Beaudoin
Dmytro Bilous
Nathan Binette
Ellie Brown
Lee Brown
Ian Cahoon
Hieu Dang
Connor Dupuis
Jessica Elkins
Jacob Henry
Davis Moore
Fernando Perez
Christopher Puzzo
Alexander Wachenfeld
Cameron Audette
Dylan Haus
Derek Nicholas
Yalambar Rai
David Reynolds
Computer Information Systems
UNH Manchester Computing Capstone: A Group Research Project in Automatic Speech Recognition
Adviser: Michael Jonas

Brittney Andrews
Biotechnology
The Art of Microbes
Adviser: Suzanne Cooke

Emily Baker
Neuropsychology
Why So Nostalgic? Understanding the Reminiscence Bump
Adviser: Alison Paglia

Mahalakshmi Bandaru
Anya Kurtenbach
Doaa Kadhim Kzar
Aya Raouf
Biotechnology
Comparative Analysis of Transfection Methods with GFP Plasmid in HEK293 and RVM Cells
Adviser: Won Hyuk Suh

Marjorie Baskerville
Biological Sciences
Case Study: Deep Vein Thrombosis Leading to a Pulmonary Embolism
Adviser: Suzanne Cooke

Malory Bernstein
Psychology
Painting the Future: A Look at Art Therapy and People Living with Dementia
Adviser: Alison Paglia

Vishal Bharathi
Teja Kanekanti
Chethan Sai Dhinesh Vagvala
Biotechnology
Effects of Antibiotic Concentration and Temperature on Blue Fluorescent Protein Production in Bacteria Containing pNCS BFP Plasmid
Adviser: Won Hyuk Suh

Maggie Briggs
Biotechnology
The Effect of FOXN2 on HeLa Celia Production
Adviser: Kristen Johnson

Duncan Britton
Caitlin Merrill
Gnyaneswari Muddangula Vaddae
Biotechnology
Impact of Serum Concentration on Transfection of HEK 293 Cells with GFP
Adviser: Won Hyuk Suh

Jacob Brown
Ian Harris
Anya Kurtenbach
Matthew Woodworth
Biotechnology
Bioprinting Human Stem Cell Organoids
Adviser: Won Hyuk Suh

Jacob Brown
Biotechnology
Synthesis and Characterization of Tunable Gelatin Methacrylate Hydrogels
Adviser: Won Hyuk Suh

Evelyn Brunette
Neuropsychology
Megan McKinnon
Biotechnology
Feasibility of Using a Wearable Electrodermal Sensor with Preschool-Aged Children: A Behavioral Observation Study
Adviser: Nicholas Mian

Evelyn Brunette
Neuropsychology
Megan McKinnon
Psychology
The Relationship between Economic Adversity and Emotional Functioning in Preschool-Aged Children: A Behavioral Observation Study
Adviser: Nicholas Mian

Taylor Burwen
Candice Martin
Biological Sciences
Integrating and Exposing STEM Concepts into the Youth of Today
Adviser: Patricia Halpin

Olivia Cadorette
Biotechnology
Acquiring a Pharmacist Technician Certification
Adviser: Patricia Halpin
Carlo Jason Capuz  
Information Technology  
M.E.R.N. and Django: A Comparative Analysis of Full Stack Web Development  
Adviser: Mihaela Sabin

Annie Carr  
Jessica Nehme  
Stephanie Slaybe  
Public Service and Nonprofit Leadership  
HB619 Prohibiting Gender Transition Procedures for Minors, Relative to Sex and Gender in Public Schools, and Relative to the Definition of Conversion Therapy  
Adviser: Stephen Pimpare

Nicholas Chace  
History, Homeland Security  
Have Our Morals and Values as a Society Changed, Leading to the High Number of Mass Shootings in Recent Years?  
Adviser: Stephen Pimpare

Saikiran Chatre  
Rhea Dsouza  
Vyshnavi Nithya Madapakula  
Ganesh Vodela  
Biotechnology  
The Impact of Temperature on Bacterial Synthesis of mCherry Fluorescent Protein  
Adviser: Won Hyuk Suh

Jose Cintron-Ortiz  
Connor McWhorter Spern  
Public Service and Nonprofit Leadership  
HB469-FN: Banning Discrimination against Housing Choice Vouchers in the Rental Market  
Adviser: Stephen Pimpare

Alex Cogliano  
Public Service and Nonprofit Leadership  
Is There Correlation between Violent Video Games and Aggression?  
Adviser: Stephen Pimpare

Jessica Cote  
American Sign Language (ASL)/English Interpreting  
Down the Warp Pipe: Classic Video Games and Nostalgia  
Adviser: John Sparrow

Eve Cox  
Homeland Security  
What Have Been Sports’ Most Prominent Security Concerns in the Last 10 Years?  
Adviser: Stephen Pimpare

William DeSilva  
Biological Sciences  
Kaitlyn Douillard  
Megan Ross  
Psychology  
Tara Duffy  
Joseph Planchet  
Abeer Shabaka  
Neuropsychology  
Vishnu Soni  
Neuropsychology  
Cataloging Multiple-Disappearance Trends in Motion-Induced Blindness  
Adviser: John Sparrow

Elvis Demirovic  
Biotechnology  
Advanced Emergency Medical Technicians: The Bridge between Advanced and Basic Life Support  
Adviser: Won Hyuk Suh

David Doucet  
Homeland Security  
Does Money Affect Happiness?  
Adviser: Stephen Pimpare

Rayna Duclos  
Psychology  
Dementia and End-of-Life Decisions  
Adviser: Alison Paglia

Mike Dullen  
Uyen Ly  
Matthew Woodworth  
Biotechnology  
Investigation of Triple Plasmid Transfection for RVM Cells  
Adviser: Won Hyuk Suh

Ethan Edwards  
Doaa Kadhim Kzar  
Biotechnology  
Deriving Neural Stem Cells from Induced Pluripotent Stem Cells  
Adviser: Won Hyuk Suh

Aidan Fleming  
Homeland Security, International Affairs  
Will Generational Differences in Perspectives Regarding the 9/11 Terrorist Attacks Have an Impact on the Future of Homeland Security within the United States?  
Adviser: Stephen Pimpare

Noah Forest  
Psychology  
Frontotemporal Dementia and Judgment  
Adviser: Alison Paglia

Haylee Foster  
Biology  
Public Health Literacy: Assuring an Educated Citizenry Resilient to Public Health Challenges  
Advisers: Semra Aytur, Rosemary Caron
Monique Gingras
Nadin Jailiubekova
Brandon Smith
Biotechnology
Optimizing Confluency for Transfection of pcDNA3-mRFP into HEK 293T Cells
Adviser: Won Hyuk Suh

Noemi Gutierrez
Biological Sciences
Comparative Genomics between Barn Owls and Related Species
Adviser: Dr. Sarah Prescott

Aicha Hamcha
Public Service and Nonprofit Leadership
Do Adverse Childhood Experiences (ACEs) Have an Effect on Academic Performance in Young Adults?
Adviser: Stephen Pimpare

Max Hytinen
Public Service and Nonprofit Leadership
Has the Implementation of Tablets, Laptops, and Smart Devices Affected High School Classroom Learning?
Adviser: Stephen Pimpare

Nadin Jailiubekova
Ashna Siddiqui
Biotechnology
Analyzing Correlations between FOXN2 and Cilia Loss in NIH-3T3 Mammalian Cells in Application to Cancer
Adviser: Kristen Johnson

Kavya Kalaveni
Caitlin Merrill
Akshada Somvanshi
Chethan Sai Dhinesh Vagvala
Biotechnology
Impact of Porous Structure 3D Printing on Cell Culture Health and Viability
Adviser: Won Hyuk Suh

Kavya Kalaveni
Akshada Somvanshi
Aarti Sunilkumar Thawani
Biotechnology
Transfection of pcDNA3-mRFP in ReN Cells VM
Adviser: Won Hyuk Suh

Phoebe Kelley
Biotechnology
Comparative Genomics of the Eastern Screech Owl
Adviser: Dr. Sarah Prescott

Nadia Keokaminh
Savannah Lopez
Ahd Mohamed
Biotechnology
Culturing Human Neural Stem Cells on Transparent Lego Parts
Adviser: Won Hyuk Suh

Nadia Keokaminh
Biotechnology
Thayer School of Engineering at Dartmouth Experience: Assessing the Feasibility of 3D Printing and Tissue Scaffolds
Adviser: Suzanne Cooke

Chris Kilgore
Homeland Security
Fifth Generation Warfare and the Future of Conflict
Adviser: Andrew Macpherson

Alexa Leigh
Public Service and Nonprofit Leadership
Is Eyewitness Testimony Reliable?
Adviser: Stephen Pimpare

Savannah Lopez
Biotechnology
Students Prefer Final Projects That Are Scaffolded to Avoid Procrastination and Negative Impact on Mental Health
Adviser: Patricia Halpin

Keenan MacDonald
Public Service and Nonprofit Leadership
Can Proper Education and Positive Interactions with Snakes Help Reduce and/or Eliminate a Direct Fear of Snakes?
Adviser: Stephen Pimpare

Takudzwa Marindire
Public Service and Nonprofit Leadership
Is There a Relationship between Bad Governance and Poverty in Zimbabwe?
Adviser: Stephen Pimpare

Dan Marshall
Public Service and Nonprofit Leadership
What Kind of Exercise Is the Best in Helping to Alleviate Depression Symptoms?
Adviser: Stephen Pimpare

Madison Monbleau
Public Service and Nonprofit Leadership
What Is the Effect of Social Media Use on Academic Self Efficacy?
Adviser: Stephen Pimpare

Pamella Lais Mozzer
Joseph Planchet
Neuropsychology
The Reliability of the Balance Error Scoring System Test is Maintained during Remote Administration
Adviser: Daniel Seichepine

Jessica Nehme
Public Service and Nonprofit Leadership
HB619
Adviser: Melissa Aikens

Kiluba Ngila
Biological Sciences
Pharmacy Technician Program
Adviser: Suzanne Cooke

Justin O’Donnell
Sheri Paloma
Public Service and Nonprofit Leadership
SB151-FN: Relative to Mental Health Education
Adviser: Stephen Pimpare

Jordan Odell
Biological Sciences
Modern Day Antibiotic Discovery
Adviser: Suzanne Cooke

Joel Osterman
Biotechnology
The Effects of All-Trans Retinoic Acid on the Differentiation of Human Neural Stem Cells
Adviser: Won Hyuk Suh

Bryanna Rizas
Biotechnology
Antibiotic Discovery: Monosaccharide vs. Polysaccharide
Adviser: Suzanne Cooke

Kira Smith
Neuropsychology
Psychedelic Treatment
Adviser: Alison Paglia
UNH Manchester URC Cinema Arts Day

Thursday, April 20
9 a.m.–12 p.m.
88 Commercial St., Screening Room 456, Manchester

The UNHM Communication Arts program has a production track in which students complete introductory and advanced coursework in video production, scriptwriting, audio production, film aesthetics, and documentary production. The student films and scripts illustrate student work at different stages in the curriculum.

