



— Middlebury —

SPRING STUDENT
SYMPOSIUM

— APRIL 12, 2019 —

ACKNOWLEDGEMENTS

Middlebury's Spring Student Symposium is truly a community-wide effort, and there are many individuals to thank.

The Center for Teaching, Learning, and Research (CTLR) faculty and staff—especially Victoria Luksch and JoAnn Brewer and her student staff—provided support and coordination for the symposium. Staff members from the Middlebury College Library, Information Technology Services, and the Office of Digital Learning and Inquiry (DLINQ) dedicated many essential hours to the symposium. We would especially like to thank Mike Roy, Vijay Menta, and Amy Collier for making their staff available to support the event; Lisa Terrier and her distribution team, including Nate Burt and Brian Foley; Dan Frostman and the circulation staff; Carrie Macfarlane and the library liaisons; Billy Sneed and Jeff Lahaie of the central systems and network group; Joe Durante and the HelpDesk staff; Petar Mitrevski, Mack Pauly, David Wright, and the media services staff and students; and Shel Sax and the DLINQ interns. Cathy Ekstrom, the McCardell Bicentennial Hall building coordinator, along with general event support, organized the poster sessions.

Michael Sheridan, Wendy Shook, Amanda Crocker, and AnGayle (AJ) Vasiliou served on the Spring Student Symposium Sessions Committee, creating our highly interdisciplinary event. Thanks to students Grace Carroll '22, Nuria Gonzalez-Boj '22, Sean Meagher '20, and Emma Patch '19, who provided

fresh perspectives and assistance. Pam McGuire, Valerie Costello, Cathy Collins, Emina Mahmuljin, Stephen Diehl, Pam Fogg, Jessie Raymond, Chris Spencer, and Sara Marshall helped get the word out and document the event. Mack Roark, Ben Powers, Dana Yeaton, and Oratory Now student coaches assisted students in preparing their talks and posters by providing excellent learning materials, workshops, and coaching. Ian Martin, Megyn Pitner, Debra Mallott, and the catering team provided an outstanding menu. Amy Carlin, Thaddeus Stowe, Jodi Keith, Kevin Norton, and the facilities team supported the symposium's logistical needs. Megan Curran facilitated arrangements within Johnson Memorial Building. We are grateful to all the people who served as moderators of presentation sessions.

We also thank Middlebury College faculty, whose mentorship and guidance have led to the student accomplishments we showcase today. Finally, we thank all of our student presenters for sharing their expertise and enthusiasm with our community, and we congratulate them on their accomplishments. We also wish to acknowledge the internal and external funding sources without which many of today's research projects and the symposium itself would not have been possible. In particular, we wish to acknowledge the Norbert K. Vaughn '10 Memorial Fund, established in 2008 to honor Norbert's memory and support the annual symposium, an event that exemplifies his appreciation of scholarly inquiry.

—The Spring Student Symposium Committee

— Middlebury —
**SPRING STUDENT
SYMPOSIUM**
— APRIL 12, 2019 —

For complete schedules and abstracts
for the 13th annual symposium,
visit go.middlebury.edu/sym.

WELCOME

Join us in celebrating the 13th annual Spring Student Symposium!

The symposium is a daylong event in McCardell Bicentennial Hall, with open exhibits in Johnson Memorial Building. Classes have been suspended for the day in order to allow all members of the Middlebury College community to join in this celebration of student research and creative achievement. What began as an afternoon of poster and oral sessions with 60 student presenters has grown into an expansive program of academic and creative works from over 300 students. Although the symposium has changed over the years, it remains at its heart a multidisciplinary celebration of undergraduate work at Middlebury College.

The goal of a liberal arts education is to cultivate creative, independent learners. This symposium speaks to Middlebury's pursuit of that goal. And so consider this program your guide into a rich world of inquiry and expression. Take a moment to plan the course of your day, explore the work of Middlebury students, and broaden your understanding of subjects extending through the arts, the humanities, and the sciences.

Today's symposium reflects Middlebury's commitment to providing all students with hands-on undergraduate research and experiential learning opportunities. We applaud the accomplishments of our students, the mentoring and guidance of their sponsors, and the support of the Middlebury College community, and we thank you for joining us to celebrate them.

The 2019 Spring Student Symposium Planning Committee

Hang Du, Associate Professor of Chinese, Co-chair

Lisa Gates, Associate Dean for Fellowships and Research,
Co-chair

Amanda Crocker, Assistant Professor of Neuroscience

Larry Hamberlin, Professor of Music

Bill Koulopoulos, Director of Academic Technology

Amy Morsman, Interim Dean for Faculty Development and
Research, Professor of History

Colleen Norden, Administrative Coordinator for Fellowships
and Undergraduate Research

Michael Sheridan, Associate Professor of Anthropology

Wendy Shook, Science Data Librarian

AnGayle (AJ) Vasiliou, Assistant Professor of Chemistry and
Biochemistry

Please be aware that the academic projects presented are generally unpublished works in progress or preliminary research and are not intended to be referenced or cited without consent of all parties involved.

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LETTER FROM THE PRESIDENT

Welcome to the 2019
Spring Student Symposium!

Welcome to Middlebury College's 13th annual Student Symposium. Each April, students from first-years to seniors, across all academic disciplines, participate in this symposium. In presentations and poster sessions, performances, panels, and readings, they share their intellectual passions and discover what inspires their fellow classmates.

Today is a day for us to admire, appreciate, and celebrate both independence and collaboration. The work showcased here today is borne of original thought and independent inquiry and months of singular focus and effort. And yet, it also bears the hallmarks of partnerships with professors who worked alongside students in their creative and scholarly pursuits, providing instruction, mentorship, and guidance, and, most especially, encouraging curiosity.

Each of today's presentations began with a curious moment that was allowed to grow. That curiosity about an unexplored idea then sparked inquiry, which then fueled exploration. The result of that inquiry might not always be what was expected. The path might not have been smooth. There may have been stops and starts and detours and a few dead ends. But that is part of the power and beauty of the exploration—the discovery of the unknown, the disproving of assumptions, the triumph of truth, the joy of the unexpected, the satisfaction of work well done.

I encourage all of the students—whose focus and



hard work brought them here today—to take pride in embracing their curiosity and all that their independent explorations and their collaborations have made possible. We are honored to share today with them.

Sincerely,

A handwritten signature in cursive script that reads "Laurie L. Patton". The signature is written in dark ink on a light background.

President Laurie L. Patton

PROGRAM SCHEDULE OVERVIEW

8:30–9:00 a.m.

Presenter Check-In and Refreshments

McCardell Bicentennial Great Hall

9:00–9:15 a.m.

Welcome

McCardell Bicentennial Great Hall

Laurie Patton, President of Middlebury College

9:15–10:30 a.m.

Session I: Oral Presentations

McCardell Bicentennial Hall Classrooms

10:00 a.m.–4:00 p.m.

Art Exhibits

Johnson Pit, Mezzanine

10:30–11:15 a.m.

Poster Presentations: Group 1 and Refreshments

McCardell Bicentennial Great Hall

11:15 a.m.–12:30 p.m.

Session II: Oral Presentations

McCardell Bicentennial Hall Classrooms

12:30–1:30 p.m.

Lunch for Presenters, Sponsors, and Moderators

Atwater Dining Hall

Lunch in Atwater available from 11:30 a.m.–2:00 p.m.

Lunch will be served for all others at regular hours in Proctor and Ross Dining Halls.

1:30–2:45 p.m.

Session III: Oral Presentations

McCardell Bicentennial Hall Classrooms

2:45–3:30 p.m.

Poster Presentations: Group 2 and Refreshments

McCardell Bicentennial Great Hall

3:30–4:45 p.m.

Session IV: Oral Presentations

McCardell Bicentennial Hall Classrooms

4:45–5:30 p.m.

Closing Reception

McCardell Bicentennial Great Hall

9:00–10:30 p.m.

Evening Event

McCardell Bicentennial Hall Mittelman Observatory

COMPLETE SCHEDULE

8:30–9:00 a.m.

