

THE 15TH ANNUAL

 FITCHBURG STATE  
UNIVERSITY

# UNDERGRADUATE CONFERENCE

# April 18

For Research and Creative Practice

HAMMOND HALL  
8 AM – 12 PM

Student presentations of creativity  
and scholarship that proudly define  
our campus community.

- Poster & Oral Presentations
- Creative Writing Showcase
- Roundtable Discussions

[fitchburgstate.edu/ug-conference](http://fitchburgstate.edu/ug-conference)





April 18, 2024

**UNDERGRADUATE  
CONFERENCE**

**REGISTRATION and WELCOME RECEPTION**

8:00 – 8:45 AM | Hammond Hall, Main Lounge



**Fitchburg State Chamber Choir:** Directed by Jonathan Harvey

Student Singers: Joa Dane Alexandre; Angelia Caron; Julia Ciccolini; Tay Crout; Kate Jajliardo;  
Geybrell Liriano; Grace Mita; Emily Sandberg

**Welcome:** Provost and Vice-President for Academic Affairs, Patricia Marshall;  
and Conference Co-chairs, Jessica Alsup and Zachary Miner

**ORAL PRESENTATIONS**

9:00 – 10:00 AM | Hammond Hall (various locations – see descriptions)

**Room G01A**

Cylan Neglawi: *Muscular dystrophy*

Stepanie Pelletier: *Drug Discovery of a rare form of muscular dystrophy*

Srichakrika (Chakri) Gudimella: *Chemical Chaperone Testing in a Muscular Dystrophy Cell Culture Model*

**Room G01B**

Jonah Pishkin: *Meanwhile, In Downtown Vermont*

Mariana Wendling: *Creating Forensic Chemistry Labs for High School and College*

Jack Gangemi: *Synthetic Heme-Antimalarial Adducts; Synthesis and Electrochemistry*

**Ellis White Lecture Hall**

Madison Ambrogi & Isabel Lemek: *Navigating the Digital Equity Gap in Fitchburg Using GPS and GIS*

Robert Lee & Lilli Souvannavong: *Digital Navigator Internships with Fitchburg Youth Innovation Center*

Mary Kate Moreau & Samantha Wozniak: *Tackling Digital Equity Gap with Youths and Elders in Fitchburg*

Matthew Gauthier: *My Teaching Practicum Experience in Geospatial Technology Classes*

**Room 214**

Lauren Kirkconnell: *Does Diversity Lead to Growth in the Construction Industry?*

Autumn Garceau: *Effects of Competition Order in Elite Gymnastics*

Dillon Granberg: *Bridging the Gap: Exploring the Parallels Between Youth Sports Coaching  
and Professional Development*

**Library Archives, Room S03**

Anne Skamarycz, Matthew Gill & Julia Grace Ducharme: *Finding the Why: An Exploration of Character  
Performance in Robert Cormier's "The Chocolate War"*

Vivienne Charpentier, Caitlin Moriarty, & Tatiana Krauss: *Characters as Devices in "The Chocolate War"*

Sheiny Mercedes, Marisa Ferreira & Ashley Snow: *Exploring Rewritten Endings of "The Chocolate War"*

Micayla Bilsbury, Alex Markey & Katharine Nizwantowski: *"The Chocolate War" in the Classroom*

Brady Elliot: *President Hammond—Student Relations in the 60s and 70s*

## ORAL PRESENTATIONS

11:00 – 11:45 AM | Hammond Hall (various locations—see descriptions)

### Room G01A

Melanie Mejia: *Abnormalities in Cells with Muscular Dystrophy*  
Gina Viilayphone: *Efficacy of Chemical Chaperones on Dysferlin Restoration for the L1341P Gene mutation*  
Alanna Zelic: *Dosage Compensation in C. elegans Worms*

### Room G01B

Elliot Zopatti: *“The Little Girl in The Photo Is Me” a documentary short film*  
Dakota Racine: *“Mercy” a short film*

### Ellis White Lecture Hall

David Odell: *Quantum Mechanics: Bridging the Gap between Economics and Computer Science*  
Sabrina Bailey: *How It Felt To Be Me Writing How It Feels To Be Me*  
Corrado Cruz: *American Foreign Policy in Latin America during the Cold War*

