



HVERFORD COLLEGE

*One Hundred Eighty-Fourth
Commencement*

Saturday, May 14, 2022

Welcome, friends.

COMMENCEMENT EXERCISES

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ORDER OF EXERCISES

Processional

All who are able are requested to stand during the processional.

The Marshals
The Candidates for Degrees
Members of the Board of Managers
Members of the Haverford College Senior Staff
and Bryn Mawr College Cabinet
The Faculty
The Platform Party
The Faculty Marshal
The Hooding Marshal
The Dean of the College
The Opening Speaker
The Faculty Speaker
The Honorary Degree Presenter
The Candidate for an Honorary Degree
The Secretary of the Board of Managers
The Provost
The President of Bryn Mawr College
The President of the College

Welcome From the President

Wendy E. Raymond

Opening Remarks

Charles Young, *Dining Services*

Remarks From the Class of 2022

Che Young Annette Lee

Remarks From Faculty

Lou Charkoudian '03, *Associate Professor of Chemistry*

Greetings From Bryn Mawr College

Kimberly Wright Cassidy, *President and Professor of Psychology*

Remarks From the President

Wendy E. Raymond

Conferring of the Honorary Degree

Karen Korematsu, *Civil Rights Advocate*

Presented by Erin Schoneveld, *Associate Professor of East Asian Languages and Cultures and Associate Professor of Visual Studies*

Conferring of Degrees

Class presented by Linda Strong-Leek, *Provost, Professor of African and Africana Studies, and Professor of Gender and Sexuality Studies*

Candidates presented by John McKnight, *Dean of the College*

Closing Remarks From the President

Wendy E. Raymond

Recessional

Marshals

Christina Zwart, *Faculty Marshal and Professor of English*

Suzanne Amador Kane, *The John and Barbara Bush Professor in the Natural Sciences, Professor of Physics and Astronomy, and Coordinator of Biochemistry and Biophysics*

Laura Been, *Assistant Professor of Psychology*

John Dougherty, *Associate Professor of Computer Science*

Andrew Friedman, *Associate Professor and Chair of History*

Rachel Hoang, *Associate Professor of Biology*

Kelly Gavin Zuckerman, *Visiting Assistant Professor of Education*

Nathan Zullinger, *Hooding Marshal, Assistant Professor of Music, and Director of Choral and Vocal Studies*

Music for Processional and Recessional

Brass Ensemble: Paul Futer, *trumpet*; Jon Fowler, *tuba*; Nozomi Imamura, *trumpet*;

Justin Moore, *trombone*; Ben Mulholland, *horn*

Completion of graduation requirements may not be confirmed by this program, as the college transcript serves as the sole official student record. Furthermore, this program only includes those thesis titles submitted by students before the print deadline.

HONORARY DEGREE RECIPIENT

Each year at Commencement, Haverford awards one or multiple honorary degrees to people who have distinguished themselves in letters, the sciences, or the arts. Many recipients are noted for their contributions to the overall betterment of humankind and/or Haverford College. This year, at the 184th Commencement ceremony, the College is awarding an honorary degree to civil rights advocate Karen Korematsu.



Karen Korematsu

Karen Korematsu

Karen Korematsu is the founder and executive director of the Fred T. Korematsu Institute, named for her late father, a civil rights icon who took his fight against WWII-era Japanese American incarceration all the way to the Supreme Court. Since her father's 2005 death, Korematsu has carried on his legacy as a public speaker, educator, and education and civil rights advocate. She founded the Institute in 2009 to advance racial equity, social justice, and human rights for all, expanding from K–12 civic education to promoting public civic engagement and participation. The national education and advocacy organization has changed the way Japanese American incarceration has been taught in schools.

Korematsu's work extends to advocating for civil liberties and social justice for all communities and addresses current issues that draw upon lessons of the past. As an Ambassador to California Education, she advised that state's Department of Education on its Ethnic Studies Model Curriculum, designed to provide educators with the resources and guidance needed to integrate the histories and contributions of historically marginalized communities. She has given talks at schools and universities across the country, including presenting to Teachers College, Columbia University and the National Council for the Social Studies. She has signed on to amicus briefs in several cases opposing violations of constitutional rights that arose after 9/11, including *Odah v. United States*, *Turkman v. Ashcroft*, *Hedges v. Obama*, *Hassan v. City of New York* and, most recently, *Hawaii v. Trump*. And in 2015 she was the first non-lawyer to be inducted into the National Asian Pacific American Bar Association (NAPABA). She serves on the board of directors of Asian Americans Advancing Justice (AAJC) and NAPABA Law Foundation. She has been widely interviewed on issues of civil rights and education, and her op/eds have appeared in the *New York Times* and *Washington Post*. She is the recipient of many awards, including the ACLU-Chief Justice Earl Warren Civil Liberties Award, the Muslim Advocates-Voice of Freedom Award, the Community Leadership Award from the Asian Pacific American Institute for Congressional Studies, and an honorary Doctorate of Humane Letters from St. Michael's College in Burlington, Vermont.

FELLOWSHIPS, PRIZES, AND AWARDS

African and Africana Studies

Presented by the Program of African and Africana Studies

The Valentin Y. Mudimbe Award for Excellence in Africana Studies

The award is given in honor of V.Y. Mudimbe, world-renowned scholar and former Haverford professor, and recognizes excellence in scholarship in Africana studies.

Lulu Marguerita Obaditch

Anthropology

Presented by the Department of Anthropology

The Wyatt MacGaffey Thesis Award in Anthropology

This award honors the professor emeritus of Haverford's anthropology department and recognizes an outstanding senior thesis in anthropology.

Aliana Anuheha Ho

Arts

Presented by the Arts Program

The Kaye Prizes in Theater Arts

Established by Laurence Kaye 1983 and his parents, William Kaye 1954 and the late Cynthia Kaye. The prizes are awarded to the two students, regardless of class year, who have done the most to make theater arts an important part of the Bi-College community. One prize is given for performance-related work (e.g., acting, dancing, singing, conducting, directing); the other, for craft-based work in theater (e.g., set design, lighting, costuming, production management).

Acting: **Eliza Waterman (Bryn Mawr College)**

Direction/Production: **Sydney Ethen (Bryn Mawr College)**

Athletics

Presented by the Department of Athletics

The A. W. "Pop" Haddleton Award

Named in honor of the longtime track coach at Haverford, this award recognizes outstanding contributions to athletic teams by students who epitomize perseverance, dedication, and loyalty, and who have not received the recognition that, for example, regular starting players do.

Jacob Nathan Gaba, Moorea Morrison, and Will Vostrejs

The Gregory Kannerstein 1963 Award

Awarded to the individuals whose combination of outstanding athletic achievement and leadership has been a significant factor in a team's competitive success, and whose levels of performance have brought distinction not only to the individuals and teams but also to the entire athletic program.

Caroline Keats Alexis and Dina Kosyagin

The Stephen G. Cary 1937 Award

Given in honor of Haverford alumnus Stephen G. Cary 1937. This award recognizes overall impact on the Haverford athletic program.

Isabel Renee Schwam

The Varsity Cup

Haverford's highest athletic award, presented annually to the outstanding athlete in the senior class.

The criteria used in selecting the Varsity Cup winner are athletic accomplishment, sportsmanship, and leadership throughout the student's career.

Elizabeth Ravenel Davis

The William W. Ambler 1945 Award

Awarded to the graduating senior varsity athlete on the list of nominees who has the highest cumulative grade-point average through seven semesters of college work.

Sidney Hwang

The William Docherty Award for Sportsmanship in Intramural Basketball

Nominated by the referees, this prize winner has shown good sportsmanship and enthusiasm for basketball while completing both Intramural Basketball quarters.

Nile U Shaka Bayard

Biology

Presented by the Department of Biology

The Ariel G. Loewy Prize for Senior Research in Biology

Established in 2001 in memory of Ariel G. Loewy, professor of biology from 1953 to 2000. This prize is given to graduating seniors in biology whose efforts and accomplishments incorporate the rigor and diligence of experimental science.

Megan Coolahan and Jeremy Lavietes

The Irving Finger Prize in Biology

Established in 2003 by family, friends, and alumni in memory of Irving Finger, professor of biology from 1957 to 1994. It is awarded to a graduating senior in biology for outstanding growth and accomplishment in the major.

Junior Tommy Thành Hòa Nguyen

The Marian E. Koshland Prize in Biology

Established in 1997 by biology faculty, College administrators, and Board members. The prize is awarded to graduating seniors who demonstrated outstanding performance in senior research.

Roy Chrismantika Simamora and Zakiyyah Angel Marie Winston

Center for Peace and Global Citizenship

Presented by the Center for Peace and Global Citizenship

Center for Peace and Global Citizenship Publicly Engaged Scholar Award

Established in 2019, this award recognizes knowledge production and dissemination that advances peace, social justice, and global citizenship. Preference is given to seniors who have demonstrated capacity to communicate concisely about their research to diverse audiences. Special consideration is given to research questions that emerge through relationships with organizations and networks advancing justice.

Lulu Marguerita Obaditch and Pelagia Maria Majoni

Chemistry

Presented by the Department of Chemistry

The American Chemical Society Prize for Scholastic Achievement

Given to the top-ranking senior major in chemistry.

Genevieve Chan Uy

The American Institute of Chemists Award

Given to an outstanding senior in chemistry in recognition of their demonstrated record of ability, leadership, and professional promise.

Callie E. W. Crawford

The Colin F. MacKay Prize

Endowed in honor of Professor MacKay by Garth R. Parker Jr. 1981 and the Rohm and Haas Company. This prize recognizes the members of the senior class majoring in chemistry who have shown the greatest intellectual growth over four years of work in the chemistry department.

Maia Carvalho and Yuval Luria

The George Peirce 1903 Prize in Chemistry

Named in honor of George Peirce 1903 by his parents, Harold and Charlotte C. Peirce.

Rebecca Sarah Koweek

The Lyman Beecher Hall Prize in Chemistry

Awarded to a graduating senior for outstanding accomplishment in the major coursework and in research.

Sidney Hwang

Classics

Presented by the Department of Classics

The Class of 1896 Prize in Latin for Sophomores

Awarded to the sophomore who has done the best work in the department.

Celeste Cabbage 2024

The Class of 1902 Prize in Latin for First-Years

Awarded to the first-years who have done the best work in the department.

Anthony Runfola 2025 and Sonia Singh 2025

The Daniel Gillis and Joseph Russo Prize

Awarded for the best essay in classical studies.

Joshua Lucas Bayona

The Howard Comfort Prize in Latin

Carter McCulloch Langen

The Mark L. Hepps 1979 Prize

Awarded in memory of Mark Larry Hepps 1979. This prize is awarded for diligence in the study of elementary Greek or Latin.

Sarah Lydon 2025

Society for Classical Studies Outstanding Student Award

Awarded annually to the Haverford student who made the most distinguished contribution to the study of classics at Haverford. This award is presented by the Haverford faculty under the auspices of the Society for Classical Studies.

Felix Haomeng Qin

The William W. Baker Prize in Greek

Margaret Jane Doubman

College Fellowships

Presented by the Faculty

The Augustus Taber Murray 1885 Research Fellowship

Named in honor of Augustus Taber Murray, a distinguished member of the Class of 1885. This fellowship is awarded to a student pursuing further study in English literature, the classics, or German literature.