Presenter Check-In and Refreshments

McCardell Bicentennial Great Hall

9:00–9:15 a.m.

Welcome

McCardell Bicentennial Great Hall

Laurie Patton, President of Middlebury College

9:15–10:30 a.m.

Session I: Oral Presentations

The Arts of Influence

Moderated by Edward Vazquez, Associate Professor of History of Art and Architecture

McCardell Bicentennial Hall 104

- 9:15 a.m. The Presence of Jazz in Today's Hip-Hop: Jazz Influence in Chance the Rapper's "Good Ass Intro"—Nathan Ng '19; Sponsor: Jeff Buettner, Music
- 9:35 a.m. Reinterpreting Transcendental Nature: Concord Fantasias for Voices and Piano—Rhys Glennon '22; Sponsor: Rebecca Gould, Environmental Studies
- 9:55 a.m. The Music Is More Ancient Than the Words: The Evolution of a Musical Black Liberation Theology and Its Influence on the Speech and Thought of Martin Luther King Jr.—Hal Juster '19; Sponsor: James Davis, Religion
- 10:15 a.m. 1991: Liminal Spaces of Silence and Aurality in the Work of Glenn Ligon—Kate Claman '19; Sponsor: Edward Vazquez, History of Art and Architecture

Culture of Narratives

Moderated by Rebekah Irwin, Director and Curator of Special Collections

McCardell Bicentennial Hall 216

- 9:15 a.m. Getting Together: The Impact of an Affirmative Action Ban on Students' Self-Perception and Social Engagement—Vick Xu '19; Sponsor: Caitlin Myers, Economics

9:35 a.m. Contra Dance, Queerness, and Rurality: (En) Countering Metronormativity in the Montpelier Grange—Nell Sather '19; Sponsor: Carly Thomsen, Gender, Sexuality, and Feminist Studies

9:55 a.m. Good Luck: A Creative Writing Thesis—Sabrina Wang '19; Sponsor: Spring Ulmer, English and American Literatures

10:15 a.m. The Middlebury and School of Leadership in Afghanistan Partnership—Abigail Hinchman '19, Erin Hoynes '19, Nell Sather '19, Rebecca Wishnie '20; Sponsor: Sujata Moorti, Gender, Sexuality, and Feminist Studies

The Bottom Line

Moderated by Antonia Losano, Professor of English and American Literatures

McCardell Bicentennial Hall 219

- 9:15 a.m. Jane Austen and the "Prudent Romance": Personal Choice and Marriage in *Pride and Prejudice* and *Mansfield Park*—Jessie Kuzmicki '19; Sponsor: Antonia Losano, English and American Literatures
- 9:35 a.m. A New Flight to Safety: Internationalization of the Euro and the Necessity of a Low-Risk, Liquid European Asset—Margaret Knox '19; Sponsor: Kristina Sargent, Economics
- 9:55 a.m. Punching the Card and Hitting the Sack: An IV Approach to the Effect of Sleep on Labor Productivity Using the Russia Longitudinal Monitoring Survey—Christian Schmitt '19; Sponsor: Caitlin Myers, Economics
- 10:15 a.m. Dimensions of Whiteness: Middlebury College's Story of Racism, Ableism, and Wealth—Kyle Wright '19; Sponsor: Susan Burch, American Studies

Essays on Modern Political Philosophy

Moderated by Murray Dry, Professor of Political Science

McCardell Bicentennial Hall 220

- 9:15 a.m. Essays on Modern Political Philosophy—Thibault Bachelet '19, Jack Brown '22, Charlie Cacciatore '20, Amy Dayton '19, Griffin Hall '20.5, Alexander White '21.5; Sponsor: Murray Dry, Political Science

Design Flows and Flaws

Moderated by Ryan Clement, Data Services Librarian

McCardell Bicentennial Hall 303

- 9:15 a.m. Human Impacts on American National Parks—Adam Blachly '21.5, Bella Pucker '21.5; Sponsor: Rebecca Gould, Environmental Studies
- 9:35 a.m. Structural Inequalities in Chinese Markets—Colson Andrews '21; Sponsor: Jessica Teets, Political Science
- 9:55 a.m. Does Poverty Alleviation Lead to Deforestation? Evidence from Indonesia's Program Keluarga Harapan—Juan Andrade-Vera '19; Sponsor: Caitlin Myers, Economics

Interpreting Processes

Moderated by Claudio Medeiros, Associate Professor of Theatre

McCardell Bicentennial Hall 311

- 9:15 a.m. *Baltimore Waltz*: Research on the AIDS Epidemic at Middlebury and in the USA—Alexis de la Rosa '19, Travis Sanderson '19; Sponsor: Claudio Medeiros, Theatre
- 9:35 a.m. In Colder Blood: Truman Capote's Ironic Account of the Clutter Family Murders—Jenna McNicholas '19; Sponsor: Michael Newbury, English and American Literatures
- 9:55 a.m. *Kokuhakushitsu No Hozon* by Mieko Kawakami—Kylie Winger '19; Sponsor: Stephen Snyder, Japanese Studies
- 10:15 a.m. Criminals or Confederates? The St. Albans Raid of October 1864 and the Meanings of War and Justice—Grant Friedman '19; Sponsor: Kathryn Morse, History

Shift Happens

Moderated by Ata Anzali, Associate Professor of Religion

McCardell Bicentennial Hall 403

- 9:15 a.m. Project AJAX: Media, Government, and the 1953 Overthrow of an Iranian Prime Minister—David Packer '20; Sponsor: Febe Armanios, History
- 9:35 a.m. The New Turkey: The Rise of Muslim Nationalism and Illiberal Democracy in Erdogan's Turkey—Garda Muhammad Ramadhito '19; Sponsor: Ata Anzali, Religion

- 9:55 a.m. Signaling Centralization: An Analysis of Xi Jinping's Rhetoric and Changing Chinese Governance—Rowen Price '19; Sponsor: Jessica Teets, Political Science

- 10:15 a.m. Pro-Poor Growth in Latin America: An Examination of the Financial Development-Growth-Poverty Nexus—Geovany Martinez '19; Sponsor: John Maluccio, Economics

Social Impact Journeys

Moderated by Nadia Horning, Associate Professor of Political Science

McCardell Bicentennial Hall 411

- 9:15 a.m. Social Impact Journeys: Stories from Social Entrepreneurship Seniors—Meron Benti '19, Veronica Estudillo Velasco '19, Briana Garrett '19, Hollie Haigh '19, Naina Horning '19, Charlotte Massey '19, Salma Nakhlawi '19, Julia Siemann de Athayde Silva '19, Alfredo Torres '19, Pele Voncujovi '19, Shan Zeng '19; Sponsor: Nadia Horning, Political Science

From the Water

Moderated by Erin Eggleston, Assistant Professor of Biology

McCardell Bicentennial Hall 438

- 9:15 a.m. Resilience Lost: Globalization of Lake Victoria Fishery—Fan Wu '19; Sponsor: David Stoll, Sociology and Anthropology
- 9:35 a.m. Nymph by the River: The Visual Representation of a Chinese Mythical Goddess in the Southern Song Dynasty—Yihao Ding '19; Sponsor: Sarah Laursen, History of Art and Architecture
- 9:55 a.m. Modeling Climate Constraints on the Formation of Pluvial Lake Bonneville in the Great Basin, USA—Bryce Belanger '19; Sponsor: Will Amidon, Geology
- 10:15 a.m. Characterizing Mercury Methylating Microbes for River Wetland Management—Rebecca Lightman '19; Sponsor: Erin Eggleston, Biology

10:00 a.m.-4:00 p.m.

Art Exhibits

Johnson Memorial Building

In the Pit: Senior Independent Studio Class

Sponsor: Sanford Mirling, Studio Art

Works by Zahrrah Ahmed '19, Raine Ellison '19, Sarah Gratz '19, Michaela Lombard '19, Reed Martin '19, Charlotte Massey '19, Emilio Ovalles-Misterman '19, Charlotte Reider-Smith '19, Olivia Ryder '19, Noah Sauer '20, Jay Silverstein '19, Jill Stauffer '19, Allyson Stevens '19, and Elizabeth Warfel '19

On the Mezzanine: ART 300 Advanced Drawing

Sponsor: Hedya Klein, Studio Art

Works by Nathaniel Albers '20, Taylor Bluestine '22, Charlie Caldwell '22, Lingxi Chen '22, Pia Contreras '22, Courtney Crawford '22, Alexander Kang '21, Jenna Kotcher '21.5, Asher Lantz '19.5, Eric Masinter '21, Danielle Newberry '21.5, and Mykhailo Poklad '22

10:30–11:15 a.m.