Adviser: Anthony Tenczar

Rachel Bidwell
Communication Arts
A Dog’s Best Friend

Clair Carroll
Business Administration
Child of the Storm

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John Tiano
Public Service and Nonprofit Leadership
Does Childhood Physical Activity/Athletic Participation Impact Adulthood Physical Activity/Athletic Participation?
Adviser: Stephen Pimpare

Gwendolyn Tupman
Biotechnology
Establishing the Connection between FOXN2 and a Cilia Signature in HeLa Cells
Adviser: Kristen Johnson

Andrew Widdekind
Homeland Security
How Can Resilience for Pluvial Flooding (Surface Water Runoff Because of Torrential Rain Events) be Improved?
Adviser: Stephen Pimpare

Matthew Woodworth
Biotechnology
Investigation of PEI-g-PEG for Human Progenitor Neuronal Cell Transfection
Adviser: Won Hyuk Suh

Luis Rosado
Communication Arts
The Basement

Luis Rosado
Communication Arts
The TWP Interview

Liam Shelly
Communication Arts
Drag Night

Liam Shelly
Communication Arts
Majed

Adam Zienkiewicz
Communication Arts, English
Miss Z: Third Grade Teacher Video Production Project

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History Department Undergraduate Research Conference

Thursday, April 20
12–3 p.m.
Memorial Union Building

The History Department hosts several panels of undergraduate history majors who present research projects from their academic classes, research seminars, independent research projects, and Honors theses. The History Undergraduate Research Conference provides History students with the opportunity to share their work with fellow students, professors, and families.

Memorial Union Building, Room 332
Sites of Continuity/Sites of Disruption
Moderator: Fredrik Meiton

Morgan Eames
Anthropology, History
Adviser: Fredrik Meiton

Zoie Haskell
History, Women’s and Gender Studies
Power, Gender, and Trauma in Arab Cinema, 1990-2020
Adviser: Fredrik Meiton

Maggie Joyce
Classics, History
Religious Continuity and Disruption in Ancient Corinth
Adviser: R. Scott Smith

Memorial Union Building, Room 330
Smashing History
Moderator: Sara Wolper

Samantha DiNatale
Environmental Conservation and Sustainability, History
A Battle against “Ecology Nuts”: An Examination of Olympic Oil Refinery Proponents
Adviser: Kurk Dorsey

Tu Anh Duong
History
The Great Wonder: Understanding Delaware’s Whipping Post
Adviser: Sara Wolper
Christopher Holmes
History
The Buddhas of Bamiyan: A Lesson in Cultural Property, Iconoclasm, and the Rage of the Taliban
Adviser: Sara Wolper

Margaret Sawyer
International Affairs, Spanish
Selective Remembrance: Spanish-Islamic Heritage in Andalusia
Advisers: Thomas Safford, Sara Wolper

The Naked Arts—Creativity Exposed!

Act II

Thursday, April 20
12:40–2 p.m.
Paul Creative Arts Center, Museum of Art

This event exposes the inner creative process of artists working in various disciplines. Presenters will describe the process, research, and other creative aspects undertaken to bring an artistic creation from initial inspiration to the stage or gallery. This may include a performance or excerpts from their work to illustrate their creative scholarship.

Wesley Coffin
Music
Composing Music: The Method to the Madness
Adviser: Andrew Boysen

Grace Godfrey
Communication
It Was All a Lie
Adviser: Clark Knowles

Maddie Pender
Art: Studio Art
Recollecting Girlhood
Adviser: Brian Chu

Olivia Williams
Fine Arts
The Nature of Portraiture
Adviser: Benjamin Cariens

All Colleges Undergraduate Research Symposium

Welcome Breakfast

Friday, April 21
9–9:30 a.m.
Memorial Union Building, Granite State Room

This informal gathering gives students, faculty, and attendees an opportunity to visit with each other before experiencing the large university-wide event that follows: the All Colleges Undergraduate Research Symposium.

All Colleges Undergraduate Research Symposium

Oral Presentations, Session A

Friday, April 21 9:30–10:40 a.m.
Memorial Union Building

The All Colleges Undergraduate Research Symposium showcases students from all disciplines. Students present their faculty-mentored projects in one of two interactive poster sessions, or in one of three oral presentation sessions. University-wide participants come from a variety of disciplines.

Memorial Union Building, Room 332

Indigenous Heritage: Past and Present

Adviser: Svetlana Peshkova
Moderator: Elaine Marhefka

Isabel Cole
Sustainable Agriculture and Food Systems
Indigenous Food Ways

Elisabeth Hunter
Anthropology, Sustainability
The Relationship between Food and Medicine in Indigenous New England

Patrick Hussey
Communication, Educational Studies
Approaching Mental Health from an Indigenous Perspective

Keyghan Lewis
Anthropology
Wabanaki Basket Weaving

Memorial Union Building, Room 330

Insecurity and Sovereignty: Multifaceted Challenges, Interdisciplinary Perspectives

Moderator: Michael Cole

Ashleigh Eaton
International Affairs, Sociology, Spanish
Calculating the Dangers: The European Union, Maritime Migrants, and the Perilous Route from West Africa to the Canary Islands
Adviser: Smita Lahiri

Corilie Green
English, International Affairs
Cyber Sovereignty and International Cybersecurity
Adviser: Thomas Safford

Alonia Needs
Environmental Conservation and Sustainability, International Affairs
Drawing Connections between Environmental Conservation and Indigenous Knowledge
Adviser: Thomas Safford

Jack Quaranto
Homeland Security, International Affairs
Supply Chains in Shock: The Russia-Ukraine War and Global Economic Disruption
Adviser: Smita Lahiri

Margaret Sawyer
International Affairs, Spanish
Selective Remembrance: Spanish-Islamic Heritage in Andalusia
Advisers: Thomas Safford, Sara Wolper
**Memorial Union Building, Room 302**

**Multidisciplinary Session I**

**Moderator:** Leigh Pratt

**Kendall Bush**  
Justice Studies, Political Science  
Anti-Queer Policy and Rhetoric as It Translates to Increased Criminality against the Queer Community  
Adviser: Nena Stracuzzi

**Brian Conti**  
Psychology  
Critical Thinking: What It Means and Why It Matters  
Adviser: John D. Mayer

**Travis Grimm**  
Justice Studies, Political Science  
How Is China Using the United Nations to Redefine Western Liberal Ideologies as Defined by the United States?  
Adviser: Alynna Lyon

**Memorial Union Building, Room 334**

**Chinese Nationalism, Security, and Expansionism**

**Adviser:** Lawrence C. Reardon  
**Moderator:** Ben MacKillop

**Victoria Broadley**  
Political Science, Psychology  
The Impact of China’s Cybersecurity Censorship

**Brendan Bunnell**  
Political Science  
The Senkaku/Diaoyutai Island Controversy and the Balance of Power in Asia

**Ellie Correia**  
Political Science  
Microwars: How U.S.-China Relations Have Made the Semiconductor a Matter of Security

**Noah Gonzalez**  
Political Science  
Analyzing the Expansion of State Borders

**Memorial Union Building, Room 336**

**Multidisciplinary Session II**

**Moderator:** Tarkington Newman

**Georgia Gempler**  
Psychology  
An Information Flow Model for Predicting National Security Intelligence Alliances  
Advisers: Katharine Cunningham, Andrew Macpherson

**Emily Komerska**  
Neuroscience and Behavior  
Replication of the Increment-Decrement Effects in Motion-Induced Blindness  
Adviser: Jessica Das Senjuti, Andrew Kitt, Joseph LaBarre, William Stine, Rebecca White

**Danielie Martineau**  
Biomedical Science  
Effect of an Acute Bout of Low-, Moderate-, and High-Intensity Aerobic Exercise on Immediate and Delayed Fractionated Reaction Time  
Adviser: Ronald Croce

**Talia Anzivino**  
Psychology  
Life Adversity among Transgender Homicide Victims: A Qualitative Approach  
Adviser: Robert Eckstein

**Ella Burhans**  
Justice Studies, Political Science  
Parental Rules and Legitimacy as Mediators between Parenting Styles and Rule-Violating Behavior  
Adviser: Ellen Cohn

**Lauren Hunter**  
Psychology  
What Are the Root Causes of Global Food Insecurity?  
Adviser: Donald McPherson

**Anya Ortakales**  
Psychology  
Analyzing the Expansion of State Borders

**Memorial Union Building, Room 338**

**The United States Engages the Global Economy**

**Adviser:** Lawrence C. Reardon  
**Moderator:** Andrew Smith

**Dylan Cordle**  
International Affairs, Political Science  
What Are the Root Causes of Global Food Insecurity?  
Adviser: Ronald Croce

**Jon Dickinson**  
Political Science  
U.S. Reliance on Foreign Debt

**Natalie Gauthier**  
International Affairs, Political Science  
Immigration into the United States and the Economy

**Steve MacDonald**  
Political Science  
The Domino Effect of the Great Recession: From the U.S. to across the Pond

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**All Colleges Undergraduate Research Symposium**

**Poster Presentations, Session A**

**Friday, April 21**

**9:30–10:40 a.m.**

**Memorial Union Building, Granite State Room**

The All Colleges Undergraduate Research Symposium showcases students from all disciplines. Students present their faculty-mentored projects in one of two interactive poster sessions, or in one of three oral presentation sessions. University-wide participants come from a variety of disciplines.

**Talia Anzivino**  
Psychology  
Life Adversity among Transgender Homicide Victims: A Qualitative Approach  
Adviser: Robert Eckstein

**Ella Burhans**  
Justice Studies, Political Science  
Parental Rules and Legitimacy as Mediators between Parenting Styles and Rule-Violating Behavior  
Adviser: Ellen Cohn

**Lauren Hunter**  
Psychology  
What Are the Root Causes of Global Food Insecurity?  
Adviser: Donald McPherson

**Anya Ortakales**  
Psychology  
Analyzing the Expansion of State Borders

**Memorial Union Building, Room 302**

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Adviser: John D. Mayer

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**Memorial Union Building, Room 334**

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Political Science, Psychology  
The Impact of China’s Cybersecurity Censorship

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The Senkaku/Diaoyutai Island Controversy and the Balance of Power in Asia

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Microwars: How U.S.-China Relations Have Made the Semiconductor a Matter of Security

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Political Science  
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**Memorial Union Building, Room 336**

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An Information Flow Model for Predicting National Security Intelligence Alliances  
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Adviser: Jessica Das Senjuti, Andrew Kitt, Joseph LaBarre, William Stine, Rebecca White

**Danielie Martineau**  
Biomedical Science  
Effect of an Acute Bout of Low-, Moderate-, and High-Intensity Aerobic Exercise on Immediate and Delayed Fractionated Reaction Time  
Adviser: Ronald Croce

**Talia Anzivino**  
Psychology  
Life Adversity among Transgender Homicide Victims: A Qualitative Approach  
Adviser: Robert Eckstein

**Ella Burhans**  
Justice Studies, Political Science  
Parental Rules and Legitimacy as Mediators between Parenting Styles and Rule-Violating Behavior  
Adviser: Ellen Cohn
Casey Baumann
Genetics
Olivia Smith
Biology
Correcting a Salt Stress Phenotype in Arabidopsis thaliana Using Hybrid Phosphatase Transgenes
Adviser: Estelle Hrabak

Christopher Berthrong
Sean Doherty
Chris Feldman
Nate Hobbs
Zachary Matthews
Joe O’Loughlin
Tyler Tran
Exercise Science
Changes in Lactate Threshold Following a Transition to a Sedentary or Obesogenic Lifestyle in Young Men
Adviser: Michael Brian

Benjamin Boulton
Biomedical Science
Relating Fiber-Rich Foods and Physical Activity Level with Gastrointestinal Symptoms in Hispanic/Latino Adults Residing in New Hampshire
Adviser: Maria Carlota Dao