Claire Cai 2021

The Clementine Cope Fellowship

Given in honor of Thomas P. Cope, a former member of the Board of Managers, these awards are to be used for graduate study at another institution.

Fellowship: **Elom Tettey-Tamaklo 2019**

Prizes: **Seabrook Jeffcoat 2022, Sara Ozawa 2018, Roy Chrismantika Simamora 2022, and**

Zakiyyah Angel Marie Winston 2022

Communications

Presented by the Office of Communications

The James Bready 1939 Prize for Journalistic Writing

Established in 2004 by Richard Bready of the Class of 1967 to honor his father and longtime newspaper writer, James Bready. The prize is awarded annually to a Haverford student who has written the year's best journalistic article.

Zhao Gu Gammage 2025

Comparative Literature

Presented by the Department of Comparative Literature

The Laurie Ann Levin Prize

Awarded to the senior major whose work merits recognition for intellectual achievement.

Jillian Lunoe (Bryn Mawr College)

East Asian Languages & Cultures

Presented by the Bi-College Department of East Asian Languages & Cultures

The Hu Shih Prize (胡適)

Established in 2020 and named for the 20th-century Chinese philosopher and educator Hu Shih (1891–1962), this prize is given annually to a graduating senior who has distinguished themselves in the study of the Chinese language.

Nicola F. McHugh (Bryn Mawr College)

William Nolan Evans (2021 prizewinner)

The Margaret Mayeda Petersson Prize in Asian Studies

Awarded to a senior major in recognition of achievement in the study of East Asia.

Mali Israela Gruber

Economics

Presented by the Department of Economics

The Holland Hunter 1943 Economics Department Thesis Prize

Awarded to the senior whose thesis displays the most outstanding empirical and/or theoretical applications of economics.

Karan Makkar

The Michael M. Weinstein Prize in Economics

Established in 1986.

Haya Ruth Goldblatt, Gabriel Sekeres, and Aaron Graybill

English

Presented by the Department of English

The Ian Walker 1950 Prize Fund in English

Established by family, friends, and classmates of Ian Walker 1950. This prize is awarded to a junior or senior majoring in English.

Jillian Lunoe (Bryn Mawr College)

The Newton Prize in English Literature

Awarded on the basis of final honors in English.

Amos Aaron Karlsen

The Terry M. Kreiger 1969 Memorial Prize

Awarded to the senior demonstrating the greatest achievement in writing during the junior and senior years.

Abigail Satenik Avedia Meeker

The William Ellis Scull 1883 Prize

Awarded to the juniors and/or seniors who have shown the greatest achievement in voice and expression of the English language.

Elaina Sassine and Ryan Foster Totaro

Environmental Studies

Presented by the Department of Environmental Studies

Environmental Engagement Award

Awarded to the graduating senior who demonstrates outstanding dimensions of environmental engagement and interdisciplinarity, with particular emphasis on crossing or combining modes of inquiry; demonstrates boldness, braveness, and community engagement; and exemplifies love and commitment to working with people as well as with land, animals, plants, and other non-human life beyond campus boundaries.

Luigie Dion Alequín

History

Presented by the Department of History

The History Department Senior Thesis Prize

Awarded in recognition of the senior project that best exemplifies the passion, commitment, and professionalism of the historical enterprise.

Kathleen Emma Scully

The Samuel Parry Lippincott 1886 Prize in History

Collin M. Kawan-Hemler

The Senior History Prize

Awarded in recognition of achievement in the study of history.

Rafael Jovel

Latin American, Iberian, and Latinx Studies

Presented by the Department of Latin American, Iberian, and Latinx Studies

The Gridley McKim-Smith Senior Research Prize

The Gridley McKim-Smith Senior Research Prize is awarded by the Haverford, Bryn Mawr, and Swarthmore Programs in Latin American, Iberian, and Latinx Studies. It recognizes the achievements of students whose scholarship demonstrates the intellectual rigor and interdisciplinary breadth notable throughout Gridley McKim-Smith's illustrious career in the Bryn Mawr Art History Department.

Brandon Daniel Saucedo Pita

Linguistics

Presented by the Tri-Co Department of Linguistics

The Linguistics Prize in Application

Awarded to the senior whose thesis best addresses application issues in linguistics.

Nuria Inez Benitez

The Linguistics Prize in an Experimental Topic

Awarded to the senior whose thesis best addresses experimental issues in linguistics.

Yiyang Jiang (Swarthmore College)

The Linguistics Prize in Linguistic Theory

Awarded to the senior whose thesis best addresses theoretical issues in linguistics.

Mia Limmer (Swarthmore College)

Marian E. Koshland Integrated Natural Sciences Center

Presented by the Departments of Biology and Chemistry

The Arnold and Mabel Beckman Foundation Award

Recognizes an outstanding undergraduate student in chemistry and biological sciences.

Megan Coolahan

Mathematics

Presented by the Department of Mathematics and Statistics

The Albert Harris Wilson Award

Established in 1969 by members of the Class of 1919 at their 50th reunion, this prize recognizes the members of the first-year class in mathematics who have proved by their character, scholarship, and need to be those whom Dr. Wilson would have most enjoyed helping were he still with us and teaching mathematics at Haverford College.

Al Farabie Akanda 2025, Jennifer Contreras-Ortiz 2025, Iris Horn 2025, Brian Rettig 2025, and Leo Westrey 2025

Class of 1896 Prize in Mathematics

Awarded to the sophomores who have done the best work in the department.

Jiachen Kang 2024 and Guilherme Zeus Dantas e Moura 2024

The Department Prize in Mathematics for First-Year Students

Awarded to the first-year student who received the highest score on the annual math prize exam.

Rowan Shigeno 2025

The Mathematics and Statistics Senior Thesis Prize

Awarded in recognition of the senior projects that best exemplify commitment, independence, and clarity of mathematical or statistical exposition.

Tanassaluck Na Nakorn and Rahul Sanjay Palnitkar

Music

Presented by the director of the Chamber Music Program

The Sylvia Glickman Chamber Music Prize

Awarded to the top graduating senior who was enrolled in the Bi-College Chamber Music Program throughout the duration of their tenure at Haverford College. This award honors the senior who has displayed leadership, commitment, innovation, and improvement during their tenure in the program.

Maria Yea Seong

Peace, Justice, and Human Rights

Presented by the Program of Peace, Justice, and Human Rights

The PJHR Award for Engaged Scholarship

Awarded to the graduating senior whose justice-oriented work in the concentration has been academically rigorous while also attuned to the importance of communicating ideas to people with different views and forms of training. Recipients of this award have mastered both disciplinary and interdisciplinary forms of excellence.

Arshiya Bhayana

The PJHR Award for Ethical Action

Awarded to the graduating senior who has lived the values of peace, justice, and human rights both in the classroom and in the world beyond campus in an exemplary fashion. Recipients of this award have put their principles into action and made a positive impact in the larger world by engaging directly with communities impacted by injustice or inequality.

Noa Hannah Scheinfeld

The Elizabeth P. Smith Prize

Established in 1915 by bequest from Elizabeth P. Smith, this prize honors the best essay on peace.

Valentina Moreno

The Elliston P. Morris 1848 Prize

Founded in 1906 by a gift of \$1,000 from Elliston P. Morris 1848. This prize honors the best essay on the subject of arbitration and peace.

Hsiang-Yuan Stephanie Tseng (Bryn Mawr College)

Philosophy

Presented by the Department of Philosophy

The Charles Schwartz 1979 Memorial Prize in Philosophy

Awarded in recognition of Chuck Schwartz 1979. This prize is given to the student whose senior essay best exemplifies the care, precision, and creativity demonstrated by the senior project of Chuck Schwartz.

Zihui Ding

The Departmental Prize in Philosophy

Recognizes the student or students who have made the most significant contributions to the vitality of the philosophical community, both within the classroom and beyond, while majoring in philosophy at Haverford College.

Oliver Adam Bates

Physics and Astronomy

Presented by the Departments of Physics and Astronomy

The Louis B. Green Prize in Physics and Astronomy

Established by Charles Ufford, a former Haverford College parent.

James Tropp Garland, Turner Ellis Johnson, Frankie Silvers, and Autumn Winch (Bryn Mawr College)

Political Science

Presented by the Department of Political Science

The Emerson L. Darnell 1940 Prize

Presented in honor of Emerson Darnell, a Quaker alumnus who dedicated his life's work to advocating peaceful social change and defending the civil rights of the individual. The prize is awarded annually to the students who present the best papers demonstrating an appreciation of the Bill of Rights as the foundation of American law and the very fabric of American society.

Rachel Bamberger (Bryn Mawr College) and Lulu Marguerita Obaditch

The Harold P. Kurzman 1958 Prize

Awarded to the senior who has performed the best and most creatively in political science coursework.

Christopher Conrad

The Harvey Glickman Prize

Presented in honor of Harvey Glickman, a professor of political science at Haverford for 43 years and an esteemed political theorist. Awarded to the graduating senior in political science whose senior thesis displays the greatest innovation in pushing the theoretical boundaries of the discipline and its subfields. Established by the Political Science Department in 2019.

Nicholas Conroy

The Herman M. Somers Prize in Political Science

Given in recognition of the research and teaching of Red Somers. Awarded to the graduating seniors who present the best senior projects that reflect the interest in policy, respect for evidence, and the humane concern for improving society that characterized Somers' work.

Ian Michael D'Elia and Steven Puac

The Stephen H. Miller 1962 Memorial Award

Presented in honor of Stephen H. Miller 1962, who lost his life serving his country and his fellow man in South Vietnam while taking part in village development as a member of the United States Information Agency. This award is presented to the graduating senior in political science who best exemplifies the ideal of political involvement and social service expressed in Miller's life and career.

Lulu Marguerita Obaditch

Psychology

Presented by the Department of Psychology

The David Olton 1964 Research Award

Created in memory of David Olton 1964, chair of the psychology department at Johns Hopkins University, who was an energetic and joyous contributor to the field of psychology. The award honors the seniors who have done exceptional work and show great promise in psychology.

Jianing Mu and Elizabeth Cannon Szanton

Registrar

Presented by the Registrar's Office

The Scholarship Improvement Prize

Awarded to the seniors who have shown the most steady and marked improvement in scholarship during their time at Haverford.

Brandon L. Alonso and Michelle Allison Kaplan

Religion

Presented by the Department of Religion

The Religion Prize

Awarded to the senior religion major who presented the best thesis.

Riah Newfont

Spanish

Presented by the Department of Spanish

The Manuel J. and Elisa Pi Asensio Prize

Awarded for the best essay submitted by a senior majoring in Spanish or with a concentration in Latin American, Iberian, and Latinx Studies.

Aaron Ettinger Witkin

Students' Council

Presented by Students' Council

The Edmund J. Lee 1943 Memorial Award

Recognizes Edmund Jennings Lee, the sole member of the Class of 1943 to be killed during World War II. This award is given to the student organization that has contributed most toward the furtherance of academic pursuits, extracurricular activities, spiritual growth, or college spirit in individuals or in the College as a whole during the year.

Bi-Co Mutual Aid

The John G. Wallace 1957 Class Night Award

Presented to the student who has made the greatest contribution to on-campus performing arts.