### Room 214

Eliane Goncalves: *The First-Gen Struggle: Mental Health Implications in Higher Education*  
Asa Oywech & Collin Syfert: *The Last Man Paradox: How We Define Right And Wrong*

## POSTER SESSION

10:00 – 11:00 AM | Hammond Hall (various locations—see descriptions)

### Main Lounge

Sydney Nyabiosi: *Developing a smart parking inspection system using artificial intelligence (AI)*  
Samantha Chandler: *Artist’s Companion for Perspective Drawing*  
Ben Wiita: *Are MLB MVP Award Voters Getting Better*  
Cooper Rogers: *Creating a Study Guide for the Actuarial P Exam*  
Christopher Shaddock: *My journey with Stage 4 Prostate Cancer and why Prostate Cancer is high among African-American men*  
Hana Valikangas, Alanna Macmillan, Rachel Capone, Lauren Serratore & Drew Murphy: *The Use Of Chest Physiotherapy In Infants with RSV; Is it Effective?*  
Geena Duval: *Effects of ADHD Medications on Children and Alternative Treatments*  
Maryam Ashraf, Natalie Smith, Stephanie Hart, Kyla Guertin, & Elizabeth Gianni: *The Impact of Service Dogs Among Veterans with PTSD*  
Madison Waterso: *Nursing Burnout: Its Effects and Future Prevention Strategies*  
Dana Cisowski: *A Systematic Review of Interventions to Promote Intercollegiate Student-Athlete Mental Health and Well-Being*  
Thomas Adler-Mandile: *Synthesis of Blattellaquinone Analogues and Evaluation of Their Activity as Sex Pheromones in Hissing Cockroaches*  
Aiden Luckey: *GC/MS analysis of vapes*  
Cynthia Laurore: *REU Experience*  
Cynthia Laurore, Stella Lai, & Damien Wilburn: *Development of a plasmid-based protein overexpression system for Pichia pastoris (yeast)*  
Steven Basaistegui: *Bioinformatics Analysis of Dysferlinopathy and Related Muscle Diseases*  
Taja Viera: *Restoring Dysferlin Expression in a Cell Culture Model of Muscular Dystrophy*  
Abigail Leahey: *PFAS in Mass? Where and Why Water is Threatened.*  
Brian Sweeney: *Effect of Water Color and Lure Color on Strike Response Time in Bluegill Sunfish*  
Maxwell Bollous: *Effects of Smokewater Germination on Little Bluestem Development*  
William Ghio: *Salt Content Released From Roadside Soils Affected by Road Salt Applications*

Mary Kate Moreau: *Assessment of Barriers and Potential Improvements on Recycling at Fitchburg State University*  
Dylan Napoli & Carlos Pineda: *ROS Measurement in WT and Mutant Arabidopsis Plants Treated with Silver Nanoparticles (AgNP)*  
Mikayla Dec, Bridget Martin, Katlyn Moore & Katelyn Dimambro: *The Functional Role of DNase II  $\hat{I}^2$  Gene in Chickens*  
Stephanie Pelletier, Isabella King, Kaya Scarela, Yaa Ansah & Tamika Mwale: *Molecular Characterization of DNase II beta in Chickens*  
Zachary Desir: *Exploring Chicken DNase 2 Beta: Analysis of X1 and X2 Exons in Muscle and Lung Tissue*  
Adama Bangura: *Iron(III) porphyrin complex and its reaction with quinoline-based antimalarial drugs*  
Zachary Desir, Zachary Moran, Francis Nuamah & Jason Tovar: *Synthesis and reactions of Iron(III) mu-oxo-bridged tetraphenylporphyrin*  
Jason Tovar: *The Identification of Face Mask Microbial Contaminants*  
Marina Kamayou: *Synthesis and Anticancer Evaluation of Z-Isomer Combretastatin Analogues via Perkin Condensation*  
Barret Richard & Jocelyn Sok: *DNase II Project*  
Madison Ambrogi & Kathleen Messer: *Ready for Ridges? Mapping and Analyzing Fan Shaped Deposits on Martian Volcanoes*

