

The Mount David Summit

The Mount David Summit is an annual celebration of student research, artistic work, and community-engaged scholarship at Bates College. Each year students from all classes present their work to each other and to faculty, staff, family, and community members in a symposium format at the end of the winter semester. The Summit spotlights the rich and varied academic activities of Bates students across the disciplines and honors the vibrant intellectual life of the college.

Named for the landmark "mountain" on the campus, the Summit is guided by the motto of the college
—*Amore ac Studio*—
loosely translated, With Love and Zeal, With Ardor and Devotion:
devotion to scholarship, creativity, and the life of the mind.

The Mount David Summit is sponsored by the Office of the Dean of the Faculty.
We are grateful to Ralph T. Perry '51 and Mary Louise Seldenfleur,
who have been generous and devoted supporters of the Summit since its first year.

~ About the 2019 Summit ~

The 18th Annual Mount David Summit, held on 29 March, features the research, creative work, and performances of students from all Bates classes. It is organized into three afternoon sessions, with several events in the evening. The summit program is published in this booklet; students' abstracts are available in a separate booklet or on the Web.

The faculty believes that all Bates students must develop as scholars in their own right, and should be ready to articulate and defend their ideas in a public forum. The college's major programs of study, and especially the senior thesis/senior project requirement, are designed both to prepare students and challenge them to conduct original research or artistic work and contribute to our knowledge of the world. Many students who present their work at the Mount David Summit are senior thesis writers, approaching the summit of their academic career at Bates. Their presentation—which might be a research poster, a short talk, or a video documentary—represents hundreds of hours of work, remarkable commitment to their studies, and a synthesis of all that they have learned at Bates. Other presenters are at different points in this journey; they may be first-years just beginning to explore ideas in depth, or they may be sophomores or juniors in the process of developing the skills and insights that will serve their senior work in the future. The artists who participate in the summit—the poets, fiction writers, dancers, actors, directors, musicians, videographers, and photographers—bring to their work a combination of technique, cultural and intellectual context, ways of thinking and seeing the world, and raw talent that is nurtured in a liberal arts environment.

The kind of individualized education celebrated at the Mount David Summit would not be possible without the unflagging dedication of faculty advisors. Bates faculty work one-on-one with seniors on the thesis: In this process they are both demanding and supportive, guiding research methods, thoughtful interpretation, and effective writing. Many Bates staff members—assistants in instruction, lab technicians, writing and quantitative reasoning specialists, theater designers, digital media specialists, librarians and archivists, and community-engagement staff—also work closely with student-scholars. These members of the Bates community offer a wide range of skills and expertise that enrich students' liberal arts experience.

Thank you

Supporting student research and creative work requires wisdom, time, and resources. Bates student researchers and their faculty mentors thank the many individuals and foundations whose contributions to these funds help make student research vibrant, challenging, and filled with discovery.


We are deeply grateful to alumni, parents, faculty and friends whose support sustains research opportunities for our students.

The Abelson Family Fund for Biomedical Internships and Research
The Bates Fund
The Arthur and Helen Baer Foundation Student Research Support Fund for Studio Art Majors
The Professor Leland and Claudina Bechtel Fund
The Blanchard Fund for Student-Faculty Research in Economics
The Bonner Leader Program
The Bruce Bouley Fund for Geology
The Bertha A. Bauer, M.D. Student Thesis Support Fund for the Department of Art and Visual Culture
The Gene Alan Clough Fund for Science Education
The John R. Cole Prize for Outstanding Achievement in History
The Class of 2000 Endowment for Community Service
The Penelope Ellis Fund
The Moses Feldman Family Foundation Student Research Grants
The Hamill Family Fund for Student Fieldwork and Research in Anthropology
The Hoffman Fund for Student Research
The Dorothy Dole Johnson '41 Fund for Student Research in the Sciences
The John and Sally Kelsey Prize for Neuroscience Student Research
The Dennis and Jo-Linda Keith Endowed Fund for Chemistry Research
The Walter A. Lawrance Student Research Fund
The Susan Majeski McKnight '70 Fund for Environmental Studies
The Morrill Family Research Fund
The Vincent Mulford Internship and Research Fund
The Natt Family Fund in Biology
The Philip J. Otis Fund
The Helen A. Papaioanou Fund
The Anthony B. and Raeflyn R. Pelliccia Fund
The Charles Franklin and Evelyn Minard Phillips Fund
The Jack Pribram and George Ruff Fund for Student Research
The Linda E. Rawlings Student Research Fund for Mathematics
The Ruggles Scholar Research Fund
The Sargent Student Research Fund
The Scher Fellowship Fund
The Ellen Seeling Design Fellowship Fund
The Michael I. Sklar '94 Music Research Fund
The Stangle Family Research Fund for Economics and Law
The Tanaka Memorial Foundation
The Dr. Jason M. Tanzer Fund
The Sarah H. Trafton Memorial in the Bates-Morse Mountain Reserve Fund
The Aaron R. Winkler '92 Fund for Student Research in Biology