Raveen Green

The Jonathan Mohrig 1986 Memorial Prize

Honors a Haverford sophomore who died in 1984. This prize is awarded to the student at Haverford who embodies Jonathan's enthusiasm, warmth, humor, and quiet generosity to those around him, and who, like Jonathan, makes a special contribution to the quality of life at Haverford.

Theodore Bien

The Martin Foss Award

Given to the member of the Haverford College community whose life speaks directly to the lives of others by the powerful harmony of intellect, compassion, and courage.

Zakiyyah Angel Marie Winston

The Service Leadership Award

Presented to the graduating senior who will make outstanding contributions to social and/or environmental change through projects or programs of their initiation. The award is designed both to nurture graduating seniors as they begin to dedicate their lives to service action, as well as to develop a network of alumni doing model work in the field.

Pelagia Maria Majoni

The Stephen G. Cary 1937 Award

Given in honor of Stephen G. Cary 1937 and his contributions to the Haverford community. This award is presented to the senior who best exemplifies "honesty, integrity, a healthy combination of scholarly and extracurricular activities, and, most of all, a deep concern not only for those who are a part of the Haverford community, but also for those who are a part of our neighboring communities." An award of \$1,000 is given in the winner's name to the College for the purpose of financial aid.

Maya Sydnie Wernick

The Students' Council Student Life Award

Presented to the senior who, through hard work, persistence, and concern for their peers, has made the greatest contribution to student life on campus.

Samuel Louis Aronson

Faculty and Staff Awards

Presented by Students' Council

The Students' Association Appreciation Award

Presented to a departing member of the Haverford faculty or staff who has given outstanding service to the Haverford community and who upholds the qualities intrinsic to a Haverford education.

Mark Stein, *Organic Chemistry Instructor*

The Students' Association Award

Presented to Haverford faculty members who give outstanding service to the Haverford community and uphold the qualities intrinsic to a Haverford education.

Tarik Aougab, *Assistant Professor of Mathematics and Statistics*, and **Talia Young**, *Visiting Assistant Professor of Environmental Studies*

CHESICK SCHOLARS PROGRAM AND HORIZONS LEADERSHIP INSTITUTE

Chesick Scholars Program

The John P. Chesick Scholars Program includes students from backgrounds underrepresented in academia, who are especially interested in study and research in their areas of scholarly interest, as well as in working with faculty mentors and like-minded peers to build a supportive academic community. The sixth cohort of Chesick Scholars comprises the following graduating seniors:

Ali M. Al-Tamimi
Nameera Bajwa
Shayleah J. Jenkins
Fariea Khan
Sharon Nwankpa
Daniel Alfredo Paredes
Ruanna Amara Small
Zakiyyah Angel Marie Winston

Horizons Leadership Institute

The Horizons Leadership Institute includes students from groups underrepresented in academia, who are especially interested in becoming agents of social and structural change on campus. The fourth cohort of Horizons participants comprises the following graduating seniors:

| | |
|--------------------------|-------------------------------|
| Luigie Dion Alequín | Fariea Khan |
| Brandon L. Alonso | Che Young Annette Lee |
| Asia Maria Belt | David Ly |
| Aishah A. Collison-Cofie | Junior Tommy Thành Hòa Nguyen |
| Edwin Garrett Crockett | Giancarlo Rendon |
| Taiwo Fayemi | Zarahy De La Caridad Rivas |
| Raveen Green | Carmiya A. Solomon |
| Natalie Renae Kauffman | Seth Bertrand Todd |
| Erica Ruth Kaunang | Maria Yea Seong |

As of August 2021, the Chesick Scholars Program and Horizons have combined to include all first-generation and/or low-income students on Haverford's campus. Graduating seniors who have chosen to honor this identity will be wearing Chesick Scholar stoles over their commencement robes.

PHI BETA KAPPA SOCIETY

Founded in 1776, Phi Beta Kappa is the oldest undergraduate academic honor society in the United States. The Haverford College Chapter of the Phi Beta Kappa Society of America was chartered in 1898 as Zeta of Pennsylvania. The Haverford chapter is one of 286 nationwide, housed at colleges and universities with academic programs in liberal arts and sciences acknowledged as sufficiently rigorous and intellectually challenging by standards maintained by the national Phi Beta Kappa society.

Individual selection reflects excellence in the liberal arts and sciences and distinction in a broad array of undergraduate courses. At Haverford College, undergraduate members of good character are selected primarily on the basis of academic performance, as expressed in their course grades. The selection committee of alumni and faculty members of Phi Beta Kappa also considers, to the extent possible, the degree of originality, creativity, and imagination of thought; the range of depth of intellectual interests; and the precision and elegance of a student's work. Normally no less than 10 percent and no more than 15 percent of a graduating class are selected.

The Phi Beta Kappa Society supports programs that significantly advance scholarship and academic excellence by awards, lectures, and outreach activities to schools. Membership now numbers more than 500,000 individuals.

The following members of the Classes of 2022 and 2023 have been elected to the Phi Beta Kappa Society.

Members of the Class of 2022 elected during the junior year:

Megan Coolahan

João Pedro Mello de Carvalho

Trevor Schweitzer Stern

Duc Minh Trinh

Members of the Class of 2022 elected during the senior year:

Joshua Lucas Bayona

Eric Beery

Nuria Inez Benitez

Blake Stephen Brinster

Rebecca Kai-Wei Chen

Christopher Conrad

Nicholas Conroy

Zihui Ding

Claire Marguerite DuBois

Anna Rosalee Fiscarelli-Mintz

Adam Thomas

Friedman-Brown

Haya Ruth Goldblatt

Haosong Huang

Sidney Hwang

Ellen Therese Kerns

Jijie Ma

Karan Makkar

Katherine Matthews

Sophia Isabelle Mercado

Jianing Mu

Riah Newfont

Poppy Northing

Elizabeth Cannon Szanton

Harry Taussig

Ryan Foster Totaro

Genevieve Chan Uy

Diana Catherine Varenik

Sijing Zhao

Members of the Class of 2023 elected this year:

Mia A. Kussman

Christina Maye McBride

Carolena Muno

Nathan Wesley Rose

Ashley Scheffler

COLLEGE HONORS

Awarded by the Faculty of the College

Summa Cum Laude

Nuria Inez Benitez
João Pedro Mello de Carvalho
Megan Coolahan
Zihui Ding

Jiajie Ma
Karan Makkar
Jianing Mu
Kathleen Emma Scully
Roy Chrismantika Simamora

Harry Taussig
Ryan Foster Totaro
Diana Catherine Varenik

Magna Cum Laude

Luigie Dion Alequín
Joshua Lucas Bayona
Eric Beery
Blake Stephen Brinster
Ashley Nicole Chan
Matthew Chen
Rebecca Kai-Wei Chen
Aaron Cohen
Christopher Conrad
Nicholas Conroy
Ian Michael D'Elia
Justine Samantha Dell
Margaret Jane Doubman
Claire Marguerite DuBois

William Nolan Evans
Anna Rosalee Fiscarelli-Mintz
Adam Thomas Friedman-Brown
Haya Ruth Goldblatt
Aaron Graybill
William Jens Harris-Braun
Alexandra Horkavá
Haosong Huang
Sidney Hwang
Ellen Therese Kerns
Chengpei Li
Katherine Matthews
Sophia Isabelle Mercado
Valentina Moreno

Riah Newfont
Poppy Northing
Brandon Daniel Saucedo Pita
Luke Thomas Smith
Trevor Schweitzer Stern
Elizabeth Cannon Szanton
Duc Minh Trinh
Genevieve Chan Uy
Alissa Erin Vandebark
Maya Sydney Wernick
Maria Yea Seong
Sijing Zhao

Cum Laude

Elisabeth Ryann Atlasman
Calvin Penn Barrett
Nathan Birch Buchanan
Ellie Jayne Canty
Callie E. W. Crawford
Kara Simone D'Ascenzo
Dylan Richard Dixon
David Asher Edelman
Alexandra Anne Edwards
Sofia Kourakos Esner
Erica Naomi Fenton
Stephen Limb Flanders
Talia Bess Goerge-Karron
Jacob Solomon Gorenburg
Romana Maria Hladky
Sara Fay Hunsberger

Seabrook Jeffcoat
Claire Riley Johnson
Amos Aaron Karlsen
Hannah Brooke Lopez
Michael Lyons
Caspian Macky
Becca Matson
Phoebe Ann May
Abigail Satenik Avedia Meeker
Emma Marie Miller
Isabella Anne Miller
Lulu Marguerita Obaditch
Samantha Viridiana
Olivares-Mejia
Rahul Sanjay Palnitkar
Margaret Gleick Parham

Julie Katherine Post
Felix Haomeng Qin
Emma Sophia Regev
Nathaniel Constantine Ruhl
Elaina Sassine
Noah Harris Schwab
Shreya Singh
Ruanna Amara Small
Rachel Sprague White
Kian Daniel Williams
Abigail Grace Wolfenden
Çiçek Yavuz
Jiachen Yi
Jesse L. Zeldes
Jacob David Zimmerman

DEPARTMENTAL HONORS

High Honors

Awarded by the Departments of the College

| | | | |
|---------------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------|
| Ella Asiedu <i>Anthropology</i> | Justine Samantha Dell <i>Mathematics</i> | Maria Klavdia Krieg <i>Chemistry</i> | Maria Ann Penrice <i>Anthropology</i> |
| Simon Babb <i>Computer Science</i> | Zihui Ding <i>Philosophy</i> | Chengpei Li <i>Physics</i> | Nathaniel Constantine Ruhl <i>Physics</i> |
| Joshua Lucas Bayona <i>Classical Languages</i> | Margaret Jane Doubman <i>Physics</i> | Michael Lyons <i>Chemistry</i> | Noah Harris Schwab <i>Physics</i> |
| Eric Beery <i>Physics</i> | Joshua Ari Engler <i>Chemistry</i> | Jiajie Ma <i>Computer Science and Mathematics</i> | Kathleen Emma Scully <i>History</i> |
| Nuria Inez Benitez <i>Linguistics</i> | James Tropp Garland <i>Astronomy and Physics</i> | Karan Makkar <i>Economics</i> | Trevor Schweitzer Stern <i>History and Religion</i> |
| Theodore Bien <i>Physics</i> | Haya Ruth Goldblatt <i>Economics</i> | Becca Matson <i>History</i> | Elizabeth Cannon Szanton <i>Psychology</i> |
| Sarah Perlman Cahn <i>Political Science</i> | Aaron Graybill <i>Economics</i> | Katherine Matthews <i>Physics</i> | Ryan Foster Totaro <i>English</i> |
| João Pedro Mello de Carvalho <i>Linguistics and Mathematics</i> | Haosong Huang <i>Mathematics</i> | Sophia Isabelle Mercado <i>Psychology</i> | Duc Minh Trinh <i>Computer Science and Linguistics</i> |
| Ashley Nicole Chan <i>Economics</i> | Sidney Hwang <i>Chemistry</i> | Isabella Anne Miller <i>Economics</i> | Genevieve Chan Uy <i>Chemistry</i> |
| Christopher Conrad <i>Political Science</i> | Turner Ellis Johnson <i>Physics</i> | Valentina Moreno <i>Economics</i> | Diana Catherine Varenik <i>English</i> |
| Nicholas Conroy <i>Political Science</i> | Scott Ira Kaiser <i>Chemistry</i> | Jianing Mu <i>Psychology</i> | Aaron Ettinger Witkin <i>Spanish</i> |
| Callie E. W. Crawford <i>Chemistry</i> | Amos Aaron Karlsen <i>English</i> | Riah Newfont <i>Religion</i> | |
| Ian Michael D'Elia <i>Political Science</i> | Fariea Khan <i>Psychology</i> | Lulu Marguerita Obaditch <i>Political Science</i> | |