Madeline Bronder
Anthropology, Ecogastronomy
Cormac Day
Anthropology, History
Siobhain Murphy
Logan Snell
Anthropology
Anthropological and Archival Investigation of Mummified Human Head
Adviser: Maria Carlota Dao

Yifang Chang
German, Psychology
Alexandra LaBrake
Neuroscience and Behavior
Bri Lavelle
Psychology
Jack Thompson
Nutrition
Recovery from Mask Inhibition during MIB
Adviser: William Stine

Lexi Corvino
Kacey Fleming
Justice Studies, Psychology
Does Strict Parenting Lead to Increased Drug Use and Rule Violating Behavior?
The Mediator of Depression
Adviser: Ellen Cohn

Josie Dardinski
Marine, Estuarine and Freshwater Biology, Spanish
Rugosity and Diversity of Fish Species in Florida Keys
Adviser: Jennifer Dijkstra

Griffin Delin
Environmental Conservation and Sustainability, Spanish
Investigating the Effectiveness of Ecuadorian Waterfunds through a Lens of Sustainability
Adviser: Catherine Ashcraft

Cruz Delasanta
Anthropology, Justice Studies

Kylee Jedraszek
Justice Studies, Sociology
Missing Twice? A Comparison of Known “No Body Homicide” Cases to Missing Persons in NamUs
Adviser: Amy Michael

Madison Gould
Communication Sciences and Disorders
Assessing Conversational Overlap in a Museum Setting
Adviser: Jill Thorson

Rachel Harrison
Neuroscience
Charlotte Kislevitz
Madeline Meyers
Jayda Vazquez
Psychology
Examining the Association between Mental Health Symptom Severity and Body Awareness through an Ecological Momentary Assessment Protocol
Adviser: Jolie Wormwood

Hanna Holmgren
History, Justice Studies
Tracing the History of Gender Variant People's Relationship to Law Enforcement in the United States
Adviser: Robert Eckstein

Celia Lacey
Exercise Science
Does a Higher Level of Cardiorespiratory Fitness Prevent Changes in 24H Glucose Regulation after Transitioning to a Sedentary or Obesogenic Lifestyle in Young Males?
Adviser: Michael Brian

Nia Lessard
Nutrition
Health Risk and Self-Reported Stress and Eating Habits in First-Year Students
Adviser: Jesse Stabile Morrell

Jacob Mischka
Biology
PKS Survey of Streptomyces griseus in Stellwagen Bank National Sanctuary
Advisers: Semra Aytur, John Bucci

Julia Priest
Psychology
Boredom over Time
Adviser: Caitlin Mills

Emily Sandler
Environmental Conservation and Sustainability
Mark Troiani
Wildlife and Conservation Biology
Classifying Tree Species Surrounding Vernal Pools to Understand Their Effects on Phenology of Vernal Pool-Associated Species
Advisers: Jennifer Purrenhage, Michael Simmons, David Steinberg

Katherine Stariknok
Communication Sciences and Disorders, Spanish
Impact of Foreign Accent on Receptive Language Assessments for Bilingual Children
Adviser: Jill Thorson

Emily Waite
Exercise Science
The Effect of Post-Meal Walking Step Cadence on Time from Peak to Nadir Blood Glucose in Physically Inactive Young Women
Adviser: Michael Brian
Sarah Waleryszak  
Nutrition  
*Calories In/Calories Out: Does It Relate to College Students’ Sleep?*  
Adviser: Jesse Stabile Morrell

Virginia Weiss  
Environmental Conservation and Sustainability  
*Supports and Barriers Affecting Community College Transfer Student Degree Persistence at a Four-Year Institution*  
Advisers: Melissa Aikens, Faith Frings

Marcella Wondal  
Social Work  
*Exploring Life Skill Development and Transfer of Youth Experiencing Homelessness*  
Advisers: Tarkington Newman, Sherri Simmons-Horton

### Multidisciplinary Session III

**Moderator:** Kate Gaudet

- **Corwin Freedman**  
  Biology, Classics  
  *The Evolution of Care for Horses from Late Roman Republic to Early Christianity*  
  Adviser: Susan Curry

- **Nicholas Gigliotti**  
  Justice Studies, Psychology  
  *Peers Who Pressure: Its Effect on Police Legitimacy*  
  Adviser: Ellen Cohn

- **Myah Kerbyson**  
  Nursing  
  *Nursing Students’ and Recent Graduates’ Observations of Fatphobia in the Clinical Setting*  
  Adviser: Kerry Nolte

- **Ginger Schoff**  
  Political Science  
  *New Caudillos: A Survey-Based Portrait of Democracy in El Salvador and Brazil*  
  Adviser: Mary Fran Malone

- **Aidan Thomas**  
  Classics, Religious Studies  
  *The Impact of Leviticus 25 on the Black Community in America*  
  Adviser: Nicole Ruane

### Multidisciplinary Session IV

**Moderator:** Jesse Stabile Morrell

- **Luke Botticelli**  
  Biochemistry, Molecular and Cellular Biology  
  *The Embryonic Stem Cell Complexome and Epichaperome*  
  Adviser: Feixia Chu

- **Megan Broderick**  
  Educational Studies, Environmental Conservation and Sustainability  
  *Sustainability Advocates*  
  Adviser: Jade Chalkley

- **Caleb Marrero**  
  Health Sciences  
  *The Epidemiology of Concussions among Collision Sports in Middle School Athletes*  
  Adviser: Trish Kelshaw

- **Luke Nugent**  
  Forest Technology  
  *A Cost-Benefit Analysis of Shelter Wood Silviculture and Solar Panel Lease Payments for a 30-Acre Tract of Land in New Hampshire*  
  Adviser: Ranjit Bawa

### Outstanding Student Research from Communication — Comm-Entary

**Moderator:** R. Michael Jackson

- **Lauren Cole**  
  Communication  
  *Pandemic through the Lens: An Examination of Repeat Photography during Lockdown*  
  Adviser: Joseph Terry

- **Emma DaRocha**  
  Communication  
  *Interorganizational Communication Case Study*  
  Adviser: Renee Heath

- **Lydia Osmer**  
  Communication, English Teaching  
  *Case Study Report: The Five Stages of Death in WandaVision*  
  Adviser: Mike Alvarez

- **Brie Surawski**  
  Communication  
  *Analysis of “My Sister’s Keeper” and Parents of Terminally Ill Children*  
  Adviser: Mike Alvarez

- **Ashley White**  
  Communication, Women’s and Gender Studies  
  *The Role of Epistemics in Storytelling*  
  Adviser: Danielle Pillet-Shore
Memorial Union Building, Room 334

Human Rights and Corruption in China
Adviser: Lawrence C. Reardon
Moderator: Jon Dickinson

Aidan Collins
Political Science
China’s Treatment of Its Citizens

Austen LeDonne
Political Science
Negative Impacts of the Triads on Chinese Society

Declan McCarthy
Political Science
Outer Manchuria: The Future Border Dispute with Russia and China

Lauren Sutton
Communication, Political Science
An Orwellian China: Chinese Corruption

Ryan Vona
Political Science
Starvation in Communist China

Memorial Union Building, Room 338

Russia’s Invasion of Ukraine: Political, Economic, and Social Implications
Moderator: Andrew Smith

Colin Browne
Political Science
Nationalism: The Decline of Multilateral Trade
Adviser: Lawrence C. Reardon

Dylan Cordle
International Affairs, Political Science
Here to Stay: Implications of the War in Ukraine and the Role Nuclear Weapons Play in Geopolitics
Advisers: Smita Lahiri, Jen Spindel

Q Quiles
Political Science
The Russian Invasion of Ukraine: Putin’s Crusade or a War of Opportunity?
Adviser: Lawrence C. Reardon

Calvin Wels
Political Science
Effectiveness of Economic Sanctions in Achieving Political Goals
Adviser: Lawrence C. Reardon

Memorial Union Building, Room 332

The Impact of Climate Change on Global Finite Resources
Adviser: Lawrence C. Reardon
Moderator: Michael Cole

Angus Bremner
Political Science
Politics of Natural Resources

Victoria Drake
Political Science
Enacting Aid: The Name behind the Plan

Conor Hill
Political Science
Climate Economics: Can Degrowth Promise to Make Our Communities More Climate Resilient?

Vinny Pallotto
Political Science
Green War: The Era of Clean Energy Competition

Amanda Pirani
English/Journalism, Political Science
What Incentivizes Trade Liberalization? Why Developing Countries Transition to More Open Economies

All Colleges Undergraduate Research Symposium

Poster Presentations, Session B

Friday, April 21
10:50 a.m.–12 p.m.
Memorial Union Building, Granite State Room

The All Colleges Undergraduate Research Symposium showcases students from all disciplines. Students present their faculty-mentored projects in one of two interactive poster sessions, or in one of three oral presentation sessions. University-wide participants come from a variety of disciplines.

Kelsey Alimandi
Biology

Hannah Manning
Biomedical Science

Individual Behavioral and Neurobiological Markers Associated with Vulnerable to Alcohol Use Phenotype
Adviser: Sergios Charntikov
Laura Allen  
Anthropology, Earth Sciences  
Chase Johnson  
Anthropology, French Studies  
*Activity Markers in the Arms: A Sample Population from Medieval Caesarea Maritima*  
Adviser: Amy Michael  

Amanda Ares  
Exercise Science  
*Comparing Lifestyle Behaviors and Body Composition in College Students with and without Health-Related Majors*  
Adviser: Summer Cook  

Ila Bartenstein  
Environmental Sciences, Sociology  
*Climate Change-Induced Stress in University Students*  
Adviser: Catherine Moran  

Connor Belt  
Health Sciences  
*Association of Language on Concussion Recovery in Collegiate Athletes*  
Adviser: Trish Kelshaw  

Lindsey Broadhurst  
Ava Maddox  
Megan Miller  
Amanda Wittemann  
Psychology  
*The Biased Mind: The Relationship between Affective Forecasting and Mental Health*  
Adviser: Jolie Wormwood  

Devan Burke  
Social Work  
*Youth Perceptions of Police at the Manchester Police Athletic League*  
Adviser: Tarkington Newman  

Emma Carrigan  
Genetics  
*Revolutionary Advances in the Treatment of Genetic Disease*  
Adviser: David Plachetzki  

Taylor Cassiani  
Italian Studies, Linguistics  
*The Contact between the Vocalic Systems of Hausa and Ekhwa*  
Adviser: Rachel Burdin  

Sadie Chaffin  
Sonia Russell  
Psychology  
*The Effects of Life Stresses on Rule-Violating Behavior: The Mediating and Moderating Effects of Temper*  
Adviser: Ellen Cohn  

Libby Chase  
Emily Meservey  
Kiara Niero  
Derek O’Brien  
Amelia Taddei  
Sophia Vanek  
Exercise Science  
*Is There a Relationship between a Lower Lactate Threshold and Increased Blood Glucose Levels?*  
Adviser: Michael Brian  

Qiayra Classen Randolph  
Biology  
*Frog-Eating Midge? Predation of Wood Frog Eggs (Lithobates sylvaticus) by Chironomid Midge (Diptera: Chironomidae)*  
Advisers: Jennifer Purrenhage, David Steinberg  