Poster Presentations: Group 1 and Refreshments

McCardell Bicentennial Great Hall

(Please note that Poster Presentations: Group 2 will take place from 2:45–3:30 p.m.)

1. Implications of Masculinity and J. Edgar Hoover FBI Building—Grace Harlan '22; Sponsor: Erin Sassin, History of Art and Architecture
2. Coral Cartography: Exploring 3-D Mapping Techniques to Visualize Reef Decline in the Caribbean—Will Greene '19; Sponsor: Jeff Howarth, Geography
3. Neurodevelopmental Follow-Up in Premature Infants at Baystate Medical Center: How Do We Compare?—Erica Dean '20; Sponsor: Catherine Combelles, Biology
4. Lysine Acetylation of *Borrelia burgdorferi* Enolase: A Mechanism for Metabolic Flux—Mayher Patel '19; Sponsor: Bob Cluss, Chemistry and Biochemistry
5. Framing and Preference Consistency: Evidence from Distribution Experiments—Isabel Lindsay '19; Sponsor: Andrea Robbett, Economics
6. Circulation and Mixing Effects of Causeway Removal within the Restricted Arm Region of Lake Champlain Using a High Resolution, 3-D Hydrodynamic Model—Peter Mehler '20; Sponsor: Tom Manley, Geology
7. Antique Clothing Photography: 1830–1940—Emma Cowper '20.5; Sponsor: Mira Veikley, Theatre
8. Puerto Rican Migration and Education in New York City in the 1960s: Breaking Down Racialized, Stereotypical Portrayals of Puerto Ricans through Education Advocacy Organizations—Wynne Ebner '19; Sponsor: William Hart, History
9. Expressing Sympathy in Japanese: *Omoiyari* and the Territory of Information Theory—Karima Kerrouchi; Sponsor: Sayaka Abe, Japanese Studies
10. Development and Validation of a Clinical Risk Calculator for Prolonged Opioid Use after Shoulder Surgery—Natalie Passarelli '20; Sponsor: Susan Desimone, Biology
11. Modeling Mild Repeated Traumatic Brain Injury in *Drosophila melanogaster*—Madeleine Champagne '19, Gabby Fort '19, Rory Kelly '19; Sponsor: Amanda Crocker, Neuroscience
12. Identifying Intrinsic X-Ray Source Population Groupings in External Galaxies: Astronomical Uses for Machine Learning—Sadie Coffin '19; Sponsor: Jonathan Kemp, Sciences Tech Support Services
13. The *Streptococcus mutans* adcRCBA Genes Encode a Manganese Export System that is Subject to SloR Control—Logan Wright '19; Sponsor: Grace Spatafora, Biology
14. Correlation of Volcanic Deposits by Mineralogy, Geochemistry, and Radiocarbon Dating: Implications for Assessing Volcanic Activity and Risk in Costa Rica—Malia Barca '19; Sponsor: Peter Ryan, Geology
15. Exploring Public Opinion Formation of Protectionist International Trade Policy—Henley Hall '19; Sponsor: Orion Lewis, Political Science
16. KLHL9 and the Interferon-I Locus: Is It Dumb Luck or Purposeful?—Austin Collins '19; Sponsor: Bob Cluss, Chemistry and Biochemistry
17. A Proposed Solution to the Affordable Housing Crisis: Rooted—Jesse Woodhull '19.5; Sponsor: John McLeod, History of Art and Architecture
18. Health and Labor Productivity Impacts of Mining: Evidence from South Africa—Chris Adamo '20; Sponsor: Tanya Byker, Economics
19. The Complicated Relationship between State and Society: The State, the Census, and the Making of Racial Categories—Audrey Pan '19; Sponsor: Trinh Tran, Sociology and Anthropology
20. Investigating SloR Binding Partners in *Streptococcus mutans*—John Rustad '19.5; Sponsor: Grace Spatafora, Biology
21. Geochemical and Textural Investigation of Lunar Meteorite NWA 032—Elizabeth Simmons '21; Sponsor: Kristina Walowski, Geology
22. Expanding the Pollination Neighborhood: A Study of Pollination Ecology for Conservation—Maisie Anrod '19; Sponsor: Tom Root, Biology
23. Parrotfish, Algae, and Coral Dynamics in the Bahamas—Anna Willig '20; Sponsor: Stephen Trombulak, Biology
24. The Adaptive Reuse of St. Mary's Elementary School: The Case for the Transformation of Abandoned Community Centers into Affordable Housing—Jill Stauffer '19; Sponsor: John McLeod, History of Art and Architecture

25. A Visual Meditation on the “Interbeing”—Acadia
Hegedus '22; Sponsor: Rebecca Gould, Environmental Studies

26. Characterization of *Borrelia burgdorferi* Glyceraldehyde-
3-Phosphate Dehydrogenase: Enzymatic Activity and
Moonlighting Functions—Robert Pritchard '19; Sponsor: Bob
Cluss, Chemistry and Biochemistry

27. Pebble Homes: Rethinking Single-Person Dwellings—
Reed Martin '19; Sponsor: John McLeod, History of Art and
Architecture

28. When Is the Cognitive Interview a Cognitive Interview?—
Susanna Baker '19, Alexa Comai '19; Sponsor: Michelle
McCauley, Psychology

29. Investigating Depositional Algal Biomass in St. Albans
Bay—Gray Kline '19; Sponsor: Tom Manley, Geology

30. The Effect of Social Media on Students' Self-Esteem: A
Middlebury Analysis—Jenna Marotta '19; Sponsor: Erick
Gong, Economics

11:15 a.m.–12:30 p.m.

Session II: Oral Presentations

Weaving Meaning from Data: Object, Text, Space, Policy Moderated by Jennifer Ortegren, Assistant Professor of Religion

McCardell Bicentennial Hall 104

- 11:15 a.m. *Shimenawa*: Weaving Traditions with Modernity; Interdisciplinary Research on the Cultural History of Japanese Sacred Rope—Shan Zeng '19; Sponsor: Elizabeth Morrison, Religion
- 11:35 a.m. Turn of Heart, Turn of Phrase: Qur'anic Translations in Japanese—Ben Freedman '19; Sponsor: Jennifer Ortegren, Religion
- 11:55 a.m. Food Aid and Its Effect on Fertility Behavior: Evidence from Clustered Randomized Trial in Haiti—Kailash Pandey '19; Sponsor: John Maluccio, Economics
- 12:15 p.m. Public, Private, and Protest Spaces: Negotiations of Power through Architecture in the Charles Murray Protest—Rebecca Wishnie '20; Sponsor: Erin Sassin, History of Art and Architecture

Women of *Game of Thrones* Moderated by Nikolina Dobрева, Visiting Assistant Professor of Film and Media Culture

McCardell Bicentennial Hall 216

- 11:15 a.m. Women of *Game of Thrones* First-Year Seminar—Agastya Ahluwalia '22, Conor Breen '22, Zoe Garcia '22, Zeke Golnik '22, Summer Hornbostel '22, Rachel Jeong '22, Ryan Kirby '22, Josie Lagerstrom '22, Jack Landrigan '22, Katelyn Mei '22, Annie Midthun '22, Anna Rosen '22, Liam Sloan '22; Sponsor: Nikolina Dobрева, Film and Media Culture

Hidden (or Not) Intentions Moderated by Alexander Lyford, Visiting Assistant Professor of Mathematics