DEPARTMENTAL HONORS *continued*

Honors

Awarded by the Departments of the College

| | | |
|----------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------|
| Jeffrey Carl Allen <i>History</i> | Kara Simone D'Ascenzo <i>Political Science</i> | Gillian Gailey Guss <i>Psychology</i> |
| Samuel Louis Aronson <i>Computer Science and Philosophy</i> | Anna DiAntonio <i>Psychology</i> | Benjamin Clark Haile <i>Philosophy</i> |
| Nameera Bajwa <i>English at Bryn Mawr College</i> | Matthew Donahue <i>Chemistry</i> | Romana Maria Hladky <i>Physics</i> |
| Kira Pilar Barnes <i>Psychology</i> | David Asher Edelman <i>Political Science</i> | Keegan Hoag <i>Psychology</i> |
| Taryn Jenae Barrett <i>Anthropology</i> | Sofia Kourakos Esner <i>Philosophy</i> | Alexandra Horkavá <i>Economics</i> |
| Nuria Inez Benitez <i>Anthropology</i> | William Nolan Evans <i>Linguistics</i> | Haosong Huang <i>Computer Science</i> |
| Sarah Meike Blossom <i>Neuroscience</i> | Anna Rosalee Fiscarelli-Mintz <i>Philosophy</i> | Sara Fay Hunsberger <i>Mathematics</i> |
| Blake Stephen Brinster <i>Economics</i> | Stephen Limb Flanders <i>Political Science</i> | John Marshall Jayasankar <i>Linguistics</i> |
| Ellen Carlson <i>Physics</i> | Adam Thomas Friedman-Brown <i>Mathematics</i> | Seabrook Jeffcoat <i>Psychology</i> |
| Maia Carvalho <i>Chemistry</i> | Jacob Nathan Gaba <i>History</i> | Shayleah J. Jenkins <i>English at Bryn Mawr College</i> |
| Matthew Chen <i>Computer Science</i> | Galebinge <i>German Studies</i> | Claire Riley Johnson <i>Biology at Bryn Mawr College</i> |
| Rebecca Kai-Wei Chen <i>English</i> | Jacob Solomon Gorenburg <i>Computer Science</i> | Naomi Bilonda Kalombo <i>Linguistics</i> |
| Katie Chung <i>Religion</i> | Freddie Gould <i>Computer Science</i> | Michelle Allison Kaplan <i>Psychology</i> |
| Aaron Cohen <i>Psychology</i> | Darius Graham <i>Anthropology</i> | Erica Ruth Kaunang <i>Anthropology</i> |

Collin M. Kawan-Hemler
History

Benjamin Klamka
Linguistics and Music

Patrick Lee Kley
Chemistry

Rebecca Sarah Koweek
Chemistry

Che Young Annette Lee
Psychology

Hannah Brooke Lopez
Economics

Yuval Luria
Chemistry

Caspian Macky
Mathematics

Ester Maja
Economics

Abigail Satenik Avedia Meeker
English

Eli Melnick
Physics

Poppy Northing
Biology at Bryn Mawr College

Rahul Sanjay Palnitkar
Computer Science

Karlie Brynn Pollock
Psychology

Steven Puac
Spanish

Felix Haomeng Qin
Classical Culture and Society

Emma Sophia Regev
Religion

Hannah Roth
Political Science

Elaina Sassine
English

Noa Schisterman
Psychology

Gabriel Sekeres
Economics

Katrina Eileen Severtson
Psychology

Frankie Silvers
History at Bryn Mawr College

Roy Chrismantika Simamora
Psychology

Luke Thomas Smith
Economics

Harry Taussig
Computer Science

Marcus Simon Thomas
Chemistry

Anne L. Tobin
Psychology

Nasanbayar Ulzii-Orshikh
Computer Science

Jacob Valero
Computer Science

Alissa Erin Vandenbark
Psychology

Adrian Velonis
English at Bryn Mawr College

Anthony Michael Walker II
Physics

Kian Daniel Williams
Economics

Abigail Grace Wolfenden
English

Çiçek Yavuz
Philosophy

Maria Yea Seong
Music

Jiachen Yi
Mathematics

Jesse L. Zeldes
Mathematics

Anita Minghui Zhu
Psychology

Jacob David Zimmerman
Computer Science

BACHELOR OF ARTS AND BACHELOR OF SCIENCE

The senior capstone project is an opportunity for Haverford students to apply the skills, methods, and concepts specific to their major field in the production of new knowledge, the original synthesis of existing knowledge, and/or creative artistic expression. The titles of these theses, performances, and/or fine arts portfolios appear below students' names. Certain majors also include comprehensive exams, and for some majors offered through partner institutions, a senior capstone project may not be required.

Brandon Aguilar

Philosophy: *The Politics of Decreation*

Luigie Dion Alequín

Environmental Studies

Caroline Keats Alexis

Economics: *How Does the Emotional Support Context of the Home Contribute to Educational Outcomes in Elementary School?*

Mohamed Ali

Computer Science: *Advances of Generative Adversarial Networks in Population Genetics* with a Minor in Mathematics

Jeffrey Carl Allen

English: *"Understanding by Such Shallow Devices": Satire, Epistolarity, and Orientalism in Peter Markoe's The Algerine Spy in Pennsylvania*
History: *Imagining Islam: Early Republican Literature and the Barbary Crisis*

Brandon L. Alonso

Psychology: *The Impact of Postpartum Estrogen and Progesterone Withdrawal on Anxiety and OCD-Like Behaviors and Δ FosB Expression in the Nucleus Accumbens in Female Mice* with Minors in Neuroscience and Philosophy

Ali M. Al-Tamimi

Chemistry: *The Synthesis and Characterization of a Novel Chiral Guanidine-Based Four-Coordinate Tripodal Ligand DPI3tren*

Caroline Cecelia Andersen

Psychology: *How Risk Factors for Adolescent Substance Use Can Be Used to Prevent the Development of Substance Use Disorders* with a Minor in Classical Culture and Society

Samuel Louis Aronson

Computer Science: *Understanding Functional and Equational Programming Techniques on Graph-Based Problems*

Philosophy: *Translating the Machine: Rearticulating Intelligence and Cognition* with a Minor in Mathematics

Ella Asiedu

Anthropology with Minors in Health Studies and Psychology

Elisabeth Ryann Atlasman

Biology: *Plant-Pollinator Interactions: Investigating the Impact of Floral Scent and the Promising Role of 3D-Printing Technology* with a Minor in Health Studies and Neuroscience

Gilad Avrahami

Political Science: *Government Solutions to Create a Sustainable Future for Air Conditioning in Nigeria* with a Minor in French and Francophone Studies

Simon Babb

Computer Science: *The Role of Word Order in Machine Translation Models*

Nameera Bajwa

English at Bryn Mawr College: *Reaching From Rupture: Tracing the Afterlives of Colonial Modernity and the Spatial Politics of Desire in South Asian Diasporic Storytelling* with a Minor in Creative Writing at Bryn Mawr College

Jasper Barbash-Taylor

Philosophy: *Corpus Linguae*

Kira Pilar Barnes

Psychology: *A Comparison of c-Fos Expression in the Perirhinal Cortex Across Object Recognition Tasks in Postnatal Day 28 Long-Evans Rats* with a Minor in Spanish

Calvin Penn Barrett

Computer Science
with a Minor in Global Asia

Taryn Jenae Barrett

Anthropology: *Who's Painted on That Wall?
An Exploration of Healing, Community, and Visibility
Through Philadelphia Murals*
with a Minor in Health Studies

Oliver Adam Bates

Philosophy: *I Am This World*
with a Minor in International Studies at
Bryn Mawr College

Nile U Shaka Bayard

Biology: *Elucidating the Protective Effects of
Prostaglandin E2 on Clostridioides difficile Infection*

Jackson Martin Bayer

Political Science: *The Great Suburban Showdown:
The Role of Diversification and Secondary Education
in America's Emerging Political Battleground*
with a Minor in History at Bryn Mawr College

Joshua Lucas Bayona

Classical Languages: *When the Emperor Wasn't
Divine: Patient-Doctor Interactions in Tacitus' Annals*
with a Minor in Linguistics

Eric Beery

Physics: *Rashba Splitting in Microcrystal MAPbBr3*
with a Minor in Mathematics

Domenic Alexander Bellino

English: *The Poetics of Food in M.F.K Fisher's*
Consider the Oyster

Asia Maria Belt

Computer Science: *The Technology of Racism*

Nuria Inez Benitez

Anthropology: *Does "x" Mark the Spot? Negotiating
FilipinolaX Identities Online in the Philippines and
the Diaspora*
Linguistics

Samantha Kimball Bernstein

Anthropology: *Facilitating Mavett Shalom:
Reform Judaism at the End of Life and After Death
in Westchester County, New York*
with Minors in Health Studies and Psychology

Arshiya Bhayana

Political Science: *India's Tied Hands in Cyberspace:
Explaining India's Restrained Response to Cyberattacks
From China*
with a Minor in Psychology and a Concentration in
Peace, Justice, and Human Rights

Theodore Bien

Physics: *Robotic Simulations as a Tool to Understand
Insect Self-Righting*

Sarah Meike Blossom

Neuroscience: *Mind Wandering: Effects on Mood
and Attention*
with Minors in Psychology and Spanish

Blake Stephen Brinster

Economics: *Analyzing the Effectiveness of Investment
Fund Strategies: Do Hedge and Mutual Funds
Generate Excess Returns?*
with a Minor in German and German Studies

Macy Alexia Brooks

English: *Electricity and the Evolution of Identity in
Ralph Ellison's Invisible Man*
Spanish: *Trauma y memoria: El impacto de los narco-
tours en Medellín, Colombia*

Daniel Sebastian Bruce

Political Science

Nathan Birch Buchanan

Political Science: *"Advancing in Another Direction":
Identifying Barriers to and Opportunities for the
Implementation of Managed Retreat in the American
Political Context*
with Minors in Environmental Studies
and Psychology

Zachary Ellis Buck

Economics: *How States' Launching Online Sports
Betting Influences Interest in Sports Betting and the
Four Major Sports*
Mathematics at Bryn Mawr College
with a Minor in Statistics

Sarah Perlman Cahn

Political Science: *Infrastructure Jihad: Exploring the
Islamic State's Waging of "Economic War"*
with Minors in Economics and Arabic at
Swarthmore College

Ellie Jayne Canty

Biology: *Examining the Relationship Between Wolbachia Localization and Microtubules in Drosophila Embryos and the Impact Pesticide Exposure Has on This Relationship*
with a Minor in Educational Studies and a Concentration in Biochemistry

Ellen Carlson

Growth and Structure of Cities at Bryn Mawr College: *Cold, Rural, and Remote: Approaches to Achieving Energy Efficiency in Alaskan Communities*
Physics: *Comparative Simulation of the Thermal Performance of Trombe Wall Systems for Alaskan Homes*