Mount David Summit

Schedule of Events

Friday, 29 March 2019

 indicates a presentation focused on the arts

1:30 -1:45 PM
Perry Atrium

Call to the Summit

Fanfare: *The Toy Maker – I. The Golden Palace* by Anthony DiLorenzo (b. 1967), performed by the Bates Brass Ensemble

Alan Carr, Music, bass trombone and ensemble director

Welcome

Malcolm S. Hill, Vice President for Academic Affairs and Dean of the Faculty

1:45 -6PM
Pettengill Hall
Perry Atrium

19th Annual Barlow Off-Campus Study Photography Exhibition

Note: Within each event, students are listed in the order in which they will speak

Concurrent Session I

1:45 – 3:00 PM

Perry Atrium

Poster Session I: Biochemistry, biology, chemistry, classical and medieval studies, digital and computational studies, economics, environmental studies, history, neuroscience, physics, politics, and psychology

3D-Printed Human Organs: An Anatomy and Physiology Class Project

Students in Biology 217 and 218, Human Anatomy and Physiology I and II demonstrate why 3D printing helps students better understand human anatomy; the technology increasingly is being used to manufacture prosthetics.

Advisor: Bruno Salazar-Perea, Biology

Pettengill G10

Memory, Reconciliation, and Urban Renewal: Germany and Czechoslovakia

How does our understanding of history inform our view of the future?

Katie Ziegler '19: The Repurposing of 19th-Century Tenement Buildings in Present-Day Berlin

Andrew Veilleux '19: Justified Retribution? Assessing Contemporary Memory of the Expulsion of Sudeten Germans from Czechoslovakia after the Second World War

Moderator: Jakub Kazecki, German

Pettengill G21

Off-Campus Study: Living Your Life in a Second Language

Hola? Hallo? Howdy? Students and faculty discuss the challenges and joys of navigating in another language, informed by 40 years of studying abroad.

Zoe Chamberlain '20; Janika Ho '20; Raluca Cernahoschi, German; Kirk Read, French and Francophone Studies

Moderator: David Das, Center for Global Education

Pettengill G52

Paradoxes of the Past: Bates College and the Legacies of Abolitionism and Slavery
Students in History 399, Historical Methods, uncover competing interests and complicated compromises. How straightforward is Bates' lauded origin story?

Moderator: Joseph Hall, History

Pettengill G65

Senior Research in Biology

Biology researchers investigate a broad range of systems, from ecology to molecular development.

Ruth van Kampen '19: Impact of Drought and Defoliation in Three New England Tree Species

Brit Lee '19: Using TRAP to Examine the Role of Nfe2 in *Danio rerio* Primitive Erythropoiesis

Marcus Ross '19: Effect of Reduced Nfe2 Expression and Pro-oxidant Exposure (Diquat) in Zebrafish Inner Ear Development

Moderator: Larissa Williams, Biology

Pettengill 116

Empire, Boundaries, and Nation Building

What defines one's identity? Nation? Citizenship?

Chirayu Baral '19: An Imperial Mirage in Sandstone: The British Commonwealth and the Making of Imperial Delhi

Daniel Fichmann '19: The Golden Gates to Citizenship: Explaining the Existence of Immigrant Investor Programs

Moderator: Senem Aslan, Politics

Pettengill 162

Global Thinking: Research in Economics

Economists examine ancient and modern international structures and their impact on the global economy

Zofia Ahmad '19: Persistence and Path Dependence along the Silk Roads

Yesul Lee '19: IMF Effectiveness and the 2008 Global Crisis

Moderator: Luke Chicoine, Economics

Concurrent Session II
3:15 – 4:30 PM
Perry Atrium

Poster Session II: Biochemistry, biology, chemistry, economics, environmental studies, German, and psychology

Rome and the Near East: Digital Dura

Students in Classical and Medieval Studies/History 283, Rome and the East: Digitizing and Communicating History, demonstrate how virtual reality (VR) can be used to inform our understanding of ancient cities.

Advisor: Hamish Cameron, Classical and Medieval Studies

3:15 – 4:30 PM
Pettengill G10


Winning the Truth Game: Media Framing, Credibility, and Brett Kavanaugh

What is truth anyway? And how do media outlets deploy evidence? The recent Supreme Court nomination hearings offer a focus of presentations and discussion.

Lilly Carey '19 and Claire Sullivan '19

Moderator: Stephanie Kelley-Romano, Rhetoric, Film, and Screen Studies

Pettengill G21

Video Collaborations: Working on Video Productions with Community Organizations in Lewiston 

Students in Art and Visual Culture 309, Advanced Video Production, screen videos they made in collaboration with local organizations to advance their community work.