### Library, First Floor

Darcy Lally: *Swords & Soliloquies: Exploring the Actor’s Process in Directing “I Am Myself Alone”*  
Emily Gelinas & Alyssa Fields: *“Mutiny & Mayhem:” Crafting an Animated Series*  
Oliver Eason: *The Evolution of Film Lighting*  
Lilly Woodger: *Wizards in Debt: A Tabletop Roleplaying Game*  
Brian Hickey: *The Question of The Bomb*  
Kathleen Kaldis: *We Delivered the Goods! The Service, Sacrifice, and Patriotism of the United States Merchant Marine in World War II*  
Molly Jacob: *“We Not Merely Cope, We Care”: A Comparative Analysis of Rationing in the United States and United Kingdom during World War II*  
Toivo Kramer: *Female Labor Force Participation Covid 19*  
Anthony Tocci: *The Impact of the College Degree*  
Brendan Morrison: *Strategic Investments into Transportation Infrastructure and Economic Growth*  
Meadow Mazza: *Unveiling the Supply-Side Dynamics: Exploring the Impact of Remote Work*  
Jyy Liang: *The Ring-Tailed Lemur: Exploring Sculpture as Activism*  
Allison Turner: *Breaking Barriers: Affirmative Action in Higher Education*  
Danielle Hendrix: *Exploring the Connection: Graphic Design and Art through Self-Portraiture*  
Emily Dotson: *Impacts of Personal Identity Aspects on the Provision and Effectiveness of Foster Care Services for Children and Young Adults*  
Ali Ouedraogo: *Harnessing Human Body as a Power Plant: A Futuristic Roadway Perspective*  
Cameron Cooper: *Enhancing Safety Operations Using Drones*  
Richard Boran, Destiny Fausta & Sam Robichaud: *AI Application in Construction Project Management*  
Thiago Palma & Jacob Ringer: *Advancing Construction Efficiency: Application of Autonomous Heavy Equipment Operation*  
Adam Post, Trinity O’Connor & Joseph Postale: *South Station Tower Boston: Hacking the City*  
Joseph Postale, Anna Gauvin, Eric Kasili, Marcus Moss, Trinity O’Connor, Kyler Santiago & Nicholas Zeoli: *Applying Biomimicry to Public Housing Design*  
Nicholas Zeoli & Trinity O’Connor: *Optimal Net Zero Single Family Housing Case Study on Cape Cod*  
Ginneta Abaidoo & Cristian Bueno Campos: *Strength of Structural Wood*  
Francesco Campione: *Positive and Negative effects of the Pharmaceutical Industry on Society*

## ARTERIES GALLERY EXHIBIT

Hammond Art Gallery | Ground Level Lobby, Hammond Hall (Last Day of the Exhibit)

ARteries is our annual student art exhibition, showcasing work from a wide range of studio art classes including Drawing I, Intermediate Drawing, Puppetry, 3D Design, Ceramics I and II, and Sculpture. Though we do not have an art major, we continue to have students who produce extraordinary works each year. These students have worked very hard, and we are proud to be able to show off their creations.

## CREATIVE WRITING SHOWCASE

10:00 – 10:30 AM | Ellis White Lecture Hall, Hammond Hall

Matilda Goad: *Murder By Lying*

Peter Elliot: *Humans Earned Counterhill*

Lauren Keough: *untitled*

## ROUND TABLE DISCUSSION

10:00 - 11:00 AM | Hammond Hall, Room 214

Lexi Granchelli, Aleysha Santos, Rachele Keegan, Quejanae Beavers-Hatter, Cristian Crespo, Kris L'Heureux & Nikki McToggart: *Human Services Study Abroad Program to Croatia*