João Pedro Mello de Carvalho

Mathematics: *Saturation in Polytopes Generated by Polynomials: A Littelmann Path Model Approach*
Linguistics: *Where Does It Mean? Case Studies on the Epistemology of the Semantic-Pragmatic Divide*

Maia Carvalho

Chemistry: *Synthesis and Characterization of a Bidentate Guanidine-Based Ligand (DIP1-PA)*
with a Minor in Italian and Italian Studies at Bryn Mawr College

Kevin Stephen Casey

Economics: *Determining the Effects of Statcast on Injury Prediction for Major League Baseball Pitchers*

Maya Teresa Casey

Biology: *Exploring the Role of β -Methylamino-L-Alanine in Cyanobacteria and Parkinson's Disease*
with a Minor in History at Bryn Mawr College

Ashley Nicole Chan

Economics: *The Cost of Being Sinful: An Analysis of the Market Valuation of Fossil Fuel Producers in the U.S.*

Isaac Chang

Computer Science: *Evaluation Models in Web Accessibility Tools*
with a Minor in Statistics

Caroline Elizabeth Channell

Political Science: *The Violent Epidemic: A Policy Analysis on the Uptick in Gun Violence in Philadelphia During COVID-19*
with Minors in Economics and Minor in Health Studies

Emma I. Chen

Biology: *Investigating Shifts in the Plant Arabidopsis thaliana's Root-Associated Microbial Communities in Response to Community-Level Selection*
with a Minor in Environmental Studies

Matthew Chen

Computer Science: *Fault Tolerance and Recovery Protocols in Distributed Computing Systems*

Rebecca Kai-Wei Chen

English: *The Case for Contradiction: Locating Vitality in Queer Nonsense Through Virginia Woolf's Orlando: A Biography*

Sophie Chocheva

Comparative Literature
with a Minor in Political Science
at Bryn Mawr College

Katie Chung

Religion: *The Gaze of Korean Women: Shaping the Identity of the Korean "New Woman" Through Fiction*
with a Minor in Health Studies

Gabrielle Francesca Cipriano

Political Science: *There Is No Alternative: Austerity Ideology as Political Weaponry in the United States*
with Minors in Economics and International Studies
at Bryn Mawr College

Aaron Cohen

Psychology: *Examining Intersectionality in Children's Encoding of Social Categories*
with a Minor in Physics

Aishah A. Collison-Cofie

Sociology at Bryn Mawr College
with a Minor in Health Studies

Matthew Paul Colonna

Mathematics: *An Overview of the Theoretical Framework and Applications of the One-Sample t-Test*
with a Minor in Statistics

Christopher Conrad

Political Science: *Why Goliath Sometimes Wins: Understanding the Outcomes of Extinction Rebellion*
with a Concentration in Peace, Justice, and Human Rights

Nicholas Conroy

Political Science: *Symbolic Representation? The Effect of Congressional Class on Constituent Attitudes and Behavior*
with Minors in Classical Culture and Society and Philosophy

Nunnapat Cook

English: *Creative thesis entitled Rai-ngan Prajum Pi 2562*
with a Minor in Neuroscience and a Concentration in Creative Writing

Megan Coolahan

Biology: *Effects of the Bacterial Signaling Molecule 2-heptyl-4-quinolone (HHQ) on DNA Repair and Virus-Induced Mortality in the Marine Phytoplankton*
Emiliana huxleyi
with Minors in Environmental Studies and Spanish

Jaclyn E. Corbin

Neuroscience: *The Impact of Progesterone and Estrogen Withdrawal via a Hormone-Simulated Pseudopregnancy Model on ΔFosB Expression in the Nucleus Accumbens and Anxiety- and Compulsive-Like Behavior in Female Mice*
with Minors in Health Studies and Biology at Bryn Mawr College

Natalia Elizabeth Cordon

Political Science: *All Cops Bad Cops? The Role of BIPOC Police Officers in Police Reform*
Spanish: *Maras y mitos: La contribución de rap y tatuajes para cambiar los estereotipos de La Mara Salvatrucha con relación al nacionalismo*

Callie E. W. Crawford

Chemistry: *Investigation of the Link Between Chain Sequestration and Binding Affinity in Type II Polyketide Synthase Acyl Carrier Proteins*
with a Concentration Biochemistry and a Concentration in Peace, Justice, and Human Rights

Edwin Garrett Crockett

Economics: *Giving and Receiving: Theories of Iroquois Gift Exchange*
with Minors in Mathematics and Arabic Studies at Swarthmore College

Genevieve Christine Dallmeyer-Drennen

Biology: *Investigating the Physiological Effects of a Bacterial-Signaling Molecule, 2-heptyl-4-quinolone, on Viral Infection in Emiliana huxleyi*
with a Minor in Environmental Studies

Kara Simone D’Ascenzo

Political Science: *The Power of Elites: Making and Unmaking the Rule of Law in Guatemala*
with Minors in Environmental Studies and History at Bryn Mawr College, and a Concentration in Latin American, Iberian, and Latinx Studies

Elizabeth Ravenel Davis

Psychology: *Analyzing Whether Children’s Automatic Encoding of Social Categories Is Intersectional*
with a Minor in Neuroscience

Ian Michael D’Elia

Political Science: *Imagined Communities, Reimagined From Beyond the West: Towards a Theoretical Formulation of the Ideological Structure of Nationalisms*
with a Minor in Linguistics

Justine Samantha Dell

Mathematics: *The Shape of the Quadratic Gauss Sum*
with a Minor in Linguistics

Shantanu Dew

Growth and Structure of Cities at Bryn Mawr College
with a Minor in Environmental Studies

Anna DiAntonio

Psychology: *The Relationship Between Mood and the Intentionality and Content of Mind-Wandering*
with a Minor in Neuroscience

Zihui Ding

Philosophy: *Conceptuality of Experience and Objectivity of Thoughts*
Mathematics at Bryn Mawr College

Dylan Richard Dixon

English: *“Sagacity, Must Go —”: Theorizing Emily Dickinson’s Hymnic Subject*
with a Minor in Classical Culture and Society

Matthew Niles Dodds

Philosophy: *Selfhood as Storytelling: Nehamas, Nietzsche, and Ricoeur*

George Doehne

Political Science: *The Hazard Within: The Motivations and Downsides of Militarized Disaster Risk Management in Guatemala*
Growth and Structure of Cities at Bryn Mawr College: *Burning Questions: Reconceptualizing Land and Rehabilitating Fire, in California as Abroad*

Matthew Donahue

Chemistry: *Investigating the Risks of U.S. Coastal Flooding and Nonpoint Source Pollution*
Growth and Structure of Cities at Bryn Mawr College: *The Historical Impact of Cape Cod’s Economy and Identity on Modern-Day Wastewater Management*

Margaret Jane Doubran

Physics: *The Relative Humidity Dependence of Photoconductivity in Bare and APTES-Modified Silicon Substrates With an Oxide Layer*
with a Minor in Greek

Claire Marguerite DuBois

Environmental Studies: *Closed-Loop Composting at Haverford College: A Proposal and Implementation Plan*

Fine Arts: An exhibition entitled *Systems in Conversation*

with a Minor in Spanish

Robert Duncan

Chemistry: *Synthesis of a Functional Polymer for Developing Metal Catalysts*

with a Minor in Health Studies and a Concentration in Biochemistry

Gabriel C. Durso

Chemistry: *The Synthesis of a Non-Peptide Peptidomimetic Met-Enkephalin Agonist*

with a Minor in Health Studies and a Concentration in Biochemistry

David Asher Edelman

Political Science: *What It Takes to Get on Track: Exploring State-Level Policy Change in Public Transit Funding*

with a Minor in French and Francophone Studies

Alexandra Anne Edwards

Environmental Studies: *Closed-Loop Composting at Haverford College: A Proposal and Implementation Plan*

with a Minor in Growth and Structure of Cities at Bryn Mawr College

Noha El Toukhy

Psychology: *The Consequences of Palsies and Scars for Dehumanization and Perceptions of Facial Warmth and Competence*

with a Minor in Political Science at Bryn Mawr College and a Concentration in Middle Eastern and Islamic Studies

Maxwell Hynes Elliott

Biology: *Assessing YBX3 Protein Stability and Synthesis in the Mouse Skeletal Muscle System*

with a Concentration in Biochemistry

Joshua Ari Engler

Chemistry: *Success and Failure in Exploratory Solid State Chemistry*

with a Minor in Classical Culture and Society

Sofia Kourakos Esner

Philosophy: *The Dough That Kneads the Kneader: An Exploration of the Self and the Viscous*

with a Minor in Religion

William Nolan Evans

East Asian Languages and Cultures: *From Roadside to Centerfold: A Study of the Development of Vernacular Literature in Late Medieval and Early Modern China*

Linguistics: *Keeping It Classy: Sinitic Classifiers and Their History in Literature*

with Minors in Chinese and Japanese Language

Taiwo Fayemi

Sociology at Bryn Mawr College

with a Minor in Health Studies

Wyatt Feinberg

Political Science: *Why Trump and Not Buchanan? Understanding Republican Party Control in the Modern Era of Politics*

with a Minor in Economics

Erica Naomi Fenton

Sociology at Bryn Mawr College

with a Minor in Psychology and a Concentration in Peace, Justice, and Human Rights

Elle Ferreira

Political Science: *“Women’s Sports Just Aren’t That Exciting to Watch”: Neoliberal Feminism and the Girlbossification of Women’s Sports*

with a Minor in Linguistics

Madeline Rose Figueredo

Biology: *Using Animal Tracking Software to Analyze and Quantify Anxiety-Related Behavior in Larval Zebrafish*

with a Minor in Environmental Studies

Elena Katherine Filograna

Economics: *It Pays to Be a Team Player: An Examination of Effects of Team vs. Individual Varsity Intercollegiate Sports Participation on Income*

with a Minor in Health Studies

Anna Rosalee Fiscarelli-Mintz

Philosophy: *Is Beauty Truth and Truth Beauty?*

Beauty, Style, and Felt Knowledge in Philosophical Writing

Stephen Limb Flanders

Political Science: *The Next Frontier of Interstate Conflict? Cyber Operations and the Risk of Escalation*

Fiona Dorothy Flynn

Anthropology: *Mothering the Patriarchy:*

An Auto-Ethnography of Three Generations of Women

with a Minor in Health Studies

Jackson Charles Foyle

Political Science: *The Road to Radicalization: Examining the Effects of Authoritarianism, Perception of Threats, and Motivated Reasoning on Americans' Radicalization*
with a Minor in Psychology

Zoe Isabella Frazer-Klotz

Psychology: *Follow the Leader: Does Third-Party Prejudice Increase Children's Discrimination Against Gender Non-Conforming Peers?*
with Minors in Global Asia and Neuroscience

Adam Thomas Friedman-Brown

Mathematics: *Constructing Minimal Origamis and Minimal Origami Pairs*

Hannah S. Friedrich

Economics: *Does It Pay to Play? Returns to High School Sports Participation for Non-College Attendees*
with a Minor in Health Studies and a Concentration in Peace, Justice, and Human Rights

Naomi Juliet Fukuda

Biology: *A Bacterial Signal Protects Phytoplankton From Viral Mortality: Direct Targeting of the Virus or a Result of Triggering of Physiological Cascade?*
with a Minor in Environmental Studies