Moderator: Carolina González Valencia, Art and Visual Culture

Pettengill G50

Dance Research: Props, Politics, and Pedagogy 

Dance students discuss their movement explorations and theoretical research as they complete projects in dance; all are choreographers and performers in the weekend's dance concerts.

Elisabeth Gwydir '20; Esme Goldfinger '21; Flannery Black-Ingersoll '19; and Claire Sickinger '19

Moderator: Julie Fox, Dance

Pettengill G52

Conducting an Audit of Food Policies and Programs in Auburn, ME

Students in Environmental Studies 308, Urban and Regional Food Systems, discuss what is needed to ensure good food access for all and a thriving economy. Do local policies and programs deliver?

Moderator: Francis Eanes, Environmental Studies

Pettengill G63

Cultural Forces in Contemporary China 

How has hip hop found a place in China, and how do video games export Chinese ideas to the world?

Chelsea Anglin '19: Re-branding China? The Swordplay Martial Arts Video Game, E-Sports, and Their Contributions to Chinese Soft Power

George Fiske '19: Nationalism, Capitalism, and Trap Drums: A Study of the Manifestation of Hip Hop in China

Moderator: Nathan Faries, Asian Studies

Pettengill G65

Mind Matters: Research in Philosophy, Psychology, Neuroscience, and Digital and Computational Studies

Values, motivations, and recovery are impacted by community and technology.

Oliver Farnum '19: The Arc of Ethics: From Bio to Tech

3:15 – 4:30 PM

Caleb Perlman '19: Understanding Community in Restorative Justice

Mackenzie Winslow '19: Effect of Substance Abuse Recovery on Cognitive and Affective Flexibility

Michael Somkuti '19: Digitizing a Feeling: Data Analysis, Privacy, and Visualization through Tinder

Moderator: Nancy Koven, Neuroscience

Pettengill 116

Middle Eastern Politics: Identity and Nation

Individuals and groups cross gender and geographical boundaries to assert their identity in the evolving political landscape of the Middle East.


Danielle Cohen '19: Women as the Satellite Signal: Female Participation on Hezbollah's al-Manar Television Network

Aliza White '19: Leaving the Safety of Your Own Home: A Historical Analysis of the Foreign Fighter Phenomenon in Iraq between 2003 and 2011

Gwen Whidden '19: Islam, Women's Rights, and the Nation-State: Explaining the Uneven Liberalization of the Personal Status Code in Tunisia

Moderator: Senem Aslan, Politics

Pettengill 162

Research and Practice in the Arts 

Visual art, music, and theater draw from and contribute to cultural disruptions.

Becca Howard '19: Ambiguities of Interpretation: Abdunnasser Gharem's *Ricochet*

Skye Cameron '19: The Intersection of Jazz and Hip Hop: Bebop and the Advent of Hip Hop

Luis David Molina Rueda '20 and Maddy Shmalo '19: Beyond Borders: Bringing the 1980s Spain to Black Box Theater

Moderator: Marcus Bruce, Religious Studies

Pettengill 257

Public Health in Chile: Analyses and Reflections from the 2018 Bates Fall Semester Abroad

In a unique study-abroad program, students of language, culture, and science joined forces to examine public health issues in Chile.

Moderators: Maya Chrobot '20 and Alexis Fifield '21

Advisors: Claudia Aburto Guzmán, Spanish, and Glen Lawson, Chemistry and Biochemistry

Concurrent Session III

4:45 – 6 PM

Perry Atrium

Poster Session III: Anthropology, astronomy, biochemistry, biology, economics, geology, mathematics, neuroscience, physics, politics, and psychology

Radical Collaboration as World-Building in Science Fiction

Students in English 152, American Writers since 1900: Multiethnic Science Fiction, create imagined worlds, but using virtual reality (VR). Don the goggles and have a look.

Moderator: Tiffany Salter, English

4:45 – 6 PM
Pettengill G10

Research in Physics and Environmental Studies

Students participate in cutting-edge research in physics and propose sustainable energy solutions.

Haley Crim '19: Distributed Energy, Sustainable Heat, and the City of the Future

Max Huang '19: Dynamics of Quantum Dot Lasers Subject to Optical Feedback and Current Modulation

Max Gold '19: Analysis of Cold Atom Laboratory Bose-Einstein Condensates in Conventional and Radio-frequency Dressed Magnetic Potentials

Moderator: Nathan Lundblad, Physics and Astronomy

Pettengill G21

Ethical Dilemmas and Collaborative Change: Insights from Community-Engaged Research

The 2019 Community-Engaged Research Fellows present their senior research conducted in collaboration with off-campus community partners.