Lydia Collyns  
Anthropology  
*Stable Isotope Analysis of Archaeological Human Remains from Spain and Croatia: An Analysis of Diet, Mobility, and Societal Stratification*  
Adviser: Les Fitzpatrick  

Brian Conti  
Psychology  
*Critical Thinking: What It Means and Why It Matters*  
Adviser: John D. Mayer  

Christiana Donatelli  
Biomedical Science  
*I Used the Graph: Students’ Reasoning about Rate of Change and Population Growth*  
Adviser: Melissa Aikens  

Kaleb Ducharme  
Neuroscience and Behavior  
*Ensemble Perception of Depth in Virtual Reality*  
Adviser: Omer Daglar Tanrikulu  

Samantha El-Massih  
Nursing  
*The Psychosocial Impact of Health Maintenance in Young Adults Who Grew up with Chronic Illness*  
Advisers: Samantha Arnold, Kerry Nolte  

Tanner Faucher  
History, Political Science  
*Redistricting and Gerrymandering in New Hampshire*  
Adviser: Dante Scala  

Max Gauthier  
Kinesiology  
*The Association of Prior Lower Extremity Injury and Future Incidents of Concussion in Middle School Athletes*  
Adviser: Trish Kelshaw  

Sophie Goodwin  
Sociology, Sustainability  
*Demographic Change across Subareas of the United States*  
Adviser: Kenneth Johnson  

Katherine Harper  
Neuroscience and Behavior  
*A Closer Look into Exploring Misinformation through a Twitter Simulation*  
Advisers: Laura Allen, Sarah Creer  

Taylor Heck  
Carly Little  
Aleksandra Misiewicz  
Emily Roberge  
Violet Sullivan  
Emily Waite  
Exercise Science  
*Comparison of the Effects of Lean Muscle Mass on Fat Oxidation in Sedentary and Obesogenic Lifestyles*  
Adviser: Michael Brian  

Kylee Jedraszek  
Justice Studies, Sociology  
*Forensic Identification Efforts in New Hampshire Cold Cases*  
Adviser: Amy Michael  

Sabrina Kadariya  
Health Management and Policy  
*A Syndemic Approach to Environmental Health in Manchester, New Hampshire*  
Adviser: Semra Aytur
Megan Kimball-Rhines
Communication, Women’s and Gender Studies

Suzanne Scharff
Sustainability, Women’s and Gender Studies

Madison Tingle
Women’s and Gender Studies

Caitlin Turner
Sociology, Women’s and Gender Studies

Emilia Willett
English Teaching, Women’s and Gender Studies

Accessibility of Mental Health Resources at UNH
Adviser: Avary Thorne

Delaney Kjendal
Nursing
Universal Suicidality Screening in a Critical-Access Emergency Department
Advisers: Kimberly Force, Kerry Nolte, Sara Robinson

Megan Knuettel
Social Work
Influence of Mental Health and Gender Identity on Collegiate Student-Athletes
Adviser: Tarkington Newman

Jaxson Libby
Biochemistry, Molecular and Cellular Biology
Investigation of Mechanical Regulation on STAT3 Activity
Advisers: Linqing Li, Sarah Walker

Ian Lindberg
Mechanical Engineering
Engineering Analysis of Siege Engines in the First Crusade
Adviser: David Bachrach

Patricia Louis
Nursing
Analyzing Family Stress in America: A Look at Maternal Experience during the COVID-19 Pandemic
Adviser: Alyssa O’Brien

Kate Maimone
Social Work
The Development and Transfer of Life Skills of the Manchester Police Athletic League
Adviser: Tarkington Newman

Ashanti Maronie
Anthropology
The Role of Race in Bringing Home the Missing
Adviser: Amy Michael

Maryann McCall
Biomedical Science
Optimization of Electrochemiluminescence Assay to Measure Hunger and Satiety Hormones in Human Plasma
Adviser: Maria Carlota Dao

Camryn McNally
Kinesiology
Association of Access to Athletic Training Students and Concussion Care in Collegiate Athletes
Adviser: Trish Kelshaw

Andrea Pecora
Biomedical Science
Scanning Electron Microscopy of Geodermatophilaceae Rock Colonization
Adviser: Louis Tisa

Quinn Poole
Biochemistry, Molecular and Cellular Biology
Dairy Barn to Lab Bench: Imaging Ovaries to Analyzing Cell Function
Advisers: Dean Elder, Paul Tsang

Emily Pratt
Biochemistry, Molecular and Cellular Biology
STAT3 in TNBC Using GSK3β and Integrin Inhibitors
Adviser: Sarah Walker

Aashaya Rajbhandari
Justice Studies, Sociology
Race of Victim and Offender in State Death Penalty Legislation
Adviser: Ryan Gibson

Alexis Roach
Justice Studies, Political Science
Tinkering with Tinker: Why the Supreme Court Must Protect Student Speech through Social Media
Adviser: J Kirk Trombley

Amir Robertson
Psychology, Women’s and Gender Studies

Kyra Woodward
Justice Studies, Psychology
Gender Stereotypes in Categorical Processing Biases for Ambiguous Facial Expressions of Emotion
Adviser: Jolie Wormwood

Deborah Ross
Neuroscience and Behavior, Spanish
El Renacimiento Psicodélico de los Estados Unidos como una Oportunidad de Establecer las Fundaciones de la Reciprocidad, la Inclusión, y el Tratamiento para la Salud Mental
Adviser: Scott Weintraub

Emily Roy
Nursing
The Clinical Observations of Nursing Students and Recent Graduates Caring for LGBTQ+ People
Adviser: Kerry Nolte

Cole Sirafos
Psychology
Psychedelic Drugs: Implications for Treatment of Psychiatric Conditions
Adviser: Michael Mangan

Ethan Smith
Kinesiology
Is Prior Concussion History Associated with Future Lower Extremity Injury in Middle School Athletes?
Adviser: Trish Kelshaw

Jocelyn Therrien
Nutrition
Exploring the Prevalence, Safety and Efficacy of Blenderized Tube Feeding
Adviser: Maggie Dylewski Begis

Sierra Walsh
Biomedical Science, Neuroscience and Behavior
Neuronal Primary Cilia in Postnatal Brains
Adviser: Xuanmao Chen

Megan Welch
Nursing
Birth Trauma and Exercise Incontinence among Average Active Women
Advisers: Bridget Linehan, Kerry Nolte
All Colleges Undergraduate Research Symposium

Oral Presentations, Session C

Friday, April 21
12:15–1:25 p.m.
Memorial Union Building

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Memorial Union Building, Room 334

Multidisciplinary Session V
Moderator: Liz Fowler

Darien Garner
Educational Studies, Linguistics
Dystopia in the 21st Century: Where the Genre Needs to Take Us Next
Adviser: Stephanie Harzewski

Jason Masiello
Psychology
Investigating the Role of Parenting Styles on Bullying Behavior and Impulsivity
Adviser: Ellen Cohn

Aliya Sarris
Political Science, Spanish, Women’s and Gender Studies
An Exploration of Self-Identity in Transracial Adoptees from China
Adviser: Monica Chiu

Memorial Union Building, Room 336

Multidisciplinary Session VI
Moderator: Andrew Ferris

Christiana Donatelli
Biomedical Science
I Used the Graph: Students’ Reasoning about Rate of Change and Population Growth
Adviser: Melissa Aikens

Trevor Guilmette
Katriana Kivari
Recreation Management and Policy
Increasing a Sense of Belonging in First Year Students on Outdoor Orientation Programs
Adviser: Brent Bell

Brandon Hugh
Sport Management and Leadership
Consumer Perceptions of NFL Injuries: Turf versus Grass Surface
Adviser: Zachary Scola

Eli Webber
Mechanical Engineering
Use of Nano Indentation for Determination of Local Properties in Dual Phase Steels
Adviser: Marko Knezevic

Memorial Union Building, Room 330

Outstanding Works from Communication
Moderator: Lin Zhang

Daniela Farfan
Communication
God’s Favorite: Hollywood Archivists and Peddlers
Adviser: Robert Jackson

Ceili Flot
Communication
Remembering the AIDS Crisis and ACT UP: The Failures of Civic Society and Government
Adviser: Robert Jackson

Kaley Lambert
Communication, Italian Studies, Philosophy
The Almost-Feminism of “Midsommar”
Adviser: Joseph Terry

Lydia Osmer
Communication, English Teaching
Commodified Feminism of Menstruation in the Digital Age: The Feminist Rhetoric of Always and Tampax on Instagram
Adviser: Michelle Gibbons

Ashley White
Communication, Women’s and Gender Studies
Analyzing the Frame of Empathy in the Black Lives Matter Movement
Adviser: Joseph Terry

Memorial Union Building, Room 333

Populism in Latin America

Kaley Lambert
Communication, Italian Studies, Philosophy
The Almost-Feminism of “Midsommar”
Adviser: Joseph Terry

Lydia Osmer
Communication, English Teaching
Commodified Feminism of Menstruation in the Digital Age: The Feminist Rhetoric of Always and Tampax on Instagram
Adviser: Michelle Gibbons

Ashley White
Communication, Women’s and Gender Studies
Analyzing the Frame of Empathy in the Black Lives Matter Movement
Adviser: Joseph Terry

Memorial Union Building, Room 332

Populism in Latin America

Conor Hill
Political Science
Populism and Identity in Bolivia: The Effects of the Morales Presidency

Albert Jovic
Political Science
Bolivian Populism: The Rise and Fall of Evo Morales

Ginger Schoff
Political Science
Populism in Brazil
Peter T. Paul College of Business and Economics Undergraduate Research Conference

Poster Session I

Friday, April 21
9–10:30 a.m.
Paul College

Through original research and valuable guidance from mentors, this event helps Paul College students gain deeper academic knowledge as well as professional experience. This URC event includes poster presentations, oral presentations, and feedback from judges.

**ECON 774: Bachelor of Arts in Economics**

Adviser: Reagan Baughman

Sarah Anderson
Economics, Information Systems and Business Analytics
*Lasting Implications of Global Water Scarcity*

Kelley Burzlaff
Business Administration, Economics
*Can Sugar Taxes Improve Health Outcomes?*

Ryan Carr
Economics
*Determinants of Economic Growth in China*

Andrew Cavanagh
Economics
*Downfall: The Failure of the Greek Economy*

Liam Centra
Economics
*Foreign Direct Investment in Developing Countries*

Juliet Clark
Economics
*Economic Cost and Benefits of Increasing Electric Car Production*

Jack Deleski
Economics
*Pursuing Aggressive Anti-Trust Policies to Regulate Amazon*

Ava Fitzpatrick
Economics
*How Does Raising the Minimum Wage Affect Poverty and Employment?*

Jennifer Hill
Economics
*The Effects of Income on Health in the U.S.*

Scott Jackson
Economics
*Will the National Debt Slow Economic Growth?*

Carter McLean
Economics, Justice Studies
*Automation in America: The Future for Construction Workers*

Nashra Mohammed
Economics
*The Environmental and Economic Effects of Plastic*

Clara Richards
Economics
*The Effects of Government Programs on Homelessness in the U.S.*

Liam Robinson
Economics
*The Main Causes of Inflation Post-COVID*

Gustavo Rodriguez
Economics
*Causes of Income and Wealth Inequality in Mexico*

Alisha Wannaphong
Economics, Finance
*Changes in the U.S. Gender Wage Gap over Time*

CJ York
Economics
*The Implications of Income Taxation for Growth and Entrepreneurship*

**ECON 775: Bachelor of Science in Analytical Economics**

Adviser: Aziz Saglam

Mohammad Alhamdan
Analytical Economics
*U.S. National Debt: Impact and Consequences*

Domenic DiZillo
Analytical Economics
*Commercial and Industrial Loan Exposure: Great Recession vs. COVID-19*

John Downey
Analytical Economics
*Analysis of the Factors Affecting Violent Crime Rates in the U.S.*

Elizabeth Dukas
Analytical Economics, Political Science
*Effects of Climate Change on Economy*

Brandon Elias
Analytical Economics
*What Factors Influence Income Inequality?*

Rachel Fogarty
Analytical Economics
*Factors Affecting Labor Productivity*

Cameron Frizzell
Analytical Economics
*Economic Impact of the U.S. Gambling Industry*

Mack Hanley
Analytical Economics
*U.S. Economic Growth and the Carbon Dioxide Emission*

Harrison Hawkins
Analytical Economics, Philosophy
*Universal Basic Income and Poverty*

Carter Hunt
Analytical Economics
*What Makes Labor Unions Popular?*

Sam Hussey
Analytical Economics
*Economic Catch-up of Emerging Markets*

Connor Kelly
Analytical Economics
*How COVID-19 Has Changed Alcohol Use*
Jared Knight  
Analytical Economics  
How Do Interest Rates Affect Investments?

