

A symposium of
graduate student talks

Research Matters

CELEBRATING IDEAS & DISCOVERIES

Thursday, April 21, 2022

4 - 6 p.m.

Grant Recital Hall



Graduate School
BROWN UNIVERSITY

brown.edu/go/researchmatters

Research Matters

CELEBRATING IDEAS & DISCOVERIES

The Graduate School is delighted to host **Research Matters: Celebrating New Ideas and Discoveries** this year after a pause due to COVID. Research Matters aims to support intellectual exchanges among graduate students, offer graduate students a public forum for presenting their research, and create opportunities for graduate students to develop presentation skills.

With short talks aimed at a general audience, Research Matters showcases exceptional graduate student scholarship taking place at Brown. The first Research Matters event in September 2014 was part of Brown's 250th Anniversary Fall Celebration.

This year, we continue this tradition of celebrating the accomplishments and contributions of our graduate students. Each speaker is contributing to the academic excellence and advancement of knowledge that makes Brown unique and bold.

Our speakers range across all disciplines and stages of graduate study at Brown, from the humanities, life sciences, social sciences and physical sciences. They include students at the beginning of their studies and those receiving their degrees this year. After a general call for nominations, our student speakers were selected from among 22 semifinalists to present their research today. Our event celebrates the distinctive nature of Brown graduate education.

Our speakers are eager to showcase their research with one other and with the broader community, and to share with everyone why their research matters.

We hope you enjoy the talks!

Andrew G. Campbell
Dean of the Graduate School

Vanessa Ryan
*Co-Deputy Dean of
the Graduate School*

Schedule

SESSION ONE | 4-6 P.M.

INTRODUCTIONS

Vanessa Ryan

*Organizer and Co-Deputy Dean,
Graduate School*

Andrew G. Campbell

Dean of the Graduate School

TALKS

Aarit Ahuja

*It's All in Your Head:
Simulation in the Primate Brain*

Joseph Heffner

*Economic Inequality Corrupts
Moral Standards*

Sarah Christensen

*Emotional Histories of Enslaved
Women in Early Medieval Europe*

Alison M. Veintimilla

*Bacteriophages: A Micro Solution
to a Macro Problem*

Ethan Kyzivat

*Mapping the Arctic's
Changing Wetlands*

Danielle Blum

*The Art of Fingerprinting
Air Pollution*

BREAK | 5-5:15 P.M.

SESSION TWO | 5:15-6 P.M.

TALKS

Donnell A. Williamson Jr.

Between Faith and Despair

Jorge Ledesma

*The Global Burden of Tuberculosis:
From Evidence to Action*

Kristin Kimble

*How Can Paleoclimate Research
Inform Future Climate Predictions?*

Cooro Harris

*Making Tough Polymers with
Green Nanocatalysts*

Baoli Yang

*Resurrecting Sleeping Medieval
Asian Manuscripts*

Joe Colleyshaw

1,000 years in Russian Cultural Memory

Speakers



Aarit Ahuja

It's All in Your Head: Simulation in the Primate Brain

Ph.D. Candidate in Neuroscience

Aarit Ahuja is a sixth-year doctoral student in the labs of professors David Sheinberg and Theresa Desrochers in the Department of Neuroscience. He was raised in India and moved to the U.S. to attend Wesleyan University for his bachelor's degree. Growing up, Aarit was always curious about how evolution could give rise to an organ as complex as the brain. His dissertation research tackles this question head-on by comparing the cognitive faculties of humans and other primates. Passionate about science communication, Aarit is the co-founder of a science newsletter called Lab Leaks (lableaks.org).



Danielle Blum

The Art of Fingerprinting Air Pollution

Ph.D. Candidate in Chemistry

Danielle Blum grew up in rural Ohio. She graduated from Heidelberg University in 2017 with a bachelor's in biochemistry. Upon attending Brown, she joined Professor Meredith Hastings' lab group, studying atmospheric chemistry. For the past five years she has evaluated methods of collecting different air pollutants for both the amount of the pollutant and the isotopic signature (the "fingerprint"). After internships at the National Center for Water Quality Research and at the EPA, Danielle hopes to continue a career in environmental research in similar institutions upon receiving her doctorate. She lives happily with her partner of eight years and their dog, Valley.