Dylan Metsch-Ampel '19: Sense of Place through Kennedy Park: The Role of Urban Green Space in the Tree Streets Neighborhood

Abby Westberry '19: "Before Its Smell Became Me:" Motel Residency and the Politics of Belonging

Daisy Diamond '19: Art Therapy as a Nonprofit: Grants, Community Needs, and Social Justice

Moderator: Darby Ray, Harvard Center for Community Partnerships

Community partner respondent: Shanna Cox, founder and principal consultant, Project Tipping Point

Pettengill G50

Experiential Engagement and Reflective Examination: Guiding Us toward a Deeper Understanding

Students in Education 450, Seminar in Educational Studies, discuss their capstone project with students and teachers in a new alternative high school in Lewiston.

Moderator: Patti Buck, Education

Pettengill G52

Literary Readings by Creative Writing Students 

Creative writing majors deliver the annual Mount David Summit poetry and fiction reading.

Jo Cunningham '19: "Miss Rosebud": Creative Writing Thesis

Sarah Fink '19: *Sea Stars*

Nico Lemus '19: *Destroyer*: A Reading of Short Fiction

Daly Naughton '19: *Neoteny*

Moderator: Jessica Anthony, English

4:45 – 6 PM
Pettengill G65

Contemporary Social Issues: Sociological Perspectives

How do individuals navigate the complexities of social structures? How do we find a place in communities?

Zack Anderson '19: Increasing Immigrant Parent Involvement at Governor James B. Longley Elementary School: A Comparative Case Studies Approach

Matt Glasgow '19: Healthcare Provider Perceptions of Barriers to Compliance among African Immigrant Populations in Lewiston, ME

Sophia Rintell '19: "It's Not Just a *Job* for Me Anymore," Finding Strength in the Balance: How Double-and Triple-Duty CNAs Develop Resilience while Navigating Caregiving Demands of Home and Work

Katie Stone '19: "Clearly They're Gay": Establishing Harry Potter/Draco Malfoy Fanfiction as an Online Queer Community

Louisa Woodhouse '19: Mental Illness or Aggrieved Entitlement? Understanding the Motives of America's Mass Shooters

Moderator: Emily Kane, Sociology

Pettengill 116

Blurred Borders: Intersectional and Interdisciplinary Research

Explorations of art and lived experiences through the lenses of multiple disciplines.

Peter Nadel '19: *Tremens ac Stupens*: Bates Codex 1 and a Story of Medieval Knowledge

Lily Kip '19: "A History of One's Identifications": The Body as Site of Subjectivity in Two Women's Coming of Age Novels

Miranda Padilla '19: Between the *Borderlands* and *The Last Generation*

Ashley Cleary '19: The Politicization of the Chicana Womb: Reproductive Justice and Resistance in Latinx Communities

Moderator: Melinda Plastas, History

Pettengill 162

Theater in Process: On and Off Stage in Winter 2019 Productions 

What does it take to put on a show? Actors, directors, and stage managers pull back the curtain on two recent productions, *The Wolves* and *We Are Proud to Present*.

Rebecca Berger '19: Directing *The Wolves*: Process and Performance

Ethan Winglass '19: Theater in Process: On and Off Stage in Winter 2019 Productions

Jack Willis '19: *We Are Proud to Present*

Perla Figueroa '21: Theater in Process: On and Off Stage in Winter 2019 Productions

Ali Greene '20: Stage Managing *The Wolves*

Nicky Longo '21: Theater in Process: On and Off Stage in Winter 2019 Productions

Patrick Reilly '21: Theater in Process: On and Off Stage in Winter 2019 Productions

Moderator: Tim Dugan, Theater

Evening Sessions

6:00 PM
Fireplace Lounge,
Commons

Summit Jazz Gig 

Students in Music 222, Jazz Workshop, perform jazz standards.

Dale Chapman, Music

7:30 PM
Schaeffer Theatre

Bates Dance Company Spring Dance Concert 

Carol Dilley and Julie Fox, Dance

This program of works by dance students and dance majors also will be presented Sunday, March 31, at 2:00 PM. An alternate program of works by dance students is presented on Saturday, March 30, at 5:00 PM, and on Monday, April 1, at 7:30 PM.

Tickets required. Free with a suggested donation of \$5. For tickets, visit

batestheateranddance.eventbrite.com

8:00 PM
The Ronj
30 Frye Street

Demons of Dirigo, Episode 2 

Katalin Vecsey, Theater

Written and directed by Ethan Winglass '19 and stage-managed by Cael Schwartz '19, this three-episode play was created as an independent study. It is not necessary to have seen Episode 1 in order to follow Episode 2.

Free but seating is limited, admission first-come, first-served.