McCardell Bicentennial Hall 219

- 11:15 a.m. Her Cotton Is No Longer Stained with Blood: British Anti-Slavery Activists, Egyptian Cotton, and the American Civil War (1861–1865)—Lucy Grindon '19; Sponsor: Febe Armanios, History
- 11:35 a.m. Authoritarian Personality, Social Identity, and the Trump Vote in the 2016 U.S. Presidential Election—Katrin Schmitz; Sponsor: Jessica Teets, Political Science

- 11:55 a.m. Cholera Cartoons: Uncertainty and the Politics of Cholera in the 19th Century—Allegra Molkenthin '19.5; Sponsor: Jacob Tropp, History

Mind the Gap: Religion and Society Moderated by Laurie Patton, President of Middlebury College McCardell Bicentennial Hall 220

- 11:15 a.m. The Madman Resisting Modernity: The Clash between Idealism and Reality in *Don Quixote* and *The Master and Margarita*—Jessica Masinter '19; Sponsor: Paul Monod, History
- 11:35 a.m. Transcendental Generative Grammar: A Chomskyan Reading of the *Sphoṭavāda*—Christopher Diak '19; Sponsor: Laurie Patton, Religion
- 11:55 a.m. “Depth Is the New Inspiration”—Rene Magritte’s Solutions to the Window Problem—Xingzi Xu '19; Sponsor: Erin Sassin, History of Art and Architecture
- 12:15 p.m. Value, Virtue, and the Indifferents: A Critique of Modern Stoic Ethics—Kyle Freiler '19; Sponsor: Christopher Star, Classics

Health, Drugs, and Rock and Roll Moderated by Louisa Burnham, Associate Professor of History McCardell Bicentennial Hall 303

- 11:15 a.m. Orthomolecular Medicine: A History of the Treatment of Disease Using Individualized Nutrition—Margot DesBois '19; Sponsor: Grace Spatafora, Biology
- 11:35 a.m. Savior or Enabler? The Impact of Naloxone Access on Opioid Mortality—Corinne McGillicuddy '19; Sponsor: Caitlin Myers, Economics
- 11:55 a.m. Magical Stones in the Medieval Ages: Gems, Stones, and Nonstones—Madeleine Champagne '19; Sponsor: Louisa Burnham, History
- 12:15 p.m. A Feminist Examination of the Medical Humanities—Ravi Patel '19; Sponsor: Carly Thomsen, Gender, Sexuality, and Feminist Studies

Role Plays Moderated by Rebecca Bennette, Associate Professor of History

McCardell Bicentennial Hall 311

- 11:15 a.m. The Female Theatrical Voice—Stephanie Miller '20; Sponsor: Cheryl Faraone, Theatre

- 11:35 a.m. The Parallels and Performativity of Propaganda: French and German Cultural Exchange and Competition at the 1937 Paris World's Fair and Beyond—Kathleen Criscitiello '19; Sponsor: Rebecca Bennette, History
- 11:55 a.m. Investigating Narrative Interpretations of Gender in Contemporary Dance Spaces—Katherine Corrigan '19; Sponsor: Linus Owens, Sociology and Anthropology
- 12:15 p.m. Translating Liu Cixin: Science Fiction in China—Emma Helper '19, Julie Huynh '20, Mary Majerus-Collins '19; Sponsor: Hangping Xu, Chinese

Trip the Light Fantastic: Revisiting Difficult Narratives
Moderated by John Bertolini, Professor of English and Liberal Arts

McCardell Bicentennial Hall 403

- 11:15 a.m. The Literary Reputation of Edmund Spenser—John Gosselin '20; Sponsor: John Bertolini, English and American Literatures
- 11:35 a.m. Autonomy and Punishment in the λόγοι of Astyages and Cambyses—Madison Stewart-Boldin '19; Sponsor: Jane Chaplin, Classics
- 11:55 a.m. Trauma in Science Fiction: A Study of René Barjavel and Kurt Vonnegut—Ellen Colton '19; Sponsor: Charles Nunley, French

Desire and Risk

Moderated by David Allen, Assistant Professor of Biology

McCardell Bicentennial Hall 411

- 11:15 a.m. *Cardinal and Nun (Caress): A Reflection of Sexual Obsession, Conservative Class Structure, and Apocalyptic Paranoia in Fin de Siècle Vienna*—Elaine Velie '19.5; Sponsor: Erin Sassin, History of Art and Architecture
- 11:35 a.m. *Le Sexe Hors-Norme: Depictions of Sexual Desire in Cameroonian Literature*—Charlotte Cahillane '19.5; Sponsor: Linsey Sainte-Claire, French
- 11:55 a.m. Mapping Disease Risk: The Effects of Local-Scale Habitat Characteristics on *I. scapularis* Density in Central Vermont—Harper Baldwin '19; Sponsor: David Allen, Biology
- 12:15 p.m. From *Madame Chrysanthème* to *Miss Saigon*: The Transformation of the Asian Woman Fetish—Vee Duong '19; Sponsor: Benjamin Graves, English and American Literatures

Structural Limits

Moderated by Jonathan Kemp, Telescope and Scientific Computing Specialist

McCardell Bicentennial Hall 438

- 11:15 a.m. Black Cat's Claw: The Impact of Migrant Regulations on Structural Inequality in the People's Republic of China—Travis Sanderson '19; Sponsor: Jessica Teets, Political Science
- 11:35 a.m. Creative While Incarcerated: Freedom and the Prison Industrial Complex through the Eyes of Richard Phillips—Juliana Dunn '19; Sponsor: Erin Sassin, History of Art and Architecture
- 11:55 a.m. Albinism Capital: Beyond Stigma, Agency in the Lives of Rwandan Families with Albinism—Meron Benti '19; Sponsor: Michael Sheridan, Sociology and Anthropology
- 12:15 p.m. Determining the Evolutionary Status of the Disk Surrounding HD 166191—Diego Garcia '20; Sponsor: Jonathan Kemp, Sciences Tech Support Services

Matters of Life and Death

Moderated by Spring Ulmer, Visiting Assistant Professor of English and American Literatures

McCardell Bicentennial Hall 538

- 11:15 a.m. Flesh and Bone: Materiality in Reliquaries of the Cult of Saint Ursula and the Eleven Thousand Virgins—Julia Hower '19; Sponsor: Eliza Garrison, History of Art and Architecture
- 11:35 a.m. An Analysis of the Physical and Psychological Aspects of Death in the Works of Pu Songling and Edgar Allan Poe—Hannah Smart '19; Sponsor: Weihe Xu, Chinese
- 11:55 a.m. Beautiful Bird Biology: Exploring Patterns of Molt and Community Structure in West Ecuadorian Avifauna—Heather Cox '19; Sponsor: Stephen Trombulak, Biology
- 12:15 p.m. Don't Die Yet: A Creative Exposé on Family Structures, Gender Roles, and Mourning—Samuel Boudreau '19; Sponsor: Spring Ulmer, English and American Literatures

Lunch for Presenters, Sponsors, and Moderators

Special lunch in Atwater is available from 11:30 a.m.-2:00 p.m.

Lunch will be served for all others at regular hours in Proctor
and Ross Dining Halls.

1:30–2:45 p.m.