## LUNCH FOR CONFERENCE PARTICIPANTS and FAMILIES

11:45 AM – 12:30 PM | Falcon Hub, Hammond Hall

The Fitchburg State University Jazz Band: Directed by Amy McGlothlin

Thomas Adler-Mandile — Flute

Ronan Cords French — Horn

Jack Dancause — Trumpet

Rala Diakite — Piano

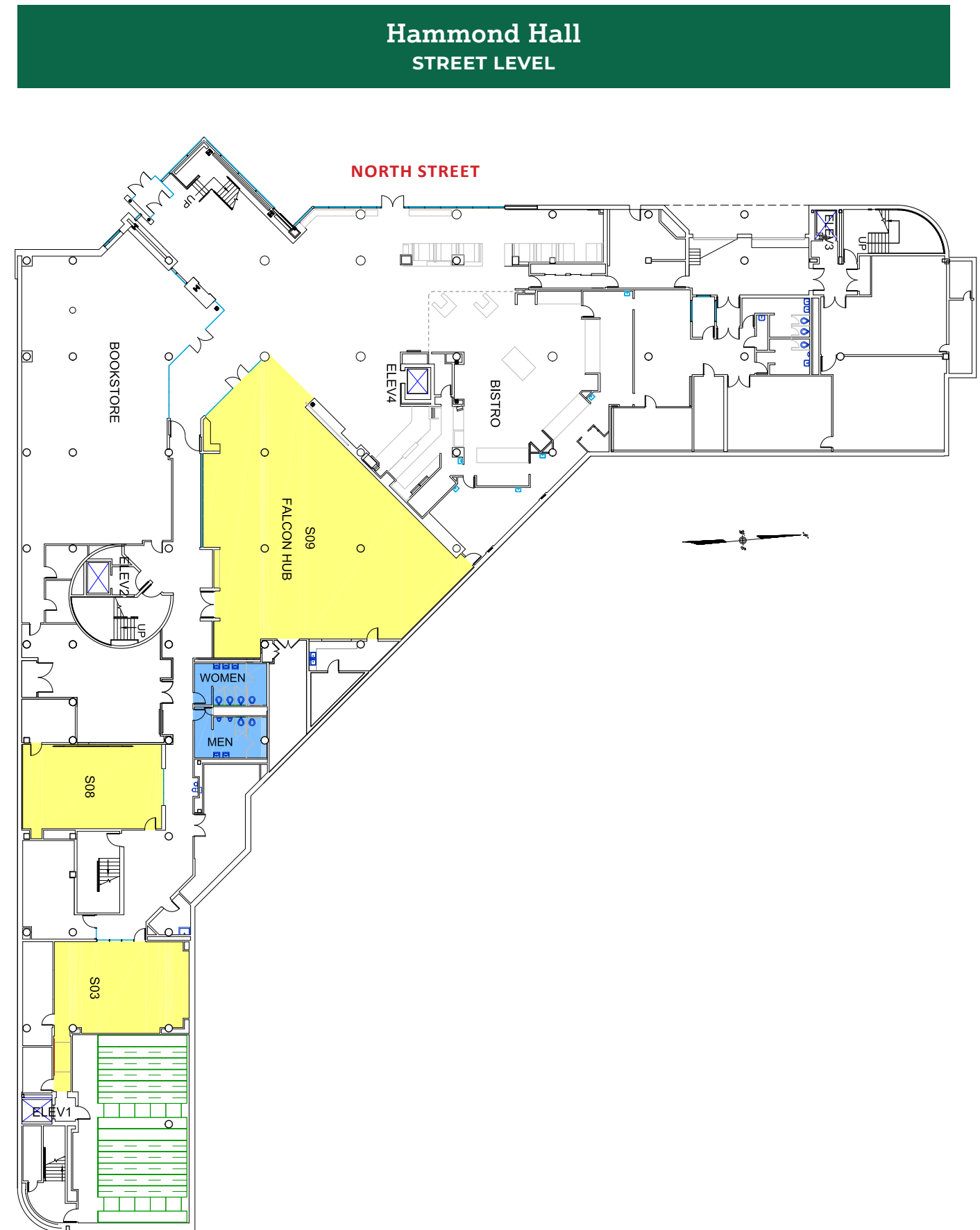
Joshua Lancaster — Percussion

Joshua Leaffer — Percussion

## CLOSING REMARKS

12:30 PM | Falcon Hub, Hammond Hall

Jessica Alsup and Zachary Miner



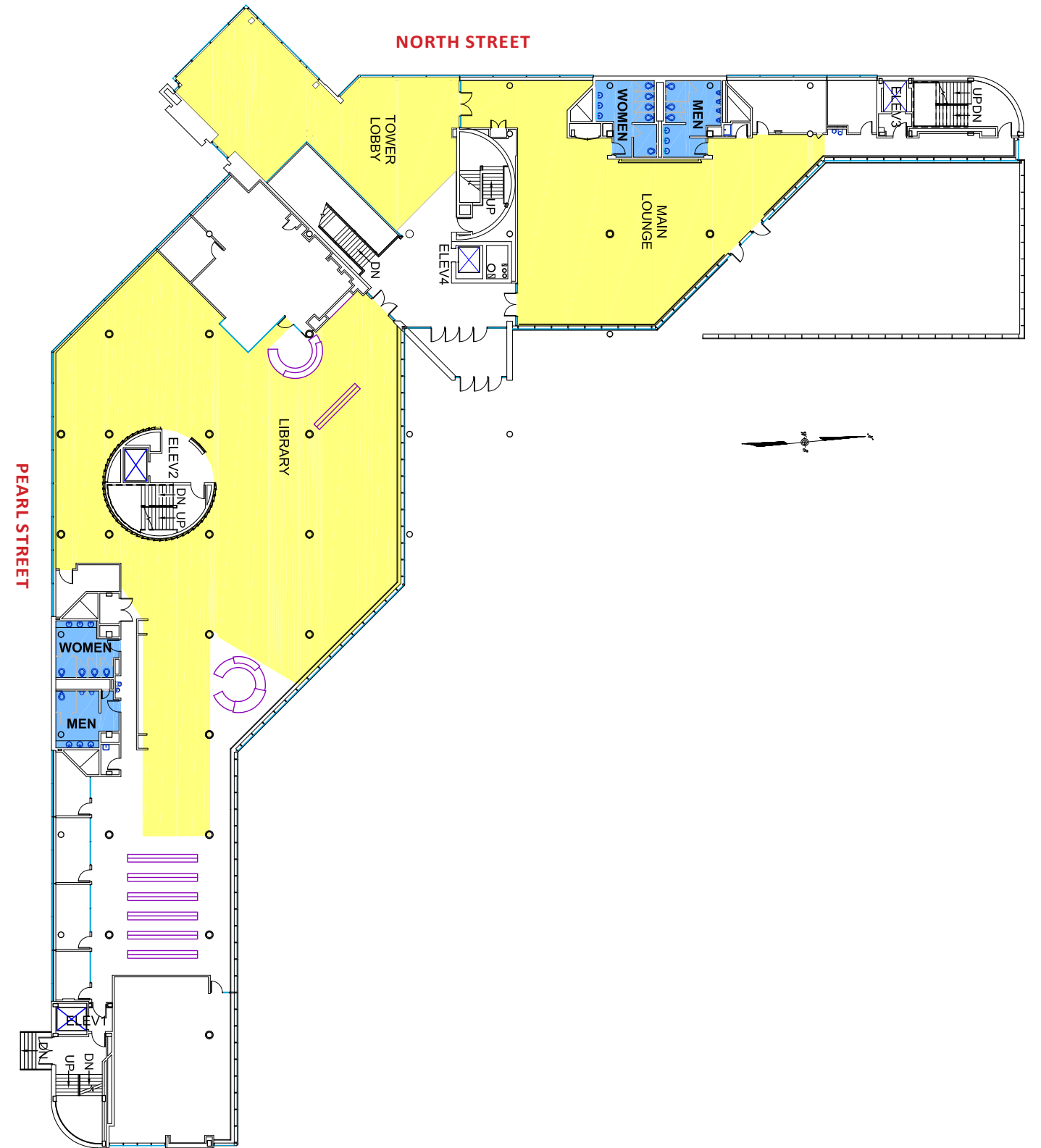