Jacob Nathan Gaba

History: *Guiding Timid Reason: The Politics of Revolution and the Public Sphere in Late 18th-Century America*

Ethan Gadra

Biology: *Characterizing the Effects of Histone Variant H3f3b on the Pathophysiology of Neonatal Hypoxic Ischemic Encephalopathy*
with a Minor in Chemistry and Environmental Studies

Galebinge

German Studies: *Participation or Rejection? A Study of Overseas Military Operations Decisions in Post-Cold War Germany*
Political Science

James Tropp Garland

Astronomy and Physics: *The Interplay of Tides, Bars, and Star Formation in Disk Galaxies*

Golda Glasser

Political Science: *Where Is the Community in Community Schools? The Philadelphia Community Schools Initiative in the Age of COVID-19*
Mathematics at Bryn Mawr College

Talia Bess Goerge-Karron

Peace and Conflict Studies at Swarthmore College: *The Politics of Memory and Historical Narratives: How the Resurgence of the Political Far-Right in Hungary, Poland, and Germany Connects to the Holocaust*
with a Minor in Political Science from Bryn Mawr College

Jacob Rubin Gold

Psychology: *Mindfulness Interventions in Children With Mental Health Difficulties*
with a Minor in Neuroscience

Miranda Schirch Goldberg

Psychology: *The "Well" Sibling's Experiences: The Protective Buffer of Family Variables on the Negative Personal Impacts of Having a Sibling With Serious Mental Illness*
with a Concentration in Peace, Justice, and Human Rights

Haya Ruth Goldblatt

Economics: *Mitigating Procrastination Problems Through a System of Planning and Reminders?*
with Minors in Philosophy and Mathematics at Bryn Mawr College

Jacob Solomon Gorenburg

Computer Science
Political Science

Freddie Gould

Computer Science: *An Iterative Graph Cut Approach to Image Segmentation*
with a Minor in Economics

Darius Graham

Anthropology: *Addressing Health Inequities Through Structural Competency*
with a Minor in Health Studies

Aaron Graybill

Economics: *Exposure Doesn't Pay the Bills: Artistic Production on Streaming Platforms Under Algorithmically Induced Audience Uncertainty*
Mathematics at Bryn Mawr College
with a Minor in Statistics

Amanda Kate Grebas

Biology: *Genetic Mapping of a Candidate Genetic Mutation for Efficient Oligonucleotide-Directed Mutagenesis in Chlamydomonas reinhardtii*
with a Minor in Health Studies

Raveen Green

English: *The Black Female Gaze of Horror Literature*

Hank Greenberg

Political Science: *The Resilient Power of the Center: Impacts of Moderate Public Opinion and Direct Democracy in States With Republican Governors* with a Minor in Environmental Studies

Eleanor Esperon Greene

Biology with a Minor in Environmental Studies

Mali Israela Gruber

East Asian Languages and Cultures: *Ethnic Tourism and the Commodification of Dai Culture* with a Minor in Chinese

Peter Kentaro Gullace

Political Science: *Democratic Success in an Undemocratic Environment: Creating and Maintaining Democracy in Ghana's Fourth Republic*

Gillian Gailey Guss

Psychology: *Older Adulthood and Intellectual Disability: A Novel Intervention for Empowerment and Self-Determination* with a Minor in English at Bryn Mawr College

Benjamin Clark Haile

Mathematics: *Mathematical Simulacra: The Opening of a Discourse on Mathematical Deconstruction*
Philosophy: *The Axiom of Choice and Its Equivalences*

John Reed Haines Jr.

History: *The Third Rome Besieged: The Persecution, Division, and Revival of the Russian Orthodox Church From 1917 to 1943* with a Minor in Religion

Conor George Harris

History: *"We Drive Tanks, Why Not Trolleys?": Technology, Civil Rights, and Spatial Systems in Philadelphia's 1944 Transit Strike*

William Jens Harris-Braun

Computer Science: *Augmenting Neural Machine Translation Training Data for Low-Resource Languages With Morphological Transducers* with a Minor in Linguistics

Jack Henry Hendon

English: *Ishmael's Impossible History: A Survivor's Narration of a Trauma in Herman Melville's Moby-Dick (1851)* with a Minor in Psychology

Arielle Farrah Herman

Psychology and Neuroscience: *Dopamine Deficiency Predicts Pain: Toward a Novel Framework for the Neurophysiological Classification and Treatment of Chronic Pain*

Mark Peter Heydorn Gorski

Sociology: *The American Militia Movement: The Reassertion of Traditional-Hierarchical Values in the Face of Egalitarianism*

Romana Maria Hladky

Physics: *Designing a Deep Space Mission With Autonomous X-Ray Navigation* with a Minor in Astronomy

Aliana Anuhea Ho

Anthropology: *Aloha 'Aina: Pathways to Healing* with Minors in Health Studies and Visual Studies

Keegan Hoag

Psychology: *The Effect of Ovarian Hormone Withdrawal on Anxiety- and Compulsive-Like Behavior and Δ FosB Expression in the Nucleus Accumbens* with a Minor in Economics

Alexandra Horkavá

Political Science
Economics with a Minor in Mathematics

Zarin Tashnia Hossain

Psychology

Lauren Maria Howard

Psychology: *Consumer Use of Nutrition Labels: An Examination of Label Effectiveness and Dual-Process Theories* with a Minor in Health Studies

Haosong Huang

Computer Science: *An Introduction to Ray Tracing and Its Optimization Methods With a Focus on Denoising Through Filters*
Mathematics: *Introduction to Fluid Dynamics, Navier-Stokes Equations and a Simulation Method*

Katie Hughes

Political Science: *Bloated: Our Collective Waistline or the Government's Response? An Analysis of the Appropriateness of Paternalistic Legislation to Combat Obesity* with Minors in Economics and Educational Studies

Sara Fay Hunsberger

Mathematics: *Discrete Variable Representation: Theory and Applications in Quantum Chemistry with Minors in Chemistry and Spanish*

Sidney Hwang

Chemistry: *Using Site-Specific Unnatural Amino Acid Raman Spectroscopy Probes to Study Acyl Carrier Protein Sequestration Dynamics*
with a Minor in Health Studies and a Concentration in Biochemistry

John Marshall Jayasankar

Economics: *Does It Pay to Be Insured? Investigating the Effects of the Affordable Care Act's Dependent Coverage Mandate on Young Adult Wages and Higher Education Completion*
Linguistics: *Evaluating the Existence and Nature of the Critical Period Hypothesis in Second Language Acquisition*

Seabrook Jeffcoat

Psychology: *Impacts of Neonatal Injury and Infection on Affective Pain Processing: Analysis of c-Fos Expression in the ACC of Adult Rats*
with a Minor in Health Studies

Shayleah J. Jenkins

English at Bryn Mawr College: *Liberate You, Confiscate You, I Want to Be Your Man: Springsteen and the Landscape of American Masculinity*

George Jiang

Chemistry: *Exploratory Work With Vanadium Antimonates and Vanadium Arsenates*

Claire Riley Johnson

Computer Science: *Comparison of Identity by Descent Detection Algorithms and Their Implementation With Pedigrees*
Biology at Bryn Mawr College: *T. H. Morgan, Nettie M. Stevens, and the Trouble With Aphids*

Isabelle Hollis Bingham Johnson

Biology: *Identifying Complexes That Assemble on an RNA-Binding Protein's Target*
with a Concentration in Biochemistry

Turner Ellis Johnson

Physics: *Comparing Data From a Novel Ocean Drifter With a Coastal Dynamics Model of Casco Bay, Maine*
with a Minor in Environmental Studies

Rafael Jovel

History: *"Hamburgers Over pupusas ... Never!": Tracing Personal Rebukes of American Imperial Intervention in the Salvadoran Civil War*
with a Minor in Mathematics

Scott Ira Kaiser

Chemistry: *Distinct Spectroscopic Observables in Polarizable Simulations of Imidazolium-Based Ionic Liquids*
with a Concentration in Scientific Computing

Naomi Bilonda Kalombo

Linguistics: *An Investigation Into the Relationship Between Gender and Women's Language Using Emails Sent by College Students to Professors in 2021*

Michelle Allison Kaplan

Psychology: *Who Is the Better Investor? Analyzing Gender Differences in Financial Investment Behavior From a Psychological Androgyny Perspective*
with a Minor in Health Studies

Aaron Karlsen

English: *Stories Beyond Words: Free Indirect Discourse and the Raw Material of Narrative in Daisy Miller*
with a Minor in Spanish

Matthew Katz

Fine Arts: An exhibition entitled *(Re)Building Connections*
Growth and Structure of Cities at Bryn Mawr College
with a Minor in Mathematics

Natalie Renae Kauffman

Anthropology: *The Negotiation Between Healthcare Approaches: An Analysis of Pennsylvania's Amish Community*
English: *The (In)visibility of Lucy Snowe: Hiding in Plain Sight*

Griffin Ann Armstrong Kaulbach

Environmental Studies: *Creation of the Resource Access Tool: A Living Website Tool to Share and Learn Location and Bi-College-Based Knowledge*
Biology at Bryn Mawr: *Silica Bioaccumulation in Conifer Tree Species*

Erica Ruth Kaunang

Anthropology: *All That We Are We Carry With Us: Stories and Possibilities of Southeast Asian Organizing*
with Minors in English and Film Studies,
both at Bryn Mawr College

Joseph Leslie Kawamura

Computer Science: *Abstraction Levels in Introductory Computer Science Courses*

Collin M. Kawan-Hemler

History: *From Orphan to Citizen to Transnational Adoptee: The Origins of the U.S.-Colombian Adoption Industry and the Emergence of Adoptee Counternarratives*

with a Minor in Health Studies

Ellen Therese Kerns

Environmental Studies: *Closed-Loop Composting at Haverford College: A Proposal and Implementation Plan*

Anthropogenic Contamination in U.S. Nearshore Waters: An Analysis of Coastal Flooding Concerns and Non-Point Pollution Risk Factors

with Minors in Fine Arts and Statistics

Fariea Khan

Psychology: *The Implications of Abortion Denial: Contextual Risk Factors and Its Psychological, Socioeconomic, and Health Consequences*

Iryna Khovryak

Computer Science: *Improving Retinal Image Segmentation Using U-Net Convolutional Networks With Graph Neural Networks*

Suyun Catherine Kim

Biology: *The Mighty Phragmites: First Steps Toward Uncovering Bacterial and Archaeal Contributions to Competitive Ability*

with a Minor in Fine Arts

Benjamin Klamka

Linguistics: *“Creating Fun”: Humor and Storytelling in Communicative Foreign Language Teaching*

Music: Original choral composition entitled *Three Songs of Shattering*

with a Minor in Educational Studies

Patrick Lee Kley

Chemistry: *Steps Towards the Synthesis of a Model Morphine Structure Using the [3+2] Nitrene Cycloaddition Reaction*

with a Concentration in Biochemistry

Youngmin Ko

Mathematics: *Confidence Interval From the Bootstrap Method and Its Application to Financial Data*