Caroline LeBlanc  
Analytical Economics  
What Factors Influence Medicaid Expenditures in New Hampshire?

Jake Lindsay  
Analytical Economics  
Economic Recovery from COVID-19

Chuck Nystrom  
Analytical Economics, Statistics  
Effects of the Minimum Wage on Employment

James Spina  
Analytical Economics  
Technological Progress and Income Distribution

Raeanne Breton  
Ecogastronomy, Entrepreneurial Studies  
Boston’s Best: A Culinary Tourism Value Chain Tour

Madeline Broder  
Anthropology, Ecogastronomy  
Do Your Taste Buds Know How to Think? The Divide of Language in the World of Wine

Caitlyn Cerasale  
Ecogastronomy, Sustainable Agriculture and Food Systems  
Growing Green: How DIY Hydroponics Can Introduce Sustainable Food Sources for College Students

Reshma Giji  
Earth Sciences, Ecogastronomy  
Pallet to Plate: The Sustainable Life of an Oyster

Julia Landcastle  
Ecogastronomy, Nutrition  
A Study of Food Waste: The Importance of Community Connection

Gemma Rose  
Ecogastronomy, Nutrition  
The Benefits and Barriers of Utilizing Local Grains in Baking

Katie DuBois  
Accounting, Information Systems and Business Analytics  
Breaking the Glass Ceiling: Do Female Partners in Public Accounting Shine? Adviser: Md Safayat Hossain

Adam Garrity  
Accounting  
How Management’s Response to Fraud Affects the Likelihood of Future Fraud Adviser: Yunshil Cha

Jack Gillis  
Finance, Management  
Historic Returns of Gold: Is it the Best Hedge against Inflation? Adviser: Stephen Ciccone

Edward King  
Entrepreneurial Studies  
Technology Supporting Sustainability in Residential Real Estate Adviser: Ludwig Bstieler

Patricia Laws  
Finance  
Electronic Banking and Fintech: Changes over the Years, Disruption, and Where It Will Head in the Future Adviser: Huimin Li

Tyler Leland  
Finance, International Business and Economics  
Economics of the Olympics: Criteria for a Suitable Host City Adviser: Yin Germaschewski

Colin Liebert  
Business Administration  
The Search for Value for New England Skiers Adviser: John Franklin

Logan Lopus  
Information Systems and Business Analytics, Marketing  
Exploring the Gender Gap in the Fields of Data Science, Technology, and Analytics Technology: Challenges and Opportunities Adviser: Billur Akdeniz Talay

Jill Mattucci  
Finance, Information Systems and Business Analytics  
Cybersecurity in Hospitality and Financial Industry Adviser: Jonathan Nash

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Peter T. Paul College of Business and Economics Undergraduate Research Conference

Poster Session II

Friday, April 21  
11 a.m.–12:30 p.m.  
Paul College

Through original research and valuable guidance from mentors, this event helps Paul College students gain deeper academic knowledge as well as professional experience. This URC event includes poster presentations, oral presentations, and feedback from judges.

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EcoGastronomy

Adviser: Dan Winans

Teagan Bowe  
Ecogastronomy, Hotel and Hospitality Management  
Drink Local: The Impact of Local Wineries throughout New England

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Multidisciplinary/Honors Thesis

Isaac Blanchette  
Accounting, Finance  
Public Opinion of SEC’s Proposal for Mandatory Climate Disclosures Adviser: Le Emily Xu

Jackson Cleary  
Accounting, Finance  
Most Influential Driver of NBA Team Value Adviser: Michael Hanlon

Clay Courtmanche  
Finance  
The Effect of Bitcoin’s Price on Crypto Financial Technology Company Valuation Adviser: Michael Hanlon

Alessandra Cutone  
Management, Marketing  
Consumers’ Perceptions of Eco-Friendly Products through Social Media Adviser: Alex LaBrecque
Peter T. Paul College of Business and Economics Undergraduate Research Conference

Oral Session I

Friday, April 21
12–1:30 p.m.
Paul College

Through original research and valuable guidance from mentors, this event helps Paul College students gain deeper academic knowledge as well as professional experience. This URC event includes poster presentations, oral presentations, and feedback from judges.
Andrew Arone
Finance, Marketing
Matteo Calvanese
Sydney Mulkern
Alyssa Norris
Mia Pike
Daniel Taylor
Marketing
Planet Fitness: Research, Design, and Develop Marketing Programs Aimed at Expanding Awareness of and Generating Customers from Gen Z and Millennials for This Hampton, NH, Operator of a Nationwide Network of over 2,400 Fitness Clubs

Winsor Bean
Hayden Blood
Abigael Fillion
Shaun McKay
Kumiko McLaren
Nicholas Rainforth
Marketing
Pedicab: Research, Design, and Develop Marketing Programs Aimed at Increasing Awareness of and Generating Support for This Durham, NH, Not-for-Profit, In-Town/City, Human-Powered Transportation Organization

Brianna Berry
Victor Gentile
Faith Limbat
Thomas McCauley
Maeve Parnell
Marketing
Cat Trax Bike Share: Research and Design Marketing Strategies and Tactics That Will Grow Awareness of and Riders to This UNH Sustainability Program

Katie Berthasavage
Information Systems and Business Analytics, Marketing
Brendan Kenney
Macklin Lansbury
Reid Signet
Jay Wallace
Marketing
Noelle Newman
Management, Marketing
Plover Robes: Research, Design, and Develop Marketing Programs Aimed at Increasing Awareness of and Generating New Business for This Rye Beach, NH, Supplier of Customized Bath Robes

Carli Boockadian
Management, Marketing
Hannah Crist
Information Systems and Business Analytics, Marketing
Thomas Keegan
Efli Shino
Vanessa Smith
Marketing
Samuel Walsh
Finance, Marketing
Counseling Associates: Research, Design, and Develop Marketing Programs for this Provider of Individual, Couples and Family Psychological Counseling Services, with Six Locations across the State and Based in New London, NH

Noah Bramlett
Kiera Cote
Allyson Dyac
Evan Mullings
Maggie Robinson
Andy Yang
Marketing
Alliance for Greater Good: Design and Develop Marketing Programs Aimed at Increasing Awareness of and Volunteer Participation with this Portsmouth, NH, Non-Profit Organization That Connects Volunteers with Charitable Organizations

McKenzie Callaghan
Finance, Marketing
Tyler Lemay
Anna Pollak
Benjamin Scannell
Grace Silha
Marketing
Durham Unitarian Universalist Fellowship: Design and Develop a Marketing Plan and Strategies to Help Grow Membership for and Participation in This Durham, NH, Liberal Religious Organization

Miguel Canizalez
Aislinn Ford
Jake Kitterman
Ryan Quill
Katelyn Richardson
Marketing
Anna Shapiro
Management, Marketing
Nonantum Resort: Research, Design, and Develop Marketing Programs for this Historic Seaside Resort in Kennebunkport, Maine, That Will Build Awareness of and Grow Bookings for Shoulder Season Visitors

Victoria Carini
Evan MacDonald
Lea Trainor
Marketing
Jenna Hubbard
Marketing, Women’s and Gender Studies
Nolan Kirk
Brandon Langdon
Finance, Marketing
Less Leg More Heart: Design and Develop Marketing Programs Aimed at Growing Awareness and Support for This Nashua, NH, Non-Profit Organization That Supports Amputees
Peter T. Paul College of Business and Economics Undergraduate Research Conference

Poster Session III

Friday, April 21
1–2:30 p.m.
Paul College

Through original research and valuable guidance from mentors, this event helps Paul College students gain deeper academic knowledge as well as professional experience. This URC event includes poster presentations, oral presentations, and feedback from judges.

DEI at UNH

Adviser: Jennifer Griffith

Sarah Carroll
Farryn Leppanen
Management

Leah Glidden
Management, Sustainability
Analyzing the Gender Split between UNH, PAUL College, and Concentrations within PAUL

Meghan Guimont
Jake Regan
Management

Catherine Swift
Information Systems and Business Analytics, Management
Low-Income Student Experiences and Support Systems at UNH

Alex Haynes
Finance, Management

Ciera Schwarzer
Business Administration, Marketing

Bailey Shippee
Business Administration, Entrepreneurial Studies, Management
Difference in Resources/Opportunities Available to Club Sport Teams versus Varsity Teams

Economics of Climate Change

Adviser: Robert Mohr

Sarah Anderson
Economics, Information Systems and Business Analytics

Elise Bender
Management, Sustainability

James Hanlon
Economics, History
The New Zealand Emissions Trading Scheme

Laura Earle
Analytical Economics
An Economic Analysis of the Regional Greenhouse Gas Initiative (RGGI)

Aaron Eaton
Environmental Conservation and Sustainability

Mckenna LaBuz
Environmental and Resource Economics

Zack Leduc
Analytical Economics
British Columbia’s Carbon Tax

Owen Miller
Economics, Philosophy

Nashra Mohammed
Economics
The Emissions Trading Scheme in the European Union

Clara Richards
Liam Slane
Economics

Morgan Williams
Environmental and Resource Economics, Sustainability
An Economic Analysis of California’s Cap-and-Trade Program
UNH Manchester URC
Engineering Technology Day

Senior Project Presentations

Friday, April 21
9 a.m.–12 p.m.
88 Commercial St., MPR Room 201, Manchester

The UNHM Engineering Technology Program presents its annual Senior Project Presentations day. This event is the culmination of an academic year effort where full-time seniors formally present their projects to peers, faculty members, representatives and technical advisers of sponsoring companies, and special guests.