Session III: Oral Presentations

Winning Strategies

Moderated by **Kyoko Davis, Senior Lecturer in Japanese**

McCardell Bicentennial Hall 104

- 1:30 p.m. Language Learning Environment at Middlebury College: An Analysis of Extracurricular Activities in Japanese Language Education—Sonomi Tsuruta; Sponsor: Kyoko Davis, Japanese Studies
- 1:50 p.m. Stoicism, Sensibility, and the Scottish Enlightenment: Ann Radcliffe's Ethic of Feeling in *The Mysteries of Udolpho*—Kyle Freiler '19; Sponsor: Michael Newbury, American Studies
- 2:10 p.m. Chapter 11 Toys "R" Us and the Negative Social Impact of Private Equity—Alex Baskin '19, Fazl Shaikh '20; Sponsor: Frank Van Gansbeke, Interdepartmental
- 2:30 p.m. Progress toward a Hexahistidine Directed C-H Activation Reaction for Site-Specific Protein Modification—Jeffrey Formen '19, Sarah Staver '19; Sponsor: Lindsay Repka, Chemistry and Biochemistry

They Said, She Said, He Said

Moderated by **Carly Thomsen, Assistant Professor of Gender, Sexuality, and Feminist Studies**

McCardell Bicentennial Hall 216

- 1:30 p.m. Girls' Night Out: An Investigation into Sexually Dimorphic Learning Trends in *Drosophila melanogaster*—Elizabeth Vinton '19; Sponsor: Amanda Crocker, Neuroscience
- 1:50 p.m. Understandings of Consent in an Ambiguous Sexual Scenario—Alex Forde '19; Sponsor: Martin Seehuus, Psychology
- 2:10 p.m. The Gendered Ideology of War: A Comparative Study of Hanan alShaykh's *The Story of Zahra* and Etel Adnan's *Sitt Marie Rose*—Jeff Holland '19; Sponsor: Dima Ayoub, Arabic
- 2:30 p.m. A Labor of Love: Gender Labor and Roles in Relationships with Gender Non-Binary People—Jules Struzyna '19.5; Sponsor: Carly Thomsen, Gender, Sexuality, and Feminist Studies

Strangers in a Strange Land

Moderated by **Trinh Tran, Assistant Professor of Sociology and Anthropology**

McCardell Bicentennial Hall 219

- 1:30 p.m. LGBT Refugees in Germany—Mateja Sela '19; Sponsor: Roman Graf, German
- 1:50 p.m. Exceptionalist Human Rights and Haitian Migratory Patterns in Santiago de Chile—Marcelo López '19; Sponsor: Daniel Silva, Spanish and Portuguese
- 2:10 p.m. Treaties, War, and International Abduction: English Colonial Ideology at Jamestown—Dylan Salzman '19; Sponsor: John Harpham, Political Science
- 2:30 p.m. Go Hard and/or Go Home? Migrant Children's Negotiation of Educational Choices, Aspirations, and Attainment in Beijing, China—Lulu Zhou '19; Sponsor: Trinh Tran, Sociology and Anthropology

Points of View

Moderated by **Sanford Mirling, Assistant Professor of Studio Art**

McCardell Bicentennial Hall 220

- 1:30 p.m. Digital Surveillance and Social Credit in China—Emily Uhrynuk '19; Sponsor: Jessica Teets, Political Science
- 1:50 p.m. Finding Dance in Chemistry: Using Mechanisms to Inspire Movement—Maggie Phillips '19; Sponsor: AnGayle (AJ) Vasiliou, Chemistry and Biochemistry
- 2:10 p.m. Nature Perspectives through the Ages: A Collection of Songs about Humans and the Environment—Isabelle Davis '21, Max Lucas '21; Sponsor: Rebecca Gould, Environmental Studies

Observing Identities

Moderated by **Natasha Ngaiza, Assistant Professor of Film and Media Culture**

McCardell Bicentennial Hall 303

- 1:30 p.m. Rethinking the Acholi Dilemma: Identity, Composition, and Postcolonial Dynamics in Northern Uganda—Daniel Krugman '21; Sponsor: Michael Sheridan, Sociology and Anthropology
- 1:50 p.m. Feeling and Healing in Branden Jacobs-Jenkins's Plays—Kahari Blue '19; Sponsor: Cheryl Faraone, Theatre

2:10 p.m. Sunset Song: A Documentary Discovering the Past of My Grandfather—Qian Li '19; Sponsor: Natasha Ngaiza, Film and Media Culture

2:30 p.m. U.S. Media Portrayal of Venezuela—Mariana Echeverria '19, Adrienne Goldstein '20; Sponsor: Erik Bleich, Political Science

That's Not What She Said

Moderated by Gloria Gonzales Zenteno, Professor of Spanish

McCardell Bicentennial Hall 311

1:30 p.m. "The Rights of Mortal and Immortal Beings": The Abolitionist and Feminist Thought of Angelina and Sarah Grimké—Abigail Hinchman '19; Sponsor: John Harpham, Political Science

1:50 p.m. Student Views on the Practice of Introducing Personal Pronouns on College Campus—Anastasiia Kozhukhova; Sponsor: Shawna Shapiro, Writing and Rhetoric Program

2:10 p.m. Women's Resistance Movements During the Dictatorship of Pinochet—Nicolas Plume '19.5; Sponsor: Gloria Gonzales Zenteno, Spanish and Portuguese

2:30 p.m. "In All Respects, Except the Fact That She Is a Woman": Emily Warren Roebling, Louise Blanchard Bethune, and Late 19th-Century Conceptions of Female Achievement—Claire Crane '19; Sponsor: Lana Povitz, History

Phases of (Mis)judgement

Moderated by Bert Johnson, Professor of Political Science

McCardell Bicentennial Hall 403

1:30 p.m. Cultural and Social Practices Contributing to Wrongful Conviction: A Comparative Analysis of the U.S., Canada, England, and Wales—Adam Druckman '19; Sponsor: Bert Johnson, Political Science

1:50 p.m. Always There: Stigma and Meaning-Making in Medical Literature and Body-Positive Blogs—William Kelley '19; Sponsor: Laurie Essig, Gender, Sexuality, and Feminist Studies

2:10 p.m. Media Coverage of African Americans in the U.S.—Jocelyn Alvarado-Valverde '20, Rebecca Gorman '20, Samantha Paredes-Cruz '20, Varsha Vijayakumar '20; Sponsor: Erik Bleich, Political Science

2:30 p.m. Sino-Albanian Relations 1960–80—Mishel Kondi '19; Sponsor: Maggie Clinton, History

U Can't Touch This

Moderated by Rebecca Mitchell, Assistant Professor of History

McCardell Bicentennial Hall 411

1:30 p.m. Cracking the Code: Thermal Decomposition of Fuel Contaminants—Sarah Dutton '19; Sponsor: AnGayle (AJ) Vasiliou, Chemistry and Biochemistry

1:50 p.m. Explosivity and Eruption Dynamics of a Pleistocene Cinder Cone in the Southern Cascades—Sam Kaelin '19.5; Sponsor: Kristina Walowski, Geology

2:10 p.m. Lead Concentration in Drinking Water at Middlebury College—Jackson Sennett '19; Sponsor: Molly Costanza-Robinson, Chemistry and Biochemistry

2:30 p.m. Catch Fe If You Can: Kinetic Characterization of a Putative Desferrioxamine B Biosynthetic Pathway—Khan Kim '19; Sponsor: Lesley-Ann Giddings, Chemistry and Biochemistry

From Cold Atoms to Hot Wires

Moderated by Anne Goodsell, Associate Professor of Physics

McCardell Bicentennial Hall 438

1:30 p.m. From Cold Atoms to Hot Wires: An Overview of the Goodsell Lab—Sasha Clarick '19, David Cohen '20, Amanda Kirkeby '19; Sponsor: Anne Goodsell, Physics

Re-reading the Label

Moderated by Ilaria Brancoli-Busdraghi, Lecturer in Italian

McCardell Bicentennial Hall 538

1:30 p.m. Bus Drivers and Refugees: How Regional Identities Create Exclusive Claims to Space—Alexis Levato '19; Sponsor: Ilaria Brancoli-Busdraghi, Italian

1:50 p.m. Disability and #MeToo—Celia Alter '19.5; Sponsor: Susan Burch, American Studies

2:10 p.m. Varying Notions of "Serbian" Nationhood—Oshin Bista '20; Sponsor: David Stoll, Sociology and Anthropology

2:30 p.m. Into the Fire with a Handful of Ice Cubes: Individualism and Solidarity in Alcoholics Anonymous—Andrew Michelson '19; Sponsor: Michael Sheridan, Sociology and Anthropology

2:45-3:30 p.m.