Sarah Christensen

Emotional Histories of Enslaved Women in Early Medieval Europe

Ph.D. Candidate in History

Sarah Christensen is a third-year Ph.D. candidate. Her dissertation explores the emotional lives of enslaved women in the early European Middle Ages, between the sixth and 12th centuries. Bringing together gender studies, mobility studies and histories of emotion, her research challenges the limitations of sparse historical evidence for the inner lives of marginalized peoples in the distant past. She holds a B.A. in classics and literary arts from Brown and an M.Phil. in Anglo-Saxon, Norse and Celtic from the University of Cambridge, and will spend the upcoming year as a Fulbright Scholar in Austria.



Joe Colleyshaw

1,000 Years in Russian Cultural Memory

Ph.D. Candidate in Slavic Studies

Originally from Sheffield, United Kingdom, Joe is a fifth-year Ph.D. candidate in the Department of Slavic Studies. His research focuses on contemporary, cultural and collective memory in Russia through the representation and interpretation of Russia's late imperial past. His work examines the use of public space, official

discourse and commemorative practices to highlight the rehabilitative campaigns that are being used today to create a pragmatic view of Russia's past. Through his highly interdisciplinary approach, Joe pursues his commitment to creating greater links between cultural study, literary study and political history to provide a more nuanced understanding of Russian culture today.



Cooro Harris

Making Tough Polymers with Green Nanocatalysts

Ph.D. Candidate in Chemistry

Cooro Harris is a third-year Ph.D. candidate in Professor Shouheng Sun's lab in the Department of Chemistry. They graduated from Haverford College with a bachelor's in chemistry and a minor in Japanese. Their research currently focuses on accessing high-value polymeric materials using green heterogeneous catalysis via nanoparticles made from earth-abundant metals. Cooro aims to take the complex problem-solving skills developed through doctoral-level research into the consulting industry after Brown. They are also an avid practitioner of aerial silks, an infatuated fan of Japanese culture and an intermediate learner in the fighting game community.



Joseph Heffner

Economic Inequality Corrupts Moral Standards

Ph.D. Candidate in Cognitive, Linguistic and Psychological Sciences

Joseph Heffner is in his sixth year of doctoral studies. His research interests focus on human social cognition, emotions and decision-making, with an emphasis on how people respond to fairness violations. He received his bachelor's degrees in psychology and philosophy from the University of North Carolina at Chapel Hill, then spent three years investigating moral attitudes at Duke University before starting his Ph.D. at Brown. Outside of the lab, he is an avid hiker, house DIYer and improving cook.



Kristin Kimble

How Can Paleoclimate Research Inform Future Climate Predictions?

Ph.D. Candidate in Earth, Environmental and Planetary Sciences

Kristin Kimble is a third-year Ph.D. candidate in the Department of Earth, Environmental and Planetary Sciences. She received her bachelor's degree in geology and biology from Middlebury College. Her research uses marine sediment from the tropical Pacific Ocean to reconstruct how Earth's climate has changed from 3 million years ago to the present. She enjoys volunteering with her department's education and outreach programs, where she helps develop and teach geoscience lessons for local students in elementary through high school. Outside of the lab, she enjoys reading, cross-stitch and walking in the woods.



Ethan Kyzivat

Mapping the Arctic's Changing Wetlands

Ph.D. Candidate in Earth, Environmental and Planetary Sciences

Ethan Kyzivat is a fifth-year Ph.D. candidate and a NASA Earth and Space Science and Technology fellow. His passion for the environment and the growing body of satellite data led him to study climate change via remote sensing. He has spent three summers collecting field data from lakes and wetlands in Canada and Alaska. Ethan earned his bachelor's degree in physics at Yale. Before starting graduate school, he bicycled around lakes Huron and Ontario.