# Hammond Hall

## GROUND LEVEL



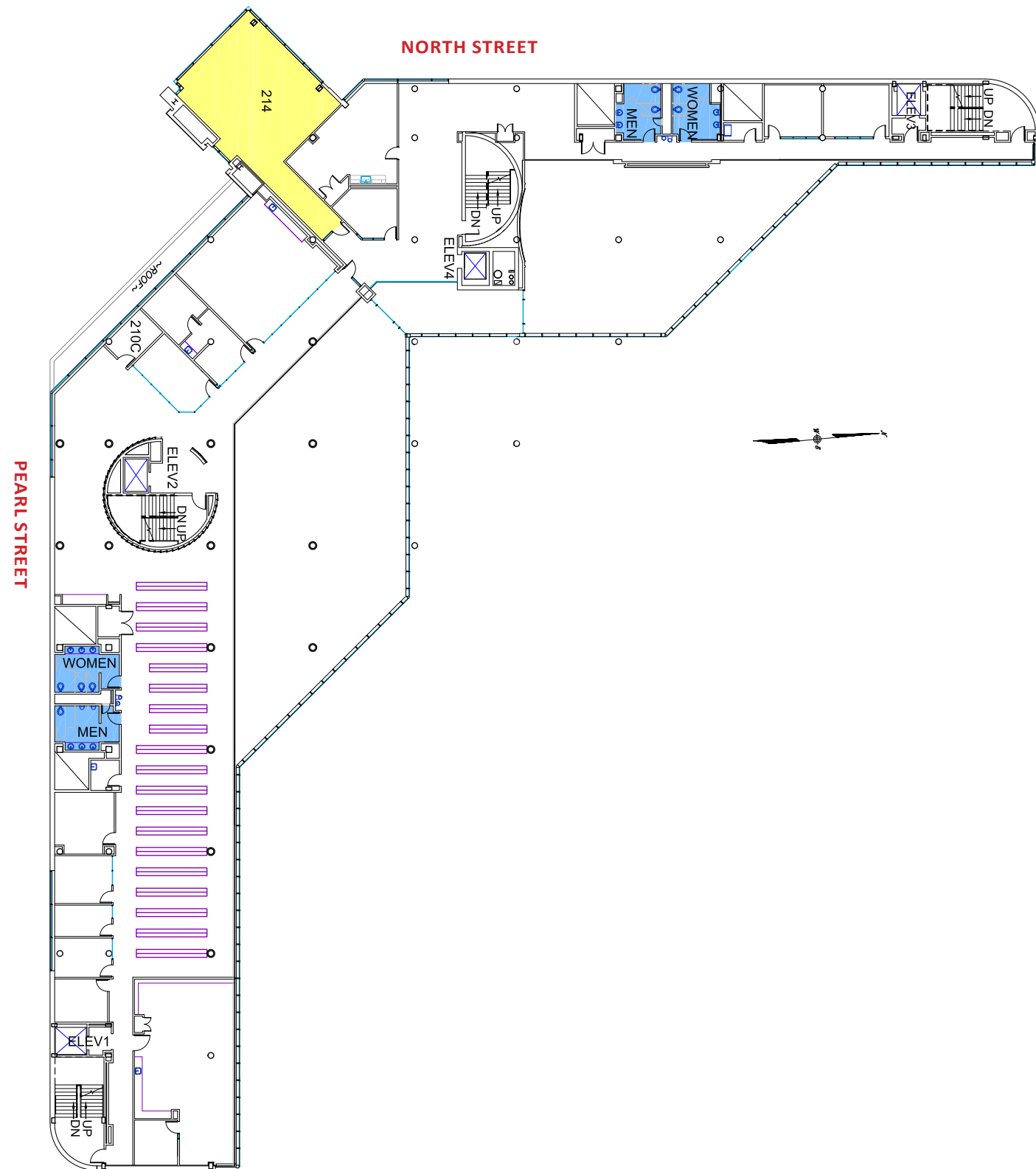
# Hammond Hall

## FIRST FLOOR

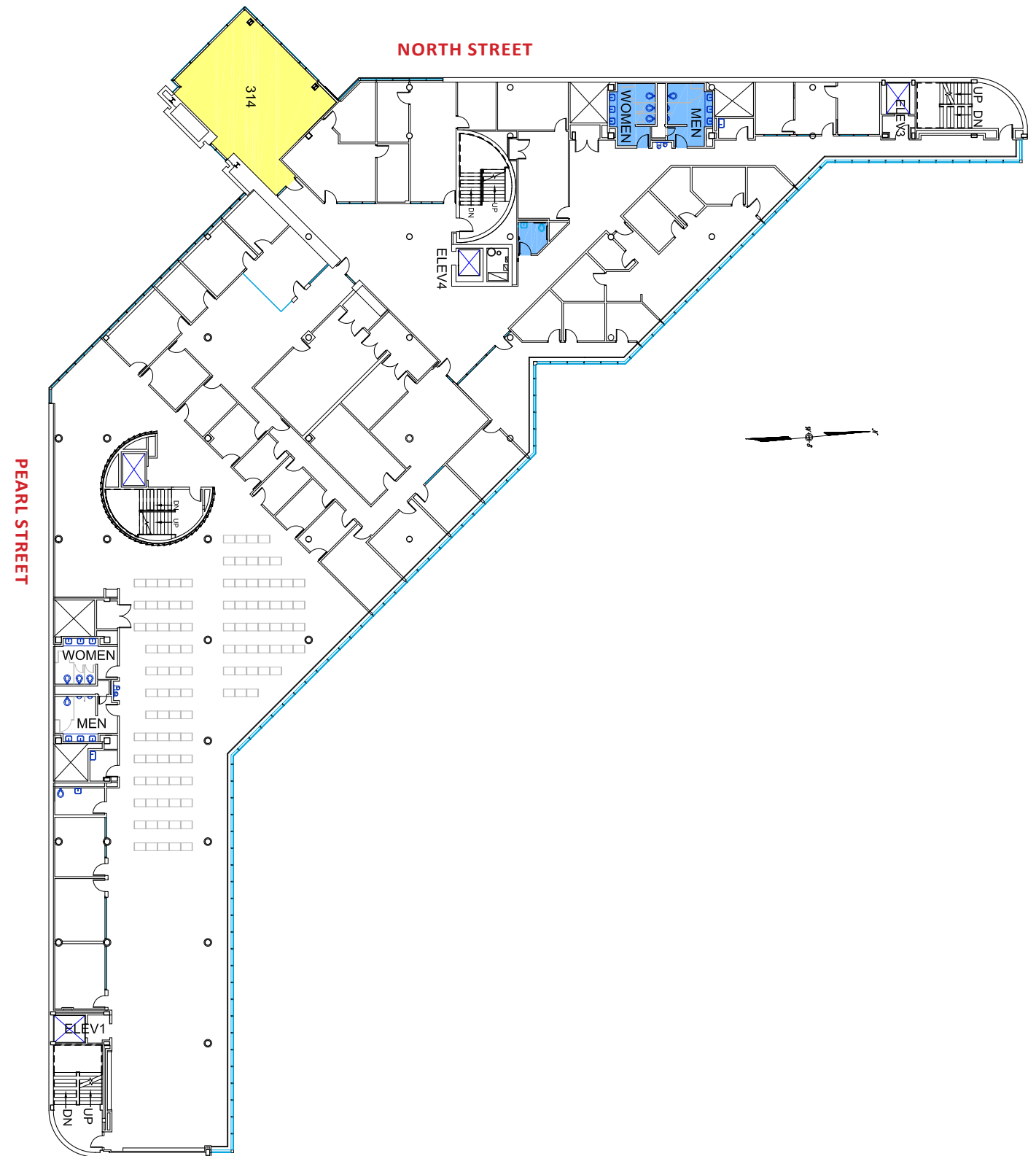




# Hammond Hall SECOND FLOOR



# Hammond Hall THIRD FLOOR



**Thank you to the faculty sponsors:**

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Collin Syfert	Ronald Krieser	Jessica Oehrlein
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Aisling O'Connor	Nirajan Mani	Demisty Bellinger-Delfeld
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