Adviser: Robert Arredondo

Ian Alton
Michael Magliozi
Electrical Engineering Technology
Theodore Bollenbach
Grant Bonczar
Daniel Engelsen
Mechanical Engineering Technology
UNHM VEX U Robotics Competition
Team UNHM#5

Chris Barley
Electrical Engineering
Cameron Klein
Benjamin Robertson
Derek Santiago
Mechanical Engineering
UNHM VEX U Robotics Competition
Team UNHM#1

Chandler Dreyfuss
Caleb VanGilder
Mechanical Engineering Technology
Malina Popa
Andrew Sanborn
Electrical Engineering Technology
UNHM VEX U Robotics Competition
Team UNHM#4

Emily Ehrmanntraut
Michael Maltais
Joseph Prescott
Mechanical Engineering Technology
Leonard Gratton
Electrical Engineering Technology
UNHM VEX U Robotics Competition
Team UNHM#2

Joshua Korsak
Connor Smith
Thomas Walker
Mechanical Engineering Technology
Carlos Nunez
Electrical Engineering Technology
UNHM VEX U Robotics Competition
Team UNHM#3

Languages, Literatures, & Cultures (LLC) Department Undergraduate Research Conference

Friday, April 21
12–5 p.m.
Murkland Hall, Room G17

The Department of Languages, Literatures, and Cultures (LLC) hosts an undergraduate research conference comprised of oral and poster presentations.

Rain Bugado
Biology
Biology from a French Perspective
Adviser: Pramila Kolekar

Ashleigh Eaton
International Affairs, Sociology, Spanish
The Portrayal of Immigrants in Spanish Media
Adviser: Holly Cashman

Ella Franzoni
English, Spanish
Language as Resistance: An Exploration of the Use of Spanish in Memoirs by Female Chicana Authors
Adviser: Holly Cashman

Emily Hunt
Homeland Security, Justice Studies, Russian
Anastasia Marchuk
Physics
Runglish in the Russian-Speaking Student Community in the U.S.: Tendencies in Word Borrowing/Mixing
Adviser: Ekaterina Burvikova

Audrey Jacques
French, Sustainability
Learning French through Filmmaking
Adviser: Ileana Chirila

Alyssa Landry
German, Linguistics
Examining Verbs: The Underlying Word Order of German
Adviser: Alex Holznienkemper

Christopher Miller
French, Spanish
Linguistic Discrimination in Access to Voting Information in NH
Adviser: Holly Cashman

Clara Richards
Economics
Wine Tourism in France
Adviser: Ileana Chirila

Aliya Sarris
Political Science, Spanish, Women’s and Gender Studies
BIPOC and (Somewhat) Bicultural: Exploring the Study Abroad Experiences of Students of Color in Europe
Adviser: Holly Cashman
The Naked Arts—Creativity Exposed!

Act III

Friday, April 21
12:15–1:25 p.m.
Memorial Union Building, Theatre I

This event exposes the inner creative process of artists working in various disciplines. Presenters will describe the process, research, and other creative aspects undertaken to bring an artistic creation from initial inspiration to the stage or gallery. This may include a performance or excerpts from their work to illustrate their creative scholarship.

Katherine Possi
Music Education
From Voice Memo to Spotify: Self-Expression through Music
Adviser: Daniel Beller-McKenna

Mary Rotthoff
English
Aren’t We All Curious
Adviser: Clark Knowles

Psychology Department
George M. Haslerud Undergraduate Research Conference

Friday, April 21
1–3 p.m.
McConnell Hall, Room 220

The George M. Haslerud URC, named for the late Professor Emeritus of Psychology, recognizes and celebrates undergraduate research conducted by Honors psychology students. Students present their original research projects before an audience of UNH faculty, staff, graduate students, fellow undergraduates, and friends and family.

Juliette Ambs
Justice Studies, Psychology
Reading and Listening Study
Adviser: Laura Allen

Alyssa Hall
Psychology
Understanding Personality of a Coworker
Adviser: John D. Mayer

Michelina Petruzziello
Justice Studies, Psychology
The Effects of Mental Health on Legal Decision Making and Jury Deliberation
Adviser: Ellen Cohn

College of Health and Human Services (CHHS) Grimes Award Competition

Friday, April 21
1–4 p.m.
Pettee Hall, Room G10

Jack and Marianna Grimes and family, all UNH graduates, endowed the funds for this celebration of excellence in undergraduate research. The oral presentation competition includes finalists who have been selected by CHHS faculty after rigorous scientific review of written proposals.

Devan Burke
Social Work
Youth Perceptions of Police at the Manchester Police Athletic League
Adviser: Tarkington Newman

Madison Gould
Communication Sciences and Disorders
Assessing Conversational Overlap in a Museum Setting
Adviser: Jill Thorson

Myah Kerbyson
Nursing
Nursing Students’ and Recent Graduates’ Observations of Fatphobia in the Clinical Setting
Adviser: Kerry Nolte

Megan Knuettel
Social Work
Influence of Mental Health and Gender Identity on Collegiate Student-Athletes
Adviser: Tarkington Newman

Rachel Langer
Neuroscience and Behavior
Three Approaches to Addressing Lesioned Tissue in Graph Theory Neuroimaging Analyses for Individuals with Stroke
Adviser: Amy Ramage
Kate Maimone
Social Work
The Development and Transfer of Life Skills of the Manchester Police Athletic League
Adviser: Tarkington Newman

Danielle Martineau
Biomedical Science
Effect of an Acute Bout of Low-, Moderate-, and High-Intensity Aerobic Exercise on Immediate and Delayed Fractionated Reaction Time
Adviser: Ronald Croce

Cait McAllister
Health Management and Policy
Team Resilience and Well-Being in Healthcare
Adviser: Robert McGrath

Anna Roberge
Human Development and Family Studies, Justice Studies
Parental Incarceration and Its Impacts on Juvenile Delinquency and Interventions for These Children
Adviser: Kimberly Nesbitt

Emily Roy
Nursing
The Clinical Observations of Nursing Students and Recent Graduates Caring for LGBTQ+ People
Adviser: Kerry Nolte

Katherine Stariknok
Communication Sciences and Disorders, Spanish
Impact of Foreign Accent on Receptive Language Assessments for Bilingual Children
Adviser: Jill Thorson

Violet Sullivan
Exercise Science
Cardiorespiratory and Metabolic Responses to Low-Intensity Blood-Flow Restricted Running
Adviser: Summer Cook

Emily Waite
Exercise Science
The Effect of Post-Meal Walking Step Cadence on Time from Peak to Nadir Blood Glucose in Physically Inactive Young Women
Adviser: Michael Brian

Megan Welch
Nursing
Birth Trauma and Exercise Incontinence among Average Active Women
Advisers: Bridget Linehan, Kerry Nolte

Marcella Wondal
Social Work
Exploring Life Skill Development and Transfer of Youth Experiencing Homelessness
Advisers: Tarkington Newman, Sherri Simmons-Horton

Honors English Undergraduate Research Conference

Friday, April 21
2–3:30 p.m.
Hamilton Smith Hall, Room 205

To complete Honors-in-English, students must conduct a semester-long research project, culminating in a 30-40 page senior thesis. The Honors English Undergraduate Research Conference provides these students and students in the linguistics program with the opportunity to share their work with their fellow students, professors, and families. The presentations include poetry, autobiographical writing, journalism, and scholarship on literary texts from several different centuries.

Brooklyn Pratt
English/Journalism
Mosaic in the Mirror
Adviser: Jaed Coffin

Kieran Newcomb
Philosophy
The Use of Artificial Intelligence in Judicial Deliberation
Adviser: Nicholas Smith

Francis Perier
Philosophy
What is the Best Metaphysics of Race?
Adviser: Subrena Smith

Andre Provencal
Philosophy
Morality and Meaning
Adviser: Paul McNamara

Philosophy Department Undergraduate Research Conference

Friday, April 21
2–8 p.m.
Hamilton Smith Hall, Room 210

The Philosophy Department URC is a mosaic of concise and meaningful student presentations, varying from such philosophical topics as applied ethics, language theory, and social justice. Standard presentations predominantly last fifteen minutes and are subsequently followed by a brief Q&A period.

Alex Baier
Powerlessness as Wielded by Authoritarian Regimes
Adviser: Laure Barillas

Emily Buehne
English, Philosophy
An Inquiry into the Self-Objectification of Women
Adviser: Laure Barillas

Kaley Lambert
Communication, Italian Studies, Philosophy
Adviser: Subrena Smith

Kieran Newcomb
Philosophy
The Use of Artificial Intelligence in Judicial Deliberation
Adviser: Nicholas Smith

Francis Perier
Philosophy
What is the Best Metaphysics of Race?
Adviser: Subrena Smith

Andre Provencal
Philosophy
Morality and Meaning
Adviser: Paul McNamara
Paul Salek
Justice Studies, Philosophy
Disparities and Opportunities to Study Race in Education
Adviser: Subrena Smith

Sienna Shanelaris
Philosophy
Explorations in Eastern Philosophy through Bruce Lee
Adviser: Timm Triplett

Esther White
Philosophy
How Being Perceived Forces the Performance of Gender
Adviser: Laure Barillas

Jillian Zube
Philosophy, Political Science
A Lockian Perspective on Prison Reform
Adviser: Matthew Dowd

### Senior B.A. & B.F.A. Exhibition and Preview Reception

**Friday, April 21**
6–8 p.m.
**Paul Creative Arts Center, Museum of Art**

This annual show celebrates the achievements of graduating art students from the UNH Department of Art and Art History.

- **Julie LaRue**
  Art: Studio Art
  ConWoman: Pro(agonist)s and Con(vention)s
  Adviser: Julee Holcombe

- **Molly Maynard**
  Fine Arts
  Removed from Time: A Poetic Experience
  Adviser: Julee Holcombe

- **Maddie Pender**
  Art: Studio Art
  Recollecting Girlhood
  Adviser: Brian Chu

- **Olivia Williams**
  Fine Arts
  The Nature of Portraiture
  Adviser: Benjamin Cariens

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**Peter T. Paul College of Business and Economics First-Year Innovation and Research Experience (FIRE) URC**

**Poster Presentations & Oral Presentations**

**Saturday, April 22**
8 a.m.–3 p.m.
**Paul College**

FIRE is an integrated, team-based, and game-like experience for first-year Paul College students. Through a series of challenges, students develop business plans that are presented at this year-end finale, which features poster and oral presentations on students’ business plans and concludes with a “Grand Challenge Round.”