Jorge Ledesma

The Global Burden of Tuberculosis: From Evidence to Action

Ph.D. Student in Epidemiology

Jorge Ledesma is a second-year doctoral student interested in infectious disease modeling to inform transmission dynamics. Prior to coming to Brown, he was a post-baccalaureate fellow at the Institute for Health Metrics and Evaluation (IHME) where he was the primary modeler for tuberculosis (TB) burden estimation in the Global Burden of Disease study. From his work at IHME, he has led and co-authored several publications on TB burden measurement that have been published in major journals including *The Lancet*. His current work focuses on evaluating the impact of the COVID-19 pandemic on the global burden of TB.



Alison M. Veintimilla

Bacteriophages: A Micro Solution to a Macro Problem

Master's Student in Biotechnology

Alison M. Veintimilla received their bachelor's of science from Brown University in immunobiology. Their previous research centered on studying HIV/AIDS transmission networks in Rhode Island through the Miriam RISE Clinic. Their current research at the Shukla Lab for Designer Biomaterials involves the development of novel therapeutics in order to combat the growing and immediate issue of antimicrobial resistance. They believe in the consideration of diverse populations as a quintessential element within engineering design and implementation. In their free time, Alison enjoys playing video games and very niche board games.



Donnell A. Williamson Jr.

Between Faith and Despair

Ph.D. Student in Religious Studies

Donnell is a third-year doctoral student in religion and critical thought, studying the dialogical relationship between faith and despair in relation to Protestantism's various, often disparate, ethical dispositions. Donnell's scholarship focuses on modern religious thought, historical philosophy and the Black literary tradition. His primary research interests include philosophy of religion, religion and politics, religious ethics and Black American religious traditions, emphasizing the intellectual histories of Frederick Douglass, Ralph Ellison and Søren Kierkegaard. Donnell holds a B.A. in sociology from Morehouse College and an M.Div. from the Candler School of Theology at Emory University. He enjoys reading, playing tennis and listening to music in his spare time.



Baoli Yang

Resurrecting Sleeping Medieval Asian Manuscripts

Ph.D. Candidate in Comparative Literature

Baoli ['bauli] Yang is a fifth-year doctoral candidate in the Department of Comparative Literature, where she primarily focuses on medieval Sinoscript literature and its modern repercussions, manuscript culture, Chinese poetics, empire studies and Silk Road studies. A multilingual and interdisciplinary scholar, she has received fellowships from Brown University, Cogut Institute for the Humanities, the Watson Institute's China Initiative, T'ang Studies Society and the Harvard-Yenching Institute to support her research. She is currently working on her dissertation "Literary Strata of Imperial Borders: Sinoscript Culture and Its Encounters Around the Eighth Century."



MASTER OF CEREMONIES

JJ Lomax

Jeremy “JJ” Lomax is a sixth-year Ph.D. candidate in ecology and evolutionary biology. Fueled by a general interest in the biodiversity found in the over 32,000 species of vertebrate fishes, JJ left his hometown of Memphis, Tennessee, to pursue an undergraduate degree in marine sciences at the University of South Florida. Here at Brown, he continues his studies of any and all things fish through an integrative approach. From his early research on catfish to his current work with piranhas and their relatives, JJ combines principles of engineering with biology to explain how biological tasks, such as breathing, adherence or feeding, work in various fish species. JJ presented his research at Research Matters 2019.

COORDINATING TEAM AND SELECTION COMMITTEE MEMBERS

Vanessa Ryan

*Co-Deputy Dean,
Graduate School*

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*Communications and Special Events
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*Assistant Director of Academic Affairs,
Graduate School*

Jay Rowan

*Chief of Staff and Associate Provost
for Strategy, Office of the Provost*

THANKS

We are grateful to the Music Department and Julia Craig, events coordinator, for their support of this program and for assistance with the Grant Recital Hall space. We are also grateful to the members of the selection committee, especially for their helpful feedback on speaker presentations.

The event will be recorded and live-streamed by Brown media services and AV support provided by New England Showtime Productions.

COMING ATTRACTIONS:

Videos from this event will be available at
brown.edu/go/researchmatters