Poster Presentations: Group 2 and Refreshments

McCardell Bicentennial Great Hall

31. TheBoneFish.com: The Politics of Animating Abortion—Torla Isquith '19; Sponsor: Carly Thomsen, Gender, Sexuality, and Feminist Studies
32. 3-D Computer Animations: Type 2 Diabetes, the Myelin Sheath, and Ballistic Missile Simulations—Michelle Lehman '19; Sponsor: Daniel Houghton, Arts Technology Specialist
33. Changes in T2* Characteristics of the ACL throughout the Menstrual Cycle—Tatum Braun '20; Sponsor: Mark Spritzer, Biology
34. Nanozymes: Biocompatible Artificial Enzymes—Sarah Holmes '20; Sponsor: Jeff Byers, Chemistry and Biochemistry
35. A System for Capturing Datasets for Mobile Image Matching—Tommaso Monaco '20; Sponsor: Daniel Scharstein, Computer Science
36. Decline of Yellowstone Cutthroat Trout in Yellowstone National Park: Modeling the Impact of Climate Change and Non-native Species—Ming Harris-Weidner '22; Sponsor: Tom Manley, Geology
37. "There Cannot Be Anything Criminal in the Phrase 'I Am a Jew'": An Exploration of Soviet Jewish Identity and Soviet Ideology through the Lens of the Jewish Anti-Fascist Committee—Rebecca Simon '19; Sponsor: Rebecca Mitchell, History
38. "White Supremacy" versus "White Nationalism": A Linguistic Analysis of the Unite the Right Rally—Briggett Weinstein '20; Sponsor: Shawna Shapiro, Writing and Rhetoric
39. The *S. mutans* SMU_1176 Gene Encodes a Manganese Efflux Transporter—Joseph O'Brien '19; Sponsor: Grace Spatafora, Biology
40. The Risks of Extremism—Masa Sakamoto '19; Sponsor: Zu Wei Zhai, Psychology
41. Finding Proper Eddington Ratios for Quasars—Diego Garcia '20; Sponsor: Eilat Glikman, Physics
42. Clinopyroxene Barometry of Red Lake Mountain Lava Cone, Lassen Volcanic National Park: Implications for Magma Storage Depths—Kye Moffat '19; Sponsor: Kristina Walowski, Geology
43. Water Scarcity and Its Implication for Healthcare Delivery in Anesthesiology—Bayu Ahmad '21; Sponsor: Jessica Holmes, Economics
44. Forest Land Use Activities as a Threat to Northeastern Forest Cover and Water Quality—Mikayla Haefele '20.5; Sponsor: Alison Nurok, Biology
45. Negative Expectancy Biases in Trauma and PTSD: Evidence from EEG Responses—Sophia Allen '19; Sponsor: Matthew Kimble, Psychology
46. Do Erroneous Retrieval Attempts Contribute to Learning of Novel Associations and Individual Item-Components?—Yining Lu '21, Monique Santoso '21, Stephanie Soriano '21, Julianne Wu '20; Sponsor: Jason Arndt, Psychology
47. The Pen Is Mightier Than the Sword: Climate Change Literature and Its Capacity to Change the World—Catherine Pollack '19; Sponsor: Daniel Brayton, Environmental Studies
48. Examining the Desiccation Tolerance of Dryland Mosses—George Brencher '20, Niko Carvajal Janke '20; Sponsor: Kirsten Deane-Coe, Biology
49. Habitat for Humanity Design Build—Calder Birdsey '20, John Henry Hanson '20.5, Emma McDonagh '19, Orli Schwartz '20; Sponsor: John McLeod, History of Art and Architecture
50. The Impact of Legal Status on Mobility: A Comparison of Migrant Worker Populations in Vermont—Walker Stewart '19; Sponsor: Joe Holler, Geography
51. The Efficacy of Fundraising as It Pertains to the 2018 United States House of Representatives Election—Jake Hulina '20.5, Abbott LaPrade '21; Sponsor: Amanda Gregg, Economics
52. The Effect of Artisanal Mining on Household Wealth in Eastern Congo—Shaheen Bharwani '19, Kwame Mukasa '19; Sponsor: Julia Berazneva, Economics
53. Patriotism or Personal Gain? The Motivations of Arthur Lee, Silas Deane, Pierre-Augustin, Caron de Beaumarchais, and Charles Gravier, Comte de Vergennes, in the Acquisition of French Aid for the American Revolution—Liz Perrotta '19; Sponsor: William Hart, History
54. Epistasis Analysis of Neurotransmitter Release Affected by VATPase Mutations—Laura Castillo '19; Sponsor: Glen Ernstrom, Neuroscience
55. *The Violet Sisters*: Design Presentation—Kaitlynd Collins '19, Stephanie Miller '20; Sponsor: Cheryl Faraone, Theatre

56. The Single-Story of the Palestinian Protests against the Loss of Jerusalem—Marisa Edmondson '20; Sponsor: Shawna Shapiro, Writing and Rhetoric

57. A Proposed Solution to the Affordable Housing Crisis: Giving Big Box Stores a New Life—Olivia Ryder '19; Sponsor: John McLeod, History of Art and Architecture

58. Constraining the Timing of Latest Movement along the Norumbega Fault System, Casco Bay, Maine—Miranda-Max de Beer '19; Sponsor: Dave West, Geology

59. F187 and T167 Aid Cooperative SloR-DNA Binding in *Streptococcus Mutans*—Daniel O'Grady '19; Sponsor: Grace Spatafora, Biology

60. An Invitation to the Ball Game—Justin Alkier '21; Sponsor: Karl Lindholm, American Studies

61. *Cuerpos*: An Investigation of Feminist Art in Mexico—Sabrina Quintanilla '19; Sponsor: Hector Vila, Writing and Rhetoric

3:30-4:45 p.m.

Session IV: Oral Presentations

Translations

Moderated by Jennifer Ponder, Light Designer and Technical Director for Dance

McCardell Bicentennial Hall 216

3:30 p.m. Translating Feminism: How Feminist Thought Travels through Different Cultures—Rebecca Duras '19, Mariia Makutonina '21, Mari Odoy '20; Sponsor: Karin Hanta, Gender, Sexuality, and Feminist Studies

4:10 p.m. Dancing Ancient Greek Fragments: Translation, Adaptation, and Choreography—Caleb Green '19.5, Lucy Grinnan '19.5; Sponsor: Jennifer Ponder, Dance

Data Interpretation: Uber to Affirmative Action

Moderated by Roman Graf, Professor of German and Comparative Literature

McCardell Bicentennial Hall 219

3:30 p.m. Decongesting the Emergency Room: Urgent Care Centers and Low Acuity ER Visits in Rural Vermont—Vick Xu '19; Sponsor: Phani Wunnava, Economics

3:50 p.m. Toward More Complete Nonfinancial Reporting: A Critical Evaluation and Suggestions for Improvement Regarding the First Nonfinancial Statements of the DAX Corporations—Christian Schmitt '19; Sponsor: Roman Graf, German

4:10 p.m. Does Uber Really Reduce Drunk Driving Fatalities?—Andrew Smith '19; Sponsor: Caitlin Myers, Economics

4:30 p.m. Demystifying Asian American Identity: U.S. Newspaper Coverage on Asian Americans 1999–2019—Michelle Hwang '19, Yiyi Jin '19, Yvette Shi '19; Sponsor: Erik Bleich, Political Science

Putting It into Perspective

Moderated by Matt Lawrence, Assistant Professor of Sociology

McCardell Bicentennial Hall 220

3:30 p.m. Public Opinion on Public Assistance: How Wording Can Expose Cultural Contentions—Nia Robinson '19; Sponsor: Matt Lawrence, Sociology and Anthropology

3:50 p.m. "I pay my part for Lafayette": The Memory of the Lafayette Escadrille at the Centennial—William Simpson '18.5; Sponsor: Paula Schwartz, French

4:10 p.m. Ecotourism as Sustainable Development: Definitions of "Local" in Puerto Río Tranquilo, Chile—Emily French '19; Sponsor: Jessica L'Roe, Geography

4:30 p.m. *Demoiselles d'Avignon*: A Play about Perspectives and Picasso—Emma Zetterberg '19.5; Sponsor: Dana Yeaton, Theatre

Law and (Dis)order

Moderated by Amit Prakash, Professor of the Practice, English and American Literatures

McCardell Bicentennial Hall 303

3:30 p.m. Militarized Masculinity: Examining the "Cult of Masculinity" in Policing—Grace Vedock '20; Sponsor: Amit Prakash, History