Mount David Summit Poster Presenters

Note: The number following each title indicates the location of the poster in the session

1:45 - 3:00 PM	Poster Session I	Wall #
Moise Bonheur '19	Spatial Patterns of Gene Expression in the Mitral Cell Layer of the Main Olfactory Bulb	15
Sara Buscher '19	Examining the Diagnosis, Care Pathway, and Clinical Characteristics of Pediatric Familial Hypercholesterolemia (FH) Patients	3
Coy Candelario '19	Identifying Latino Authenticity	28
Isabella Del Priore '19	Analysis of MHC Class II Alpha and Beta Gene Lineages and Heterodimer Assembly in Leach's Storm-Petrel, <i>Oceanodroma leucorhoa</i>	2
Amanda Engelbrekt '19	Investigating Development and Sexual Dimorphism of Accessory Olfactory Bulb Microcircuits in C57/B16 Mice	16
Reed Feldman '19	Nationality and Social Networks	8
Victor Fitzek '19	Observing Large-scale Quantum Behavior Using an Optical Lattice to Trap Ultracold Atoms	23
Emma Futamura '19	Categorization in Scientific Knowledge: An Analysis of Paradigms in Anterior Cruciate Ligament Research	4
Brandon Galloway '19	The Purification and Expression of E3 Ubiquitin Protein Ligase from Clone Genes	5
Dylan Gyauch-Lewis '21	A Sharper Image: The Role of Obsidian in Pre-Columbian Mesoamerican Society	12
Alexis Hudes '20	Chromatin Distribution in Sorted HL-60/S4 Cells	22
Edward James '19	The Context of Juuling on a College Campus	29
Alexander Jiang '21	Modeling Bose-Einstein Condensates Confined by Atom-chip Magnetic Traps	24
Eric Jordan '19	Loci of Synaptic Plasticity in Accessory Olfactory Bulb Circuits	17
Maddy LeClair '19	Mono-ubiquitination of 3C Protease in Encephalomyocarditis Virus	6
Nick Lynch '19	Explaining the Global Interest Rate Decline	9
Shelbie McCormack '19	Troy: A Mirrored City and a Culture Not Forgotten	13
Wendy Memishian '19	The Effect of Hypoxia on a Ventilation in Embryonic Coturnix Quail	1
Niamh Micklewhite '19	The Hydraulic Architecture of Cycads: A Three-Dimensional Analysis of Vascular Networks	11
Andrew Mikula '19	The Effect of State Environmental Regulations on Housing Production	10
Rebecca Minsley '21	Galaxy Data Modeling in 3D: Studying Outflowing Gas Using MaNGA Data	21
Felicia Page '19	Effects of Female Identity Salience on Athletic Performance	30
Jenna Powell '19	<i>Dike</i> in Hesiod's <i>Theogony</i> and <i>Works and Days</i>	14

1:45 - 3:00 PM	Poster Session I	Wall #
Anas Reda '20	Anp32E Regulates H2A.Z Eviction and Memory Formation in the Hippocampus	18
Joanna Schafer '19	The Effectiveness of Sexual Education in Maine: A Comparative Study of State-Regulated Sexual Education Courses	25
Anna Setzer '19	Reimagining Citizenship in the Era of Climate Change	26
Hannah Smith '19	Reducing TET2 in the CA1 of the Hippocampus Enhances Spatial Memory	19
Amy Turtz '19	Processing Methods of Lead-free Titanate Perovskites	7
Katie Weidmann '19	Internet Communities as Minority Stress Reduction Tools for LGB People	27
Kristine Zengeler '19	Reducing TET2 in the CA1 of the Hippocampus Enhances Spatial Memory	20
3:15 - 4:30 PM	Poster Session II	Wall #
Ross Ackerman '19	Evolution of Immune Response: A Taxonomic Analysis of Intestinal Parasites in the Leach's Storm-Petrel (<i>Oceanodroma leucorhoa</i>)	4
Katie Barker '19	Analysis of the Origins of Ferroelectricity in Substituted Perovskites Using Neutron and X-ray Total Scattering Techniques	24
Stephen Bull '19	56 Surf Street: Sea Level Rise, Flood Risk, and Property Values	30
Jacqueline Buonfiglio '19	Exploring the Use of Fecal Egg Floatation Methodology to Identify Avian Gastrointestinal Parasites	5
Lucy Faust '19	The Real Price to Pay for Waterfront Property: The Impact of Flood Zone and Spatial Proximity to Water on Property Prices in York County, ME	31
Nate Frederick '19	Development of Novel Tissue-type Plasminogen Activator-binding RNA Aptamer	14
Sebastian Gallegos '19	Synthesis of GalNAc for O-Mannosylated Glycans	21
Emily Gibson '19	Taking the Lead on Lead Poisoning: Identifying Culturally Competent Initiatives to Increase Awareness of this Pervasive Toxin	7
Claudia Glickman '19	An Analysis of Intercultural Depictions in German Children's Literature	28
Emma Gomez-Rivas '19	The Synthesis of <i>Linderofrucoside A</i>	10
Hugh Gorman '19	Plasmon Enhanced Nonlinear Optical Harmonic Generation	19
Sarah Gutch '19	Ventilatory Acclimatization to Hypoxia in Adult Rats	1
Ken Hale '19	Amplifying Zebrafish (<i>Danio rerio</i>) <i>alas2</i> Gene to Evaluate Its Role in Hypochromic <i>Nfe2</i> Knockout Embryos	8
Tala Kasih '19	Household Water Consumption: Drought and Revenue Instability	32
Seamus Kelley '19	NMR Determination of the Preferred Conformation of Tetrahydro-2H-pyran-2,3,4,5-tetraol	22
James Lee '19	RNA Binding Proteins as Regulators of Gene Expression in <i>Borrelia burgdorferi</i>	15
Owen Lewis '19	Establishing the Structural Limitations of Fatty Acid Incorporation by Lipid Auxotrophic <i>Corynebacteria</i> with Potential for Petrolytic Bioremediation	11