**Grand Challenge: Climate Action**

- **Team: Nasty 19**
  Adviser: Reilly Landry
  Ritu Agrawal
  Jake Apgar
  Laura Carpenito
  Matthew D’Antuono
  Nicole Deneau
  Karen Kapuscinski
  Owen Kennedy
  Ellacoya Kunz
  Bentley Lane
  Amelia Magay
  Max McNeely
  John O’Sullivan
  Benjamin Reiff
  Pakeezah Tariq
  Business Administration
  Andrew Claus
  Adam Conforti
  Ethan Coutu
  Richard Guarino
  Nolan Otto
  Undeclared
  Alexa Stuka
  Analytical Economics

- **Team: Category 5**
  Adviser: Ada DiYenno
  Evan Baron
  Undeclared
  Alex Barzowskas
  Audrey Buckley
  Brecken Calci
  Alexander Christen
  Ben Corris
  Christopher Drapeau
  Owen Federowicz
  Julia Fichera
  Avery Greene
  Joe Grindrod
  Sam Labrie
  Daniel Luscombe
  Brady Madigan
  Victoria McIntyre
  James Mourad
  Aidan Ormsbee
  Omar Skiba
  Katherine Soucie
  Amy Staunton
  Lexi Veglia
  Business Administration

- **Team: Brendan’s Barbarians**
  Adviser: Brendan Kelly
  Malli Begin
  Tyler Chrabolowski
  Jake Dooley
  Peter Duriga
  Anna Gerhard
  Hannah Kelley
  Robert Labarre
  Andrew Lage
  Stamatis Maschas
  Daniel Pedersen
  Madeline Proulx
  Allie Shai
  Savanah Shannan
  Rhea Shirodkar
  Sedrik Spaulding
  Zoe Tewksbury
  Nicholas Tonderys
  Business Administration
  Derick Christensen
  Ryder Downes
  Undeclared
## Team: F1RE NAT1ON
Adviser: OJ Surdam

Molly Bowers  
Brooke Rose  
Undeclared  
Aiden Brenner  
Carter Brown  
Sara Brown  
Kayla Chacon  
Dalton Clifford  
Josh Fillion  
Hannah Hill  
Kenneth Lawless  
Henri Lion-Gardiner  
Evan Madigan  
Tyler Miller  
David Pacella  
Owen Petretta  
Sam Rizzo  
William Roberts  
Julia Shearstone  
Margaret Starr  
Nathan Wilson  
Business Administration  
Anna Steele  
Economics

## Team: The S1mps0ns
Adviser: Kyle Simpson

John Choueiri  
Samantha Chuslo  
Matthew Devine  
James Fahey  
Taig Healy  
Keegan Humason  
Cali Lowery  
Quinn Melim  
Ryan Mercier  
Nicolas Merrill  
Shea Mulkern  
Maddie Nerden  
Sam Oppel  
Lauren Orozco  
Owen Pierce  
Ainsly Schug  
Emma Skafas  
Rory Skillin-Lanou  
Jeff Stanley  
Mia Ward  
Business Administration  
Sophia Johnson  
Economics

## Team: What’s 9+10?
Adviser: David Moss

Cameron Brown  
Ryan Callahan  
Alexa Chausse  
Dylan Collins  
Aidan Conrad  
Kaleigh Davis  
Rafael Delgado  
Owen Dewey  
Ava Hills  
Jason Martarano  
Elizabeth McLachlan  
Daniel Moore  
Parker Savoy  
Patrick Stevens  
Business Administration  
Jack Castineiras  
Undeclared  
Lina La  
Finance  
Brett Schultz  
Entrepreneurial Studies, Sustainability  
Melanie Yelle  
Analytical Economics

## Grand Challenge: Education

## Team: Business Baddies
Adviser: McKenna Murphy

Erys Abraham  
Business Administration  
Sadie Armstrong  
Natasha Bamford  
Samuel Becker  
Riley Bishop  
Anthony Gaiero  
Larkin Hefner  
Jessica King  
Keira Lenti  
Alexandra Mahoney  
Erin Maloney  
Julia Riley  
Marissa Ross  
Megan Smith  
Luke Thomas  
Hotel and Hospitality Management  
Marcus DiBello  
Meghan Schneiders  
Brady Talerico  
Undeclared

## Team: 22 Jump Street
Adviser: Evan Mullings

Chiara Altorfer  
Carter Bransfield  
Ian Chmielinski  
Ethan Clay-Storm  
Brett Evans  
Samuel Farrington  
Anthony Harb  
Quinn Lewis  
Caitlin Mason  
Joey Olans Venditti  
Connor Schultz  
Samantha Williams  
Business Administration  
Julia Gronda  
Dylan Kenny  
Emily Kobrenski  
Ryan Moeckel  
Undeclared  
Hannah Rodgers  
Economics  
Andrew Turkington  
Analytical Economics  
Caden Zalenski  
Finance

## Team: Buzzer Peter
Adviser: Tyler Wilbur

Hailey Anderson  
Tyler Baker  
Samantha Bhacka  
Alex Boisvert  
Owen Christopher  
Kyle Coluci  
Robert Croteau  
Maggie Daniels  
David Dittata  
Kyleigh Folsom  
Nicholas Gribbins  
Sidney Huynh  
Jake Lacoche  
Kevin McCorry  
Colleen McGee  
Andrew Miano  
Dori Theos  
Anna Thompson  
Business Administration  
Hugh Lynch  
Undeclared
Team: Mad Rads
Adviser: Radames Gonzalez
Muizz Awan
Benjamin Black
Madison Boyer
Hayden Brenner
Sean Caligiuri
Robert D’Eon
Grady Fern
Adam Freiburger
Amanda Greene
Maxwell Harwell
Rachel Hazelwood
Brianna Janz
Aiden McMahon
Mikayla Passage
Damon Smead
Ryan Vienneau
Collin Whitney
Business Administration
Shevis Hankins
Skye Loto
Analytical Economics
Lindsey Kriendler
Undeclared

Grand Challenge: Hunger

Team: Molly’s Minions
Adviser: Molly Caplette
Reese Ahearn
Max Jimenez
Noella Kennedy
Mia Kittredge
Haley LeMoine
Ryan McNeil
Jeff Ng
Ella Novak
Emily Paltam
Tyler Paradis
Andrew Pelkey
Torin Piasecki
Patrick Roche
Christina Sanchez
Kristaps Skrastins
Brady Spradling
Lily Sturdevant
Business Administration
Matthew Kinney
Undeclared

Team: Sweet 16
Adviser: Kaitlyn Silva
Kevin Baker
Nate Seitz
Connor Stevens
Economics
Sutton Boothroyd
John Casey
Lauren Dee
Kyle Egan
Steven Horn
Daniel Pitcoff
Peyton Saltmarsh
Leah Sprado
Shayna White
Undeclared
Bobby Foltz
Ellie Hornkohl
Ella Longacre
Benjamin Smith
Business Administration
Zack Matson
Liam McGovern
Analytical Economics

Team: Paul of Duty
Adviser: Emma Pixley
Brett Boucher
Andrew Breen
Dariana Brissette
Jayden Collins
Justin Deshaies
Nate Dickinson
Samuel Dufoe
Sadie Dyer
Ryan King
Luke Loeffler
Thomas MacDougall
Kyran Maher
Mitchell McQuilan
Promise Opurum
Bryce Parker
Kenny Sinofsky
Gavin Smith
Kyle Spear
Connor Still
Noah Tharaldson
Serena Volk
Kalei Wallace
Undeclared

Team: Uno Attack
Adviser: Anna Kovacs
Joey Baker
Adam Lydick
Chloe Miller
Caden Perry
Undeclared
Avery Consigli
Brady Ford
Tilde Kandell
Evan Mandrus
Matthew Miclette
Brandyn Nault
Bryce Petersen
William Prime
Carly Quill
Hannah Ritchie
Megan Silva
Nolan Smagula
Shane Tilton
Nicholas Valcourt
Logan Vories
Caitlin Wilcox
Business Administration

Team: Better Call Paul
Adviser: Chloe DeLuca
Sofía Balan
Arthur Stanley
Undeclared
Jared Bistany
Delaney Broomfield
Madelynn Dyjak
Derin Ilginer
Camden MacHardy
Laiana Martinez
Jacob Mello
David Morison
John Murphy
Matthew Nowak
Anakin Paige
Clara Pavuk
Nicholas Thibault
Alexis Tuton
Jordan Vashaw
Gavin Wallis
Bryce Winter
Business Administration
Jack Cennamo
Economics
Dalton Lawrence
Analytical Economics
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**Team: Flamin’ 15**

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COLSA Undergraduate Research Conference

Oral Presentations

Saturday, April 22
8:15–10 a.m.
Memorial Union Building,
Theatre II

Student presentations at the COLSA URC are based on research conducted in any of the departments within the College of Life Sciences and Agriculture. Registrants will be notified by the COLSA URC committee if they are selected for an oral presentation.

Samuel Comeau
Marine, Estuarine and Freshwater Biology
Shallow Water Baitfish Assemblages in New Hampshire's Coastal and Estuarine Waters
Advisers: Aliya Caldwell, Nathan Furey

Isabelle Lopez
Wildlife and Conservation Biology
Evaluating the Use of Unmanned Aerial Systems to Detect and Monitor Beech Bark Disease in New England Forests
Advisers: Russell Congalton, Benjamin Fraser

Jonathan Moehlmann
Biomedical Science
Potential Resistance to Glyphosate (Roundup) in New England Agriculture and Determining DNA Sequence Variations Conferring Glyphosate Resistance in Chenopodium ficifolium
Adviser: Thomas Davis

Emily Pratt
Biochemistry, Molecular and Cellular Biology
Targeting STAT3 in TNBC Using GSK3β and Integrin Inhibitors
Adviser: Sarah Walker

COLSA Undergraduate Research Conference

Poster Presentations

Saturday, April 22
10:10–12 p.m.
Memorial Union Building,
Granite State Room

Student presentations at the COLSA URC are based on research conducted in any of the departments within the College of Life Sciences and Agriculture. Research ranges from field studies to molecular biology to genomics studies.

Heather Adams
Alisa Ivantsova
Biomedical Science
Targeting PRMT5 in Neuroendocrine Skin Cancer
Adviser: Jingwei Cheng

Katheryn Agostini
Economics, Sustainable Agriculture and Food Systems
Functional Response of Green Lacewing, Chrysoperla spp. (Neuroptera: Chrysopidae) under Simulated Winter High Tunnel Conditions
Adviser: Anna Wallingford

Somkene Alakwe
Biochemistry, Molecular and Cellular Biology
Bioreactor-Based Production and Purification of pDNA and Protein for Materials Science Applications
Adviser: Nate Oldenhuis

Kelsey Alimandi
Biology
Haily Knapp
Hannah Manning
Biomedical Science
Establishing Behavioral and Neurobiological Markers Associated with Ethanol Vulnerable Phenotype
Adviser: Sergios Charntikov

Alexa Aubrey
Genetics
Investigation of Extra Pair Paternity in Early Arriving Male Prairie Warblers
Adviser: Adrienne Kovach

Tessa Baillargeon
Biomedical Science
Songbird Genomic Diversity Characterization Following Mass Mortality Event
Adviser: David Needle

Elizabeth Balet
Wildlife and Conservation Biology
Bioavailability of Methionine Prototype
Adviser: Nancy Whitehouse

Cameron Banks
Biomedical Science
Induction of Class Switching in Waldenström Macroglobulinemia Cells
Adviser: Sherine Elsawa

Casey Baumann
Genetics
Olivia Smith
Biology
Correcting a Salt Stress Phenotype in Arabidopsis thaliana Using Hybrid Phosphatase Transgenes
Adviser: Estelle Hrabak

Quinn Beek
Biochemistry, Molecular and Cellular Biology
Drug Research in Inhibiting BCL6 in Ovarian Cancer
Adviser: Sarah Walker

Nicole Benjamin
Genetics
CRISPR Mutants to Identify Function of a Pollen Expressed Protein S-acyltransferase Gene
Adviser: Estelle Hrabak