3:50 p.m. "In the Wake of Tragedy": Investigating Claims of Racial and Religious Prejudice in U.S. Newspaper Coverage of Mass Shooters—Emily Stabler '19; Sponsor: Erik Bleich, Political Science

4:10 p.m. South Korea's Candlelight Revolution through the Eyes of the Riot Police—Jungbin Oh '20; Sponsor: Linus Owens, Sociology and Anthropology

4:30 p.m. Immigration to Spain: Immigration in the Political Arena and Challenges for Migrants and Civil Society Actors—Sofia Siqueira '19; Sponsor: Kristina Sargent, Economics

Ties That Bind

Moderated by Lindsay Repka, Assistant Professor of Chemistry and Biochemistry

McCardell Bicentennial Hall 311

3:30 p.m. Determining Histone Chaperone FACT Binding Mode to Nucleosome Components—Talia Ruxin '20; Sponsor: Grace Spatafora, Molecular Biology and Biochemistry

3:50 p.m. Progress toward a Photoredox Crosslinking Reaction for Target Identification—Shougat Barua '19; Sponsor: Lindsay Repka, Chemistry and Biochemistry

4:10 p.m. Investigating Putative Small Regulatory RNAs in the *S. mutans* SloR Regulon—Margo Reigle '19; Sponsor: Grace Spatafora, Molecular Biology and Biochemistry

Back to the Future, Again

Moderated by James Davis, Professor of Religion

McCardell Bicentennial Hall 403

- 3:30 p.m. The Challenge of Adapting Tocqueville's Thought to Our Time—Thibault Bachelet '19; Sponsor: Murray Dry, Political Science
- 3:50 p.m. Russian Exceptionalism: Democratic Values in Contemporary Russia—Jamie Lumley '19; Sponsor: Will Pyle, Economics
- 4:10 p.m. A Dinner Party Nightmare: How the Christian Progressive Movement Fuses Religion with Immigration Politics in Trump's America—Miles Meijer '19; Sponsor: James Davis, Religion
- 4:30 p.m. The Demagogue: A Re-examination through Ancient and Classical Greece—Ethan Cohen '19; Sponsor: John Harpham, Political Science

Kiswahili in Kigali: Going by Middlebury's

New Mission Statement

Moderated by Nadia Horning, Associate Professor of Political Science

McCardell Bicentennial Hall 411

- 3:30 p.m. Kiswahili in Kigali: Going by Middlebury's New Mission Statement—Heather Cox '19, Veronica Estudillo Velasco '19, Violet Low-Beinart '19, Zorica Radanovic '19, Julia Siemann de Athayde Silva '19; Sponsor: Nadia Horning, Political Science

Stems and Vines

Moderated by Chris Herdman, Assistant Professor of Physics

McCardell Bicentennial Hall 438

- 3:30 p.m. Molecular Wires: Polymers of Ruthenium Complexed Fluorene—Noah Wagner-Carlberg '19; Sponsor: Jeff Byers, Chemistry and Biochemistry
- 3:50 p.m. Entanglement in a Quantum Spin Glass during the Adiabatic Algorithm—Asher Lantz '19.5; Sponsor: Chris Herdman, Physics
- 4:10 p.m. Using Machine Learning and Remote Sensing to Quantify the Carbon Stored in the Above-Ground Biomass of Vermont—Octave Lepinard '19.5; Sponsor: Will Amidon, Geology
- 4:30 p.m. Proofs of the Combinatorial *Nullstellensatz*—Sarah Dutton '19; Sponsor: John Schmitt, Mathematics

4:45–5:30 p.m.

Closing Reception

McCardell Bicentennial Great Hall

Evening Event

8:30–10:00 p.m.

Observatory Stargazing

McCardell Bicentennial Hall Mittelman Observatory

Dominic Aiello '22.5, Tatum Braun '20, Sasha Clarick '19, Sadie Coffin '19, David Cohen '20, Maggie Joseph '20, Peter Mehler '20, Rachel Nahirny '21.5, Kenzo Okazaki '21, Isabel Weber Cravioto '19.5, Nia Williams '22; Sponsor: Jonathan Kemp, Science Tech Support Services

This event will only take place if the sky is mostly clear. Please call the observatory at 802-443-2266 after 6:30 p.m. for weather status.

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- Ahmad, Bayu '21:** Poster Session II—MBH Great Hall at 2:45 p.m., Poster 43
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Holmes, Sarah '20: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 34

Hornbostel, Summer '22: Oral Session II—MBH 216 at 11:15 a.m.

Horning, Naina '19: Oral Session I—MBH 411 at 9:15 a.m.

Hower, Julia '19: Oral Session II—MBH 538 at 11:15 a.m.

Hoynes, Erin '19: Oral Session I—MBH 216 at 10:15 a.m.

Hulina, Jake '20.5: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 51

Huynh, Julie '20: Oral Session II—MBH 311 at 12:15 p.m.

Hwang, Michelle '19: Oral Session IV—MBH 219 at 4:30 p.m.

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Isquith, Toria '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 31

J

Jeong, Rachel '22: Oral Session II—MBH 216 at 11:15 a.m.

Jin, Yiyi '19: Oral Session IV—MBH 219 at 4:30 p.m.

Joseph, Maggie '20: Evening—MBH Observatory at 8:30 p.m.

Juster, Hal '19: Oral Session I—MBH 104 at 9:55 a.m.

K

Kaelin, Sam '19.5: Oral Session III—MBH 411 at 1:50 p.m.

Kelley, William '19: Oral Session III—MBH 403 at 1:50 p.m.

Kelly, Rory '19: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 11

Kerrouchi, Karima: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 9

Kim, Khan '19: Oral Session III—MBH 411 at 2:30 p.m.

Kirby, Ryan '22: Oral Session II—MBH 216 at 11:15 a.m.

Kirkeby, Amanda '19: Oral Session III—MBH 438 at 1:30 p.m.

Kline, Gray '19: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 29

Knox, Margaret '19: Oral Session I—MBH 219 at 9:35 a.m.

Kondi, Mishel '19: Oral Session III—MBH 403 at 2:30 p.m.

Kozhukhova, Anastasiia: Oral Session III—MBH 311 at 1:50 p.m.

Krugman, Daniel '21: Oral Session III—MBH 303 at 1:30 p.m.

Kuzmicki, Jessie '19: Oral Session I—MBH 219 at 9:15 a.m.

L

Lagerstrom, Josie '22: Oral Session II—MBH 216 at 11:15 a.m.

Landrigan, Jack '22: Oral Session II—MBH 216 at 11:15 a.m.

Lantz, Asher '19.5: Oral Session IV—MBH 438 at 3:50 p.m.

LaPrade, Abbott '21: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 51

Lehman, Michelle '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 32

Lepinard, Octave '19.5: Oral Session IV—MBH 438 at 4:10 p.m.

Levato, Alexis '19: Oral Session III—MBH 538 at 1:30 p.m.

Li, Qian '19: Oral Session III—MBH 303 at 2:10 p.m.

Lightman, Rebecca '19: Oral Session I—MBH 438 at 10:15 a.m.

Lindsay, Isabel '19: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 5

López, Marcelo '19: Oral Session III—MBH 219 at 1:50 p.m.

Low-Beinart, Violet '19: Oral Session IV—MBH 411 at 3:30 p.m.

Lu, Yining '21: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 46

Lucas, Max '21: Oral Session III—MBH 220 at 2:10 p.m.

Lumley, Jamie '19: Oral Session IV—MBH 403 at 3:50 p.m.

M

Majerus-Collins, Mary '19: Oral Session II—MBH 311 at 12:15 p.m.

Makutonina, Mariia '21: Oral Session IV—MBH 216 at 3:30 p.m.

Marotta, Jenna '19: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 30

Martin, Reed '19: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 27

Martinez, Geovany '19: Oral Session I—MBH 403 at 10:15 a.m.

Masinter, Jessica '19: Oral Session II—MBH 220 at 11:15 a.m.

Massey, Charlotte '19: Oral Session I—MBH 411 at 9:15 a.m.