3:15 - 4:30 PM	Poster Session II	Wall #
Brendan Mackey '19	Linking Terpenes and the Microbiome: A Novel Mode of Therapeutic Intervention	12
Tess Miller '19	Investigation of the <i>pzn</i> Gene Cluster and Its Role in <i>Staphylococcus epidermidis</i>	13
Hawley Moore '19	Like Night and Day? Determinants of Fine Art Auction Prices in Afternoon and Evening Sales	29
Hadley Moreau '19	Role of Nrf2a and Nfe2 in Modulating MEHP-induced Hepatosteatosis following Embryonic Exposure in <i>Danio rerio</i>	9
Robyn Moss '20	Independent Research Study of Hollandite and Honeycomb Crystal Structures for Cathode Oxide Materials	25
Michaela Pinette '19	The Effect of Chronic Hyperoxia on Somatic Growth and Thermoregulation	2
Jason Ross '19	Synthesis and Characterization of Ho-Substituted Bismuth Pyrochlores	26
Gabriella Shpilsky '19	Purification, Characterization, and Activity of Ribonucleases on mRNA Degradation in <i>Borrelia burgdorferi</i>	16
Cara Starnbach '19	The Synthesis of Luteoside B as a Potential Therapeutic for Respiratory Syncytial Virus (RSV)	23
Mary Buford Turnage '19	Measuring Hypoxic and Hypercapnic Ventilatory Responses in <i>Anolis carolinensis</i>	3
Dayna Vasconcelos '19	Effects of Videotaped Eyewitness Identifications on Eyewitnesses and Jurors	27
Xiaomeng Wang '19	Intracellular Localization of RNA and Protein in <i>B. burgdorferi</i>	17
Sophie Warren '19	Nobody Puts IIA in a Corner: A Literature Analysis of the Neglected Half of the MHC Class II Heterodimer	6
JR Watanasiri '19	Characterizing the Localization of <i>dsrA</i> Variants in <i>Borrelia burgdorferi</i>	18
Ian Wax '19	Spatial Filtering and Plasmon Enhanced Nonlinear Optical Generation in Gold Microplates	20
4:45 - 6:00 PM	Poster Session III	Wall #
Owen Ahlborn '19	Analysis of Harmonics Produced through Electric Vehicle Charging	32
Isabella Barrengos '19	Spirit Possession, Mediation, and Ambiguity in the Ancient Greek Worship of Dionysos	9
Emily Bowen '19	Gender Differences in Levels of Satisfaction with Online and Offline Relationships	23
Andrew Chen '19	Investigating Global and Local Functional Heterogeneity in the Mouse Olfactory Bulb	11
Emma Christman '22	Effects of Antibiotic Treatment on <i>A. forbesi</i> , <i>A. vulgaris</i> Infected with Sea Star Wasting Disease	1
Kathryn Cleary '19	Expression Analysis of Phosphoinositide Transfer Proteins in Human Embryonic Kidney Cells	17
Nicholas Coker '19	Quantification and Analysis of Molecular Heterogeneity of the Mitral Cell Layer in the Mouse Olfactory Bulb	12
Zach Collester '19	Regulation of Intracellular Ca ²⁺ Signaling by Inositol 1,4,5-trisphosphate Receptor-binding Protein Released with Inositol 1,4,5-trisphosphate (IRBIT)	18
Michael Cooper '20	Exploring the Possibility of Liquid Separation in the Ste. Dorothée Sill near Montréal, Québec	3