Eric Kopczynski

Psychology: *An Examination of the Effects of Childhood Trauma on Cognitive Performance*

with a Minor in Sociology

Dina Kosyagin

Biology: *Understanding Intracellular Interactions of Endosymbiotic Bacteria Within Its Insect Host: A Comparative Study of Embryonic Localization and Distribution Patterns of Wolbachia and Mitochondria in Drosophila melanogaster*

with a Minor in Fine Arts

Rebecca Sarah Koweek

Chemistry: *Investigating Non-Actinobacterial Type II Polyketide Biosynthesis: The Phosphopantetheinyl Transferase and Bioprospecting for Novel Type II Polyketide Synthases*

with a Concentration in Biochemistry

Anastasia Kozitskaia

Sociology: *Gender Equality in an Authoritarian State: Russia, 1917–2016*

with Minors in Anthropology and International Studies at Bryn Mawr College

Maria Klavdia Krieg

Chemistry: *Using Site-Specific Vibrational Spectroscopy to Investigate the Effects of Tyrosine Nitration on Alpha-Synuclein Membrane Binding Behavior*

with a Minor in Health Studies and a Concentration in Biochemistry

Carter McCulloch Langen

Computer Science: *Analyzing The Aeneid and Its Translations With Topic Models and Word Embeddings*

Latin

Jeremy Lavietes

Biology: *Characterization of YBX3-Directed Translational Repression of JAK1*

with a Minor in Psychology

William Nathaniel Lawrence

Computer Science at Bryn Mawr College: *The Automatic Placement of Cultural Objects in a Simulated Archeological Environment*

Che Young Annette Lee

Biology: *Investigating the Effects of Neuronal and Glial Expression of α -Synuclein in Drosophila melanogaster*

Psychology: *Exploring Ethnic Asian and Asian American Parenting: How Do Ga-jung-kyo-yuk and Jiao Xun Compare?*

Chengpei Li

Environmental Studies: *Mapping Sidewalks: A Resource for Bi-Co Students*

Physics: *Three-Dimensional Modeling Aids the Understanding of Spotted Lanternfly Biomechanics*

Hannah Brooke Lopez

Economics: *The Impact of Technology-Enhanced Learning on Student Mathematics Achievement: A Meta-Analysis*
with a Minor in Psychology

Yuval Luria

Chemistry: *Studies Towards the Synthesis of (-)-Mesembrine*
with a Minor in Religion and a Concentration in Biochemistry

David Ly

Mathematics: *The Discrete Logarithm Problem: A Dive Into RSA and Elliptic Curve Cryptography*
with Minors in Classical Culture and Society and Economics

Michael Lyons

Chemistry

Jiajie Ma

Computer Science: *Information Access Representation of Social Networks: A Theoretical Analysis*
Mathematics: *SL(2, Z)-Action on Origamis Associated to Minimally Intersecting Filling Pairs*

Caspian Macky

Mathematics: *Brouwer, Kakutani, and Nash: Game Theory Applications of Fixed-Point Theorems*
with a Minor in Computer Science at Bryn Mawr College

Ester Maja

Economics: *Depression During Adolescence and Its Effects on Adult Employment and Earnings*
with a Minor in French and Francophone Studies

Pelagia Maria Majoni

Computer Science: *Beginners' Understanding of Object-Oriented Programming*

Karan Makkar

Economics: *Political Defectors and Local Economic Growth: Evidence from India*
Mathematics at Bryn Mawr College

Nina Victoria Nahson Mandel

Psychology: *Understanding Overconsumption Through the Lens of Environmentalism: A Multivariate Model*
Minors in Environmental Studies and Economics at Bryn Mawr College

Andre Louis Martin

Biology: *Open Source Plant-Pollinator Interaction Testing Array: Accessible Behavioral Analysis Tools Using 3D Printing*
Environmental Studies

Keeton Leonard Martin

Computer Science: *Data Science for Education: Deep Learning for Estimating Item Response Theory Parameters*
with Minors in Neuroscience and Statistics

Becca Matson

History: *The Working Girl Aesthetic: The Labor and Performance of Beauty in 1980s American Visual Culture*
with a Minor in Visual Studies and a Concentration in Gender and Sexuality Studies

Martin Matsumura

Economics

Katherine Matthews

Physics: *Determining the Binding Mechanisms of Histamine and Histidine to Gold*
with a Minor in Astronomy

Phoebe Ann May

Sociology: *An Apple a Day: An Exploration of Primary Care Physicians' Definitions of Health*
with a Minor in Neuroscience

Delia Rose McHale

Chemistry

Abigail Satenik Avedia Meeker

English: *The Sultan's Garden*
with a Minor in French and Francophone Studies and a Concentration in Creative Writing

Eli Melnick

Physics: *Fuzzy Dark Matter, Patchy Reionization, and the CMB*
with a Minor in Mathematics

Jacob C. Melnick

Biology: *Improving Nuclear Gene-Editing Efficiency in *Chlamydomonas reinhardtii* Using Temperature-Sensitive Cell Cycle Mutants*

Sophia Isabelle Mercado

Psychology: *The Effects of Postpartum Estrogen and Progesterone Withdrawal on Δ FosB Expression in the Nucleus Accumbens and Anxiety- and OCD-Like Behaviors in Mice*
with a Minor in Neuroscience

Clara Merrill

Psychology: *The Causal Relationship Between Peripartum Estrogen Fluctuations and Chronic Sleep Disturbances in Pregnant and Postpartum Women*
with a Minor in Neuroscience

Emma Marie Miller

Biology: *System Optimization to Examine Community-Level Selection of the Arabidopsis thaliana Microbiome*

Isabella Anne Miller

Economics: *The Effects of Personal Records and Age-Adjusted Personal Records on Race Performance: An Assessment of Reference Points*

Valentina Moreno

Economics: *The Precarious Pursuit of an Elusive Peace: Assessing the Impact of Violence on Ex-Combatant Completion of the Colombian Reintegration Program*
with Minors in Health Studies and Mathematics at Bryn Mawr College

Moorea Morrison

Anthropology: *"This Is What We Sign Up For": Questioning the Student-Athlete Experience at Haverford College*
with a Minor in Psychology

Sean Mowatt-Larssen

English: *The Limits of Rational Knowledge: New Materialism as an Ontological Reframing in The Intuitionist*
with a Minor in Economics

Jianing Mu

Psychology: *Negative Mood Impairs Attention and Performance: Investigating the Roles of Mind-Wandering and Executive Control*
with Minors in Neuroscience and Statistics

Betelhem Aklilu Muno

Environmental Studies
with a Minor in Health Studies

Tanassaluck Na Nakorn

Mathematics
with a Minor in Statistics

Riah Newfont

Religion: *Turning in Circles: A Celebration of Marvelous Moves and Galvanizing Grooves*

Junior Tommy Thành Hòa Nguyen

Biology: *Editing the Chlamydomonas reinhardtii Mitochondrial Genome Through Oligonucleotide-Directed Mutagenesis*

Sofia Nicolayevsky

Psychology: *Long-Term Effects of Perinatal Affective Pain on c-Fos and N2RA: N2RB Expression in the rACC of Adult Rats*
with a Minor in Biology at Bryn Mawr College

Poppy Northing

Environmental Studies: *ENVS Capstone Project on Mapping and Sharing Resources on Campus (RATNET)*
Biology at Bryn Mawr: *Acclimation to Drought and Cold Stress in Holly (Ilex): Evergreen Tolerance and Deciduous Escape*

Sharon Nwankpa

Biology: *Improving Nuclear Oligo-Directed Mutagenesis (ODM) Editing Efficiency: Using Supraoptimal Temperature as a Physical Inhibitor to Synchronize the Chlamydomonas reinhardtii Cell Cycle*
with a Minor in Health Studies

Ryan Samuel O'Donnell

Biology: *Barcoding the Deep Ocean: A Genetic Approach to Identifying the Species Associated With Deep-Sea Corals*
with a Minor in Environmental Studies

Peter Justin O'Mara

Political Science: *Sports Stadium Financing and How to Fix It*

Lulu Marguerita Obaditch

Political Science: *Political Isolation: Long-Term Solitary Confinement and State Repression of Black Radical Dissent*
with a Concentration in African and Africana Studies

Samantha Viridiana Olivares-Mejia

Environmental Studies: *Spatially Explicit Disturbance Histories of Forested Sites Within the National Ecological Observatory Network*
with a Minor in Biology at Bryn Mawr College

Riley Outen

Biology: *Oligonucleotide-Directed Mutagenesis of the Chloroplast Genome of Chlamydomonas reinhardtii*
with a Minor in Neuroscience

Max Pabilonia

Biology: *Investigating the Effect of DNA-Mismatch Repair on the Efficiency of Oligonucleotide-Directed Mutagenesis in the Microalgae Chlamydomonas reinhardtii*

Rahul Sanjay Palnitkar

Computer Science: *Image Segmentations via Graph Cuts*
Mathematics: *An Analysis of Deterministic Systems of Infection Spread, With Applications to COVID-19 Models*

Daniel Alfredo Paredes

Spanish: *“What More Sci-Fi Than the Santo Domingo?”: El uso de los géneros de ciencia ficción/ fantasía y las creencias populares para navegar la identidad de la diáspora dominicana en The Brief Wondrous Life of Oscar Wao de Junot Díaz*
with a Minor in Economics

Margaret Gleick Parham

History of Art at Bryn Mawr College: *Reclamation and Revelation: Photography and Its Relation to White Supremacy and Black Personhood*
with a Minor in Environmental Studies

Maria Ann Penrice

Anthropology: *Against Virtuosity: A Political Framework for Music Education as Care, Possibility, and Curiosity*

James Eugene Perry IV

Psychology: *The Psychology of Vaccination Behavior With a Focus on COVID-19*

Angelina Maximovna Petrichenko

Biology: *Plant Probiotics: Designing and Testing a System to Measure How Community Interaction Modifies the Impact of Single Phyllosphere Microbial Species on Arabidopsis thaliana Growth and Development*
with a Minor in Environmental Studies

Brandon Daniel Saucedo Pita

Sociology at Bryn Mawr College: *“Mexicans Gotta Support More Mexicans”: Pride, Representation, and Community Care in Mexican Chicago’s Hip-Hop Underground*
with Minors in Growth and Structure of Cities and Latin American, Iberian, and Latina/o Studies, both at Bryn Mawr College

Karlie Brynn Pollock

Psychology: *Mind-Wandering: The Relationship Between Affect, Performance, Content, and Neural Correlates*
with Minors in Health Studies and Neuroscience

Matthew Gray Pollock

Political Science: *The Impact of Political Violence on Democratic Nationalist Organizational Competition: A Spanish Case Study*
with a Minor in Economics

Julie Katherine Post

Anthropology: *Grin and Bear It: Constructions of Toughness, Community, and Choice in White Women’s Childbearing*
with a Minor in Health Studies

Steven Puac

Political Science: *Exemplary Citizens: Undocumented Immigrants and Adherence to the American Identity*
Spanish: *Sacrificio y aflicción: Un viaje por el desarraigo*

Felix Haomeng Qin

Classical Culture and Society: *“Do Not Go Gentle Into That Good Bath”: Classical Reception and Reverse Reception in Yamazaki Mari’s Thermae Romae*
with Minors in Japanese Language and Linguistics

Ivan Evelio Quezada Taveras

Economics at Bryn Mawr College: *Wage Disparities Among and Between Afro-Latinxs and Non-Black Latinxs*
with a Minor in Africana Studies at Bryn Mawr College