Joshua Berthiaume
Biomedical Science
Bromodomain Proteins Are Important Epigenetic Regulators in the Parasite Toxoplasma gondii
Adviser: Vicki Jeffers
<table>
<thead>
<tr>
<th>Name</th>
<th>Major/Field</th>
<th>Title</th>
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<tbody>
<tr>
<td>Dina Bicja</td>
<td>Neuroscience and Behavior</td>
<td>Regulation of Postnatal Cortical Development by Neuronal Primary Cilia</td>
<td>Xuanmao Chen</td>
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<tr>
<td>Dina Bicja</td>
<td>Biology</td>
<td>Regenlation of Postnatal Cortical Development by Neuronal Primary Cilia</td>
<td>Xuanmao Chen</td>
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<td>Liam Bonyman</td>
<td>Biology</td>
<td>The Effects of Cyanobacteria Concentrations on Aerosol Production</td>
<td>Amanda McQuaid</td>
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<td>Abigail Ferreira</td>
<td>Neuroscience and Behavior</td>
<td>The Effects of Cyanobacteria Concentrations on Aerosol Production</td>
<td>Amanda McQuaid</td>
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<td>Luke Botticelli</td>
<td>Biochemistry, Molecular and Cellular Biology</td>
<td>The Embryonic Stem Cell Complexome and Epichaperome</td>
<td>Feixia Chu</td>
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<td>Benjamin Boulton</td>
<td>Biomedical Science</td>
<td>Relating Fiber-Rich Foods and Physical Activity Level with Gastrointestinal Symptoms in Hispanic/Latino Adults Residing in New Hampshire</td>
<td>Maria Carlota Dao</td>
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<td>Characteristics of Moose Vocalizations</td>
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<td>Piper Cobak</td>
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<td>Impacts of Rising Sea Levels in Boston’s Marginalized Communities</td>
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<td>Isabella Collamati</td>
<td>Wildlife and Conservation Biology</td>
<td>Effects of Aging on the Reproductive Success of Female Saltmarsh Sparrows (Ammosposa caudacatus)</td>
<td>Adrienne Kovach</td>
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<td>Samuel Comeau</td>
<td>Marine, Estuarine and Freshwater Biology</td>
<td>Shallow Water Baitfish Assemblages in New Hampshire’s Coastal and Estuarine Waters</td>
<td>Nathan Furey</td>
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<td>Amelia Cote</td>
<td>Animal Science</td>
<td>Cetaceans and the Pathology Associated with Migrating Nasitrema sp.</td>
<td>Colleen Monahan</td>
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<td>Josie Dardinski</td>
<td>Marine, Estuarine and Freshwater Biology, Spanish</td>
<td>Rugosity and Diversity of Fish Species in Florida Keys</td>
<td>Jennifer Dijkstra</td>
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<td>Tori Denovellis</td>
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<td>Cognitive Control Brain Network Integrity and Language in Post-Stroke Aphasia</td>
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<td>Samantha DiNatale</td>
<td>Environmental Conservation and Sustainability, History</td>
<td>Nimipúu Spatio-Temporalities of Water and Fish</td>
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<td>Christiana Donatelli</td>
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<td>I Used the Graph: Students’ Reasoning about Rate of Change and Population Growth</td>
<td>Melissa Aikens</td>
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<td>Investigation of the Relationship between Human Neutrophil Peptide 1 (HNP-1) and Gut Microbiome Alpha Diversity in a Population of NH Bhutanese Refugee Adults with Glycemc Impairment</td>
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<td>Food Availability Impacts Aggression in the Common Tern (Sterna hirundo) in a Gulf of Maine Breeding Colony</td>
<td>Elizabeth Craig, Aliya Caldwell</td>
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<td>Animal Science, Marine, Estuarine and Freshwater Biology</td>
<td>The Gape Between: Analysing the Valve-Gapping Behavior of Eastern Oysters (Crassostrea virginica) as an Anti-Predatory Response</td>
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<td>The Soundscape of Dense Bat Swarms: Differences Based on Location within the Group</td>
<td>Laura Kloepper</td>
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<td>Developing Honeybee Diagnostics at New Hampshire Veterinary Diagnostics Laboratory: Successes and Challenges</td>
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<td>Elizabeth Harvey</td>
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<td>Plastic Storage in River Sediments across an Urbanization Gradient in the Ipswich Watershed in Massachusetts</td>
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<td>Digitizing Historical Bee Specimens: Utilizing Photomacromgraphy and Confocal Microscopy to Visualize Theodore B. Mitchell’s Colletidae Collection</td>
<td>István Mikó</td>
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Ayden Jacobs  
Wildlife and Conservation Biology  
Effect of Sediment Deposition on Root Biomass  
Adviser: Gregg Moore

Ellianna Jordan  
Biomedical Science  
Evaluating Taste Preferences in Dairy Calves When Offered the Brown Seaweed Ascophyllum Nodosum  
Adviser: Andre Brito

John Lamond  
Environmental Conservation and Sustainability  
Ranae Reardon  
Neuroscience and Behavior  
Environmental Factors Driving Aerosol Production of Cyanobacteria  
Advisers: James Haney, Amanda McQuaid

Rachel Langer  
Neuroscience and Behavior  
Three Approaches to Addressing Lesioned Tissue in Graph Theory Neuroimaging Analyses for Individuals with Stroke  
Adviser: Amy Ramage

Michael Lawson  
Biochemistry, Molecular and Cellular Biology  
Targeting STAT3 and NF-kB in Triple Negative Breast Cancer  
Adviser: Sarah Walker

Ciana Lazu  
Biology  
The Effects of Lalrise Start SC on Growth of Chenopodium ficifolium under Nutrient Depleted Conditions  
Adviser: Anissa Poleatewich

Abby Lebsack  
Animal Science  
Regional Population Assessment of Eastern Moose Using Fecal Parasites and Microbiome  
Adviser: David Needle

Nia Lessard  
Nutrition  
Health Risk and Self-Reported Stress and Eating Habits in First-Year Students  
Adviser: Jesse Stabile Morrell

Rachel Lewis  
Marine, Estuarine and Freshwater Biology  
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Investigation of Mechanical Regulation on STAT3 Activity  
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Evaluating the Use of Unmanned Aerial Systems to Detect and Monitor Beech Bark Disease in New England Forests  
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Evaluating Vase Life and Marketability of Cold-Hardy Hydrangea Cultivars for Cut Flower Production in New Hampshire  
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Gut Microbiome of Vermont Moose  
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Survey for Pacheco’s Disease Virus (Psittacine herpesvirus-1) in Passerine Birds from New Jersey  
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Neuroscience and Behavior  
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Biochemistry, Molecular and Cellular Biology  
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Forest Technology  
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Adviser: Ranjit Bawa

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Sustainable Agriculture and Food Systems  
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Biochemistry, Molecular and Cellular Biology  
Dairy Barn to Lab Bench: Imaging Ovaries to Analyzing Cell Function  
Advisers: Dean Elder, Paul Tsang

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Targeting STAT3 in TNBC Using GSK3β and Integrin Inhibitors  
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ATR Dependence in Merkel Cell Carcinoma  
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Zoology  
The Post-mortem Comparison of the Cutaneous Microbiome of Sarcoptic Mange Infected and Unaffected Red Foxes  
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Environmental Sciences  
Dispersing Microbial Communities Increases Variability in Methane and Carbon Dioxide Fluxes in Arctic Sweden  
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Marine, Estuarine and Freshwater Biology  
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Biochemistry, Molecular and Cellular Biology  
Expression and Purification of an Antifreeze Protein from a Broadleaf Desert Shrub  
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Wildlife and Conservation Biology  
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Adviser: Rem Moll

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Environmental Sciences  
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Nutrition  
Exploring the Prevalence, Safety, and Efficacy of Blenderized Tube Feeding  
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Biology  
Characterization of the Effect of GLI on Hematopoiesis  
Adviser: Sherine Elsawa

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Biology  
Bacterial Species Associated with Dermatophyte Infection  
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Animal Science  
Assessing the Bioavailability of Rumen-Protected Lysine Supplements Using the Area under the Curve Technique and the Plasma Free Amino Acid Dose-Response Method  
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Neuronal Primary Cilia in Postnatal Brains  
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Cuticular Specializations of Echinophthirius horridus  
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Sustainable Agriculture and Food Systems  
Functional Response of Convergent Lady Beetle, Hippodamia convergens Guérin-Méneville (Coleoptera: Coccinellidae) under Simulated Winter High Tunnel Conditions  
Adviser: Anna Wallingford

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Interspecific Variation of Brain Morphology of Three Nasonia Species (Hymenoptera: Chalcidoidea)  
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Nutrition  
Ethical Considerations and Guidelines for Conducting Nutrition Education and Behavior Research with Preschool Age Children  
Adviser: Noereem Mena
Ann Manchester Kelley
Nursing Inquiry Day

Wednesday, May 3
2–5 p.m.
Memorial Union Building,
Strafford Room

This event features scholarly presentations by undergraduate Honors students and Graduate Program students in Nursing.

Samantha El-Massih
Nursing
The Psychosocial Impact of Health Maintenance in Young Adults Who Grew up with Chronic Illness
Advisers: Samantha Arnold, Kerry Nolte

Myah Kerbyson
Nursing
Nursing Students’ and Recent Graduates’ Observations of Fatphobia in the Clinical Setting
Adviser: Kerry Nolte

Delaney Kjendal
Nursing
Universal Suicidality Screening in a Critical-Access Emergency Department
Advisers: Kimberly Force, Kerry Nolte, Sara Robinson

Emily Roy
Nursing
The Clinical Observations of Nursing Students and Recent Graduates Caring for LGBTQ+ People
Adviser: Kerry Nolte

Megan Welch
Nursing
Birth Trauma and Exercise Incontinence among Average Active Women
Advisers: Bridget Linehan, Kerry Nolte

Peter T. Paul College of Business and Economics
Paul J. Holloway Prize
Innovation to Market Competition

Championship Round

Wednesday, May 10
1–5 p.m.
Paul College

This competition takes students out of the classroom and into the real world. Students are required to research and prepare strategies for commercializing new products and services, which they present to a panel of industry judges. Prizes are awarded for the most feasible and fundable approaches for starting, acquiring, or expanding a business venture.
Acknowledgments

The UNH Undergraduate Research Conference has grown to become a signature event at the University and one of the largest and most diverse conferences of its kind. Bringing the URC to fruition each year is the result of a collaborative network of many community members across campus. Here, we acknowledge these individuals and campus units and thank them for helping to make the 2023 URC happen.

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Peter T. Paul College of Business and Economics
UNH Information Technology (IT)
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Tom Alsip, Co-Chair, Naked Arts;
Assistant Professor, Theatre and Dance
Jason Boucher, Communication Director, Social Media, CPA
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Molly Doyle, Co-Chair, All Colleges Undergraduate Research Symposium; Administrative Director, Hamel Center for Undergraduate Research
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Pamela Wildes, Co-Chair, COLSA URC; Administrative Coordinator, MCBS
Mary Young, Co-Chair, UNH Manchester URC; Senior Project Manager, Office of the Dean, UNH Manchester

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Tarah Beaupre and Dain LaRoche, CHHS Grimes Award Competition
Pablo Chavajay, Psychology Department George M. Haslerud URC
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Kurk Dorsey and Jenna Scholefield, History Department URC
Molly Doyle and Amanda Leger, All Colleges Undergraduate Research Symposium
Andrew Earle, Paul College Holloway Prize Competition
Elisabeth Farrell, University-Wide Undergraduate Sustainability Research Symposium
Shaelyn Frost and Lori Hopkins, Languages, Literatures, & Cultures Department URC
Julie Holcombe and Leah Woods, Senior B.A. & B.F.A. Exhibition
Stacey Hughes and Sue Humphrey, Interdisciplinary Science & Engineering (ISE) Symposium
Sharon Keeler and Melda Ormeci Matoglu, Paul College URC
Delia Konzett, Honors English URC
Kerry Nolte, Ann Manchester Kelley Nursing Inquiry Day
Kelsey Perraullt and Saege Robinson, Paul College FIRE URC
Dana Pierce and Mary Young, UNH Manchester URC
Subrena Smith, Philosophy Department URC
Michael Shun, Student Composers’ Concert

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