4:45 - 6:00 PM	Poster Session III	Wall #
Michael Driscall '19	Creating an Online Intervention that Utilizes Psychological Distance for LGB-People of Color	24
Adelae Durand '19	Endogenous Brain-derived Neurotrophin Factor and Its Relationship to Cognitive and Affective Flexibility	16
Alexa Harrison '19	Temporal Negative Priming: Visual and Auditory	25
Sanah Hasan '19	Effects of Ego-Depletion on Controlled Responses during the Shooter Bias Game	21
Xavier Hayden '19	Markov Chain Monte Carlo Simulation in Cryptography	6
Sara Hollenberg '19	Contemporary Applications of Common Cryptosystems	7
Samuel Kroger '19	The Fourier Transform and Financial Information	5
Sarah Lamie '19	How Bates Students are Thinking about Variables in a Calculus Context	8
Grace Link '19	Uncovering the Genetic Components of Early Animal Sensory Systems: Putative Sensory Gene Expression after Knockout of Primary Cilia Function in Freshwater Sponges	2
Wanyi Lu '19	Depth of Processing of Visual Scenes Not Consciously Perceived	13
Ned Moreland '19	An Assessment of Current Japanese Government Policy's Support of Small-and Medium-Sized Enterprise Growth in the Japanese Economy	10
Reilly Murphy '19	Who is Using Self-Disparaging Weight Humor: Overweight, Low Self-Esteem, or Both?	20
Jose Ruiz '19	Studying Fast Outflows from Extreme Galaxies at High Resolution	29
Jillian Sheltra '19	Visualizing the Role of Phosphatidylinositol Transfer Protein Alpha in Lipid Transfer following Genetic Manipulation	19
Jamie Siegart '21	Testing the Role of Recurrent Processing in Human Image Understanding	14
Priyanka Takle '19	The Role of Scene Function in Visual Scene Categorization	15
Cristopher Thompson '19	Accurately Measuring the Radius of Galaxies with the Hubble Space Telescope	30
Carlyle Turner '19	The Influence of Videorecording Eyewitnesses on the Relationship between Confidence and Accuracy in Lineup Identifications	22
King Valdez '19	Stellar Mass as a Function of Age and Dust in 12 Compact Starburst Galaxies with High Outflow Speeds	31
Craig Waldie '19	An Evolutionary Algorithmic Approach to World Trade Theory	4
Christian Welch '19	Inhibiting Working Memory through Tongue Twisters	27
Hanchen Zhang '19	SNARC Effect, Spatial Annotation, and Spatial Attention Constraint	26

**Video Collaborations: Working on Video Productions with Community Organizations in Lewiston
AVC 309 Class Participants**

Daisy Diamond '19
Eli Eshaghpour '21
Kody Greenhalgh '20
Maddie Hallowell '20
Mike Hogue '20

Isa Moise '19
Mari Sato '21
Patrick Sheils '19

Jeffrey Spellman '20
Talia Sperduto '21
Ryan Whittemore '19

**Public Health in Chile: Analyses and Reflections from the 2018 Bates Fall Semester Abroad
Bates Fall Semester Abroad in Chile Class Participants**

Andrea Aguilera '21
Valerie Bravo '21

Maya Chrobot '20
William Cotrone '21

Alexis Fifeld '21
Senyo Ohene '20
Jesse Tallerman '20

**3D Human Organs: An Anatomy and Physiology Class Project
BIO 217 and 218 Class Participants**

Carly Christofi '20
Bobby Dee '19
Adelae Durand '19
Sarah Gutch '19

Abigail Hamilton '21
James Lee '19
Cassidy McCarns '19
Emma Patterson '19

Marcus Ross '19
Katherina Tran '19
JR Watanasiri '19
Mackenzie Winslow '19

**Rome and the Near East: Digital Dura
CM/HI 283 Class Participants**

Frank Alvarado '21
Thomas Atwater '20
Alan Bisesi '21
Kali Brown '21

Lewis Clarke '21
Brooks Clement '21
Frank Fusco '21
Jon Knowles '21

Jhansi Kolli '21
Phoebe Long '19
Dylan Muldoon '21
James Woods '21

**Experiential Engagement and Reflective Examination: Guiding Us toward a Deeper Understanding
EDUC 450 Class Participants**

Ross Ackerman '19
Olivia Amdur '19
Dayna Vasconcelos '19

**Radical Collaboration as World-Building in Science Fiction
ENG 152 Class Participants**

Thomas Costin '22
Aidan Faller '21
Gabi Frugard '22

Daniel Leizerman '22
Jasmine Nutakki '21
Devin Russell '21

Lars Schuster '20
Barney Simon-Davey '19
Amanda Sobotka '19

**Conducting an Audit of Food Policies and Practices in Auburn, ME
ENVR 308 Class Participants**

Adam Banks '21
Annie Blakslee '20
Eliza Blood '21
Michaela Bowen '20
Josie Carter '21
Henry Colt '19