David Williamson Raymond

Mathematics: *Applications of Markov Decision Processes and Monte Carlo Simulations for Property Management*
with a Minor in Philosophy at Bryn Mawr College

Julie Rebb

Biology: *The Genetic Basis and Ecological Impact of Color Shift in Mimulus verbenaceus*
with a Minor in Environmental Studies

Jasmine Michele Reed

Anthropology: *Entertainment Law and Epistemologies: An Intersectional Lens on Intellectual Property Law’s Privatized Commitment to the Exploitation of Black Innovation*
with a Concentration in African and Africana Studies

Minor Keilhauer Reedich

Computer Science: *Chatbots for Use in Treating Mental Illness: An Examination of Conversational Interface Accessibility*
with Minors in Spanish and Data Science at Bryn Mawr College

Emma Sophia Regev

Religion: *From Liminality to Belonging and Back: An Account of Queer Rites of Passage*

Emily Ray Reinstadtler

International Studies at Bryn Mawr College: *Why Don’t They Care? The Difference in Responses to Missing Indigenous Women and Missing White Women*
with Minors in Economics and Health Studies

Giancarlo Rendon

Biology: *Confirming the Potential for Experimentally Evolving T4 Bacterial Viruses in the Presence of Healthy and Starving Bacteria to Elicit Changes in the Viral Life Cycle*
with a Minor in Neuroscience

Mia Casey Reyes

Environmental Studies
with a Minor in Health Studies

Alexander Leonard Rittler

Computer Science: *The Usage and Computation of Quasi-Polynomials in Optimization Techniques*
Philosophy

Zarahy De La Caridad Rivas

Film and Media Studies at Swarthmore College

José E. Rodríguez Quintero

Neuroscience: *An Ontogenetic Profile of Object Recognition Tasks in the Rodent Brain*
Psychology

Benjamin Huy Hoang Pham Roodman

Mathematics: *Runtime of Pollard's Rho Algorithm for Elliptic Curve Cryptography*
with Minors in Economics and Computer Science at Bryn Mawr College, and a Concentration in Scientific Computing

Hannah Roth

Political Science: *An Investigation Into Philadelphia's Opioid Crisis*
with a Minor in Economics

Nathaniel Constantine Ruhl

Physics: *Autonomous Space Navigation Using X-Ray Horizon Crossings*
with a Minor in French and Francophone Studies

Ken Kimutai Ruto

Computer Science: *Early Detection of Parkinson's Disease Using Wearables and Machine Learning*

Keishla Marie Sanchez

Psychology: *Do Not Click the Button: The Effects of Early Childhood Adversity on Inhibitory Control*

Kevin Jiyang Sang

Physics: *Using an Optically Levitated Dielectric Sphere for Detecting Chameleon-Gravity Coupling*
with a Minor in Astronomy and a Concentration in Scientific Computing

Elaina Sassine

English: *Dickinson's Edges: The Queer Excess of Emily Dickinson's Material Poetics*

Noa Hannah Scheinfeld

Psychology: *When Will No Be Enough: An Exploration of College Rape and Sexual Assault and Proposed Alterations to the Title IX Process*
with a Minor in German and German Studies and a Concentration in Peace, Justice, and Human Rights

Noa Schisterman

Psychology: *Experiences of Stigmatized Identity Concealment*
with Minors in Neuroscience, Philosophy, and Data Science at Bryn Mawr College

Sophie Schleifer

Economics: *The Impact of Privatizing Public Housing on Homelessness and Other Outcomes in London: The Right to Buy 2012 Discount Cap Change*

Noah Harris Schwab

Physics: *Simulating Horizon-Crossing Events for Satellite Navigation*
with a Minor in Philosophy at Bryn Mawr College and a Concentration in Scientific Computing

Isabel Renee Schwam

Political Science: *Gender Quotas and Representation in Government in Rwanda and France*
with a Minor in Spanish

Kathleen Emma Scully

History: *A Contradictory Subject: Reform, Resistance, and Holy Women in Early Modern Spain*
with Minors in Educational Studies and Health Studies

Taylor Whitney Seid

Biology: *Investigating the Role of Phosphodiesterases in Crithidia fasciculata Adherence to Mosquito Hindgut: Providing Insight for Preventative Treatments for Understudied Tropical Diseases*
with Minors in Economics and Health Studies

Gabriel Sekeres

Economics: *The Effects of Communication on a Middle Equilibrium in Prisoner's Dilemma*
Mathematics at Bryn Mawr College

Katrina Eileen Severtson

Psychology: *Executive Functioning: The Impact of Early Adversity and Stress*

Jacob Henry Schiff

Political Science: *The Wind and Solar Takeover: An Analysis of Wind and Solar Generation to Increase RE Usage in the Northeastern United States*
with a Minor in Environmental Studies

Gulesh Shukla

Computer Science: *Recursion: Difficulties and Possible Solutions*
with Minors in Economics and Mathematics at Bryn Mawr College

Frankie Silvers

Physics: *Neutrino Flavors and the Beam: Microwave Background Cosmology*
History at Bryn Mawr College: *Mapping U.S. Interventions in Latin America: The Legacy of the Inter-American Geodetic Survey and 20th-Century American Imperialism*
with a Minor in Astronomy

Roy Chrismantika Simamora

Biology: *Modulation of Acoustic Prepulse Inhibition by Ap2s1 in Larval Zebrafish*
Psychology: *Modulation of Compulsive-Like Behavior and Nucleus Accumbens FosB Expression by Ovarian Hormone Withdrawal Following Hormone-Simulated Pseudopregnancy in Adult Female Mice*
with a Minor in Linguistics

Shreya Singh

Fine Arts: An exhibition entitled *An Alternative Perspective*
Growth and Structure of Cities at Bryn Mawr College: *Redefining Boundaries: A Design Proposal for a Migrant Worker Communal Housing Plan in Al Quoz, Dubai, UAE*

William Pipping Skipper

Biology: *Defining the Roles of the YBX3 Domains in Post-Transcriptional Control*

Ruanna Amara Small

Biology: *Determining the Role of Ap2s1 in the Acoustic Startle Circuit During Habituation in Larval Zebrafish*

Luke Thomas Smith

Economics: *Market Experience, Tenure, Job Security, and the Willingness to Deviate From Conventional Wisdom: Evidence From the National Football League*
with a Minor in Psychology

Carmiya A. Solomon

Neuroscience: *Understanding the Relationship Between the Calcium Sensing Receptor and Epilepsy in Zebrafish Larvae*

Trevor Schweitzer Stern

History: *Etched in Metal and Stone: The Local Contexts of Holocaust Remembrance at Three Memorials*
Religion: *Walking in the Footprints of the Past: Embodied Experience at the Jewish Museum Berlin*
with a Minor in Global Asia and a Concentration in Middle Eastern Studies at Bryn Mawr College

Kai-Ling McEvoy Su

Philosophy: *Song of Wisdom's and Self's Love: Philosophical Systems of Gender and Transness, and the Journey to Genderqueer Worlds*

Elizabeth Cannon Szanton

Psychology: *Who Belongs at the Birthday Party? Third-Party Prejudice and Children's Intersectional Evaluations of Gender Nonconformity*
with a Minor in Sociology and a Concentration in Gender and Sexuality Studies

Lauren Elizabeth Tanel

Environmental Studies: *Haverford College's Need-Based Volunteer Board*
with a Minor in Health Studies

Harry Taussig

Computer Science: *Preference Inference and Value-Alignment in Machine Learning*

Brian Thai

Psychology: *Children and Video Games: An Extensive Look at Health and Nutrition Interventions*
with a Minor in Health Studies

Marcus Simon Thomas

Chemistry: *Synthetic Studies Toward Lonazolac: A (3+2) Cycloaddition Approach*

Anne L. Tobin

Psychology: *Invisible Physical Disabilities: The Effects on Psychology and Treatment Techniques*
with a Minor in Neuroscience

Seth Bertrand Todd

Sociology: *Education in Post-Colonial Tanzania*

Ryan Foster Totaro

English: *"To Ye, Me Beauty": Unraveling Non-Normative Desire in The Lighthouse*
with Minors in Psychology and Film Studies at Bryn Mawr College

Jackson Smith Trevor

Political Science: *Planet-Warming But Economically Essential: An Analysis of Alternatives to Reduce the Climate Impacts of Heavy Trucks*
with a Minor in Psychology

Duc Minh Trinh

Computer Science and Linguistics: *Negation Learning in Transformer-Based Neural Machine Translation Models*
with a Minor in Statistics

Nasanbayar Ulzii-Orshikh

Computer Science: *Community-Based Fairness in Networks*
Philosophy: *A New Inquiry Into Race via the Instance-Kind Relation*

Genevieve Chan Uy

Chemistry: *GAining PRogress on Amyotrophic Lateral Sclerosis Research: The Effects of poly-GA and poly-PR C9orf72 Dipeptide Repeats on Sleep Patterns in Drosophila melanogaster*
with a Minor in Psychology and a Concentration in Biochemistry

Jacob Valero

Computer Science: *Step-by-Step or Skip a Few: A Review of Program Visualizers and Recommendations for Future Work*
with a Minor in Psychology

Alissa Erin Vandenbark

Psychology: *Does Status Identity Influence Social Dominance? An Exploration in Children*
with Minors in Spanish and Political Science at Bryn Mawr College

Diana Catherine Varenik

English: *Generating Destruction: Queer Ecology, Eroticism, and Colonial Wreckage in Michelle Cliff's No Telephone to Heaven*
with a Minor in Growth and Structure of Cities at Bryn Mawr College

Adrian Velonis

Computer Science: *Topic Modeling, Named-Entity Recognition, and Network Analysis of Literary Corpora*
English at Bryn Mawr College: *Post-Human Automata, Ontology, and Agency in Moby-Dick*

Will Vostrejs

Biology: *YBX3-Mediated Post-Transcriptional Control in the Mouse Skeletal Muscle System*
with a Minor in Psychology

Anthony Michael Walker II

Physics: *Supermassive Black Hole Binaries, the Horizon Run 5 Cosmological Simulation, and Gravitational Waves*

Ziyao Wang

Computer Science: *Artistic Hair Modeling*
Fine Arts: An exhibition entitled *16 Hours*

Urgyen Wangmo

Biology: *Investigating the Role of Ap2s1 on Retinal Morphology in Larval Zebrafish*
with a Minor in Health Studies

Kwass

Biology: *Developing an In Vitro Approach to Evaluate the Influence of Plant Extracts on Polyglutamine Aggregation in Huntington's Disease*
with Minors in Psychology and Neuroscience

Maya Sydnie Wernick

Sociology: *1, 2, 3, All Eyes On Me! The Impact of Threatening, Restrictive, Inflexible, and Controlling Pedagogy on Intrinsic Motivation for Students With Disabilities*
with Minors in Educational Studies and Child and Family Studies at Bryn Mawr College

Rachel Sprague White

Biology: *RNAscope Development in Hamster Brain Tissue and Translating the Technique to Drosophila Embryos*
with a Minor in Psychology

Kian Daniel Williams

Economics: *Does Reservation Policy Drive Institutional Trust? Understanding How Group Identity and Policy Affect Confidence in Indian Public Institutions*
with Minors in Mathematics and Political Science, both at Bryn Mawr College, and a Concentration in Mathematical Economics