McDonagh, Emma '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 49

McGillicuddy, Corinne '19: Oral Session II—MBH 303 at 11:35 a.m.

McNicholas, Jenna '19: Oral Session I—MBH 311 at 9:35 a.m.

Mehler, Peter '20: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 6; Evening—MBH Observatory at 8:30 p.m.

Mei, Katelyn '22: Oral Session II—MBH 216 at 11:15 a.m.

Meijer, Miles '19: Oral Session IV—MBH 403 at 4:10 p.m.

Michelson, Andrew '19: Oral Session III—MBH 538 at 2:30 p.m.

Midthun, Annie '22: Oral Session II—MBH 216 at 11:15 a.m.

Miller, Stephanie '20: Oral Session II—MBH 311 at 11:15 a.m.; Poster Session II—MBH Great Hall at 2:45 p.m., Poster 55

Moffat, Kye '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 42

Molkenthin, Allegra '19.5: Oral Session II—MBH 219 at 12:15 p.m.

Monaco, Tommaso '20: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 35

Mukasa, Kwame '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 52

N

Nahirny, Rachel '21.5: Evening—MBH Observatory at 8:30 p.m.

Nakhlawi, Salma '19: Oral Session I—MBH 411 at 9:15 a.m.

Ng, Nathan '19: Oral Session I—MBH 104 at 9:15 a.m.

O

O'Brien, Joseph '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 39

Odoy, Mari '20: Oral Session IV—MBH 216 at 3:30 p.m.

O'Grady, Daniel '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 59

Oh, Jungbin '20: Oral Session IV—MBH 303 at 4:10 p.m.

Okazaki, Kenzo '21: Evening—MBH Observatory at 8:30 p.m.

P

Packer, David '20: Oral Session I—MBH 403 at 9:15 a.m.

Pan, Audrey '19: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 19

Pandey, Kailash '19: Oral Session II—MBH 104 at 11:55 a.m.

Paredes-Cruz, Samantha '20: Oral Session III—MBH 403 at 2:10 p.m.

Passarelli, Natalie '20: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 10

Patel, Mayher '19: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 4

Patel, Ravi '19: Oral Session II—MBH 303 at 12:15 p.m.

Perrotta, Liz '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 53

Phillips, Maggie '19: Oral Session III—MBH 220 at 1:50 p.m.

Plume, Nicolas '19.5: Oral Session III—MBH 311 at 2:10 p.m.

Pollack, Catherine '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 47

Price, Rowen '19: Oral Session I—MBH 403 at 9:55 a.m.

Pritchard, Robert '19: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 26

Pucker, Bella '21.5: Oral Session I—MBH 303 at 9:15 a.m.

Q

Quintanilla, Sabrina '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 61

R

Radanovic, Zorica '19: Oral Session IV—MBH 411 at 3:30 p.m.

Ramadhito, Garda Muhammad '19: Oral Session I—MBH 403 at 9:35 a.m.

Reigle, Margo '19: Oral Session IV—MBH 311 at 4:10 p.m.

Robinson, Nia '19: Oral Session IV—MBH 220 at 3:30 p.m.

Rosen, Anna '22: Oral Session II—MBH 216 at 11:15 a.m.

Rustad, John '19.5: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 20

Ruxin, Talia '20: Oral Session IV—MBH 311 at 3:30 p.m.

Ryder, Olivia '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 57

S

Sakamoto, Masa '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 40

Salzman, Dylan '19: Oral Session III—MBH 219 at 2:10 p.m.

Sanderson, Travis '19: Oral Session I—MBH 311 at 9:15 a.m.; Oral Session II—MBH 438 at 11:15 a.m.

Santoso, Monique '21: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 46

Sather, Nell '19: Oral Session I—MBH 216 at 9:35 a.m.; Oral Session I—MBH 216 at 10:15 a.m.

Schmitt, Christian '19: Oral Session I—MBH 219 at 9:55 a.m.; Oral Session IV—MBH 219 at 3:50 p.m.

Schmitz, Katrin: Oral Session II—MBH 219 at 11:35 a.m.

Schwartz, Orli '20: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 49

Sela, Mateja '19: Oral Session III—MBH 219 at 1:30 p.m.

Sennett, Jackson '19: Oral Session III—MBH 411 at 2:10 p.m.

Shaikh, Fazl '20: Oral Session III—MBH 104 at 2:10 p.m.

Shi, Yvette '19: Oral Session IV—MBH 219 at 4:30 p.m.

Siemann de Athayde Silva, Julia '19: Oral Session I—MBH 411 at 9:15 a.m.; Oral Session IV—MBH 411 at 3:30 p.m.

Simmons, Elizabeth '21: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 21

Simon, Rebecca '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 37

Simpson, William '18.5: Oral Session IV—MBH 220 at 3:50 p.m.

Siqueira, Sofia '19: Oral Session IV—MBH 303 at 4:30 p.m.

Sloan, Liam '22: Oral Session II—MBH 216 at 11:15 a.m.

Smart, Hannah '19: Oral Session II—MBH 538 at 11:35 a.m.

Smith, Andrew '19: Oral Session IV—MBH 219 at 4:10 p.m.

Soriano, Stephanie '21: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 46

Stabler, Emily '19: Oral Session IV—MBH 303 at 3:50 p.m.

Stauffer, Jill '19: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 24

Staver, Sarah '19: Oral Session III—MBH 104 at 2:30 p.m.

Stewart, Walker '19: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 50

Stewart-Boldin, Madison '19: Oral Session II—MBH 403 at 11:35 a.m.

Struzyna, Jules '19.5: Oral Session III—MBH 216 at 2:30 p.m.

T

Torres, Alfredo '19: Oral Session I—MBH 411 at 9:15 a.m.

Tsuruta, Sonomi: Oral Session III—MBH 104 at 1:30 p.m.

U

Uhrynyuk, Emily '19: Oral Session III—MBH 220 at 1:30 p.m.

V

Vedock, Grace '20: Oral Session IV—MBH 303 at 3:30 p.m.

Velie, Elaine '19.5: Oral Session II—MBH 411 at 11:15 a.m.

Vijayakumar, Varsha '20: Oral Session III—MBH 403 at 2:10 p.m.

Vinton, Elizabeth '19: Oral Session III—MBH 216 at 1:30 p.m.

Voncujevi, Pele '19: Oral Session I—MBH 411 at 9:15 a.m.

W

Wagner-Carlberg, Noah '19: Oral Session IV—MBH 438 at 3:30 p.m.

Wang, Sabrina '19: Oral Session I—MBH 216 at 9:55 a.m.

Weber Cravioto, Isabel '19.5: Evening—MBH Observatory at 8:30 p.m.

Weinstein, Brigett '20: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 38

White, Alexander '21.5: Oral Session I—MBH 220 at 9:15 a.m.

Williams, Nia '22: Evening—MBH Observatory at 8:30 p.m.

Willig, Anna '20: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 23

Winger, Kylie '19: Oral Session I—MBH 311 at 9:55 a.m.

Wishnie, Rebecca '20: Oral Session I—MBH 216 at 10:15 a.m.; Oral Session II—MBH 104 at 12:15 p.m.

Woodhull, Jesse '19.5: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 17

Wright, Kyle '19: Oral Session I—MBH 219 at 10:15 a.m.

Wright, Logan '19: Poster Session I—MBH Great Hall at 10:30 a.m., Poster 13

Wu, Fan '19: Oral Session I—MBH 438 at 9:15 a.m.

Wu, Julianne '20: Poster Session II—MBH Great Hall at 2:45 p.m., Poster 46

X

Xu, Vick '19: Oral Session I—MBH 216 at 9:15 a.m.; Oral Session IV—MBH 219 at 3:30 p.m.

Xu, Xingzi '19: Oral Session II—MBH 220 at 11:55 a.m.

Z

Zeng, Shan '19: Oral Session I—MBH 411 at 9:15 a.m.; Oral Session II—MBH 104 at 11:15 a.m.

Zetterberg, Emma '19.5: Oral Session IV—MBH 220 at 4:30 p.m.

Zhou, Lulu '19: Oral Session III—MBH 219 at 2:30 p.m.

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