Sarah Delany '20
Oaklea Elfström '21
Lars Gundersen '20
Signe Lynch '20
Sophia Miller '21
Brady Orozco-Herman '21

Olivia Sandford '20
Lars Schuster '20
Danielle Ward '20
Grace Warder '20

**Paradoxes of the Past
HIST 399 Class Participants**

Ke'ala Brosseau '20
Andrew Fasciano '20
Zach Jonas '20

Benni Magnusson McComish '20
Annabel Mahon '20
Eric Opoku '20

Nell Pearson '20
Ursula Rall '20
Judy Wang '20

Nineteenth Annual Barlow Off-Campus Study Photography Exhibition

Ross Ackerman '19
Zach Anderson '19
Kai Bjork '20
Annie Blakslee '20
Jacqueline Buonfiglio '19
Lillian Chang '20
Haley Crim '19
Sam Cruickshank '20
Adelae Durand '19
Peter Federico '19
Perla Figuereo '21
Ellie Friends '21
Katie Gaillard '19
Louisa Gale '20
Lars Gundersen '20

Alexa Harrison '19
Christopher Hassan '19
Kayla Jackson '19
Hannah Johnson '20
Katie Kelley '19
Josh Klein '19
Ariel Lam '20
Will Langhoff '20
Elizah Laurenceau '19
James MacDonald '20
Ronnie Mak '20
Cassidy Martin '19
Jessie Moriarty '19
Senyo Ohene '20
Maggie O'Shea '20

Nell Pearson '20
Gordon Platt '19
Sophie Rintell '19
R.J. Sarka '20
Jillian Serrano '21
Anna Setzer '19
Kathleen Smith '20
Catie Spaulding '19
Lydia Sullivan '20
Emily Tan '19
Judy Wang '20
Owen Warren '19
Emma Westwater '19
Emma Wheeler '20
Taylor Wilson '19

Bates Brass Ensemble

Christian Bradna '20, percussion
Samuel Britner '21, trumpet
Alan Carr, director, bass trombone
Jio'vanni Delvalle '19 bass trumpet

Dylan DiSunno '22, trumpet
Julie Jesurum '22, trumpet
Alice Li '21, trombone
Grace Purinton '20, trumpet

Zane Rahabi '22, euphonium
Ian Robertson '21, trumpet
Zeichen Zhang '22, trombone

**Summit Jazz Gig
MUS 222 Class Participants**

Christian Bradna '20, drumset
Dylan DiSunno '22, trumpet

Ben Hinton '21, tenor saxophone
Thomas Linkas '22, piano

Kelly McDonald '19, voice
Senyo Ohene '20 piano
Charlie Stewart '21, bass

Bates College Dance Company

Dancers

Katie Abramowitz '21
Kellie Allen '21
Sydney Anderson '20
Isabella Barrengos '19
Flannery Black-Ingersoll '19
Emily Bowen '19
Helen Carr '21
Caroline Carreras '19
Christine Carroll '20
Rowan Cutler '21
Michelle Desjarlais '22

Emily Dewey '22
Sofia Esquibies '21
Ellie Friends '21
Esme Goldfinger '21
Erick Gredonia '21
Billy Grummer '21
Elisabeth Gwydir '20
Liv Guion '21
EB Hall
Sara Hollenberg '19
Isabel Honigman '22

Becca Howard '19
Mickai Mercer '19
Rebecca Minsley '20
Brittany Seipp '21
Claire Sickinger '19
Dawrin Silfa '21
Amanda Sobotka '19
Yoyo Tang '22
Eliza Tobor
Danielle Ward '20

Choreographers

Kellie Allen '21
Sydney Anderson '20
Isabella Barrengos '19
Flannery Black-Ingersoll '19
Helen Carr '21

Ellie Friends '21
Esme Goldfinger '21
Erick Gredonia '21
Elisabeth Gwydir '20
Sara Hollenberg '19 (thesis)

Yesul Lee '19 (thesis)
Kate Marchessault (applied dance
faculty)
Mickai Mercer '19
Claire Sickinger '19 (thesis)

Crew and Collaborators

Carlo Cremonini '21
Gabriele Gucagaite '21

Kirstin Koepnick '21
Georgia Moses '21

Yilun Wu '22
Elizabeth Yguico '20

Demons of Dirigo

Cast

Ezra Clarke '21
Ryan Fisse '22
Alex Gilbertson '22

Adah Lindquist '19
Nicky Longo '21
Hale Murch '22

Cael Schwartz '19 (also stage manager)
Walter Washington '19
Ethan Winglass '19 (also writer and
director)

Musicians

John Cannon '19, guitar
Thomas Linkas '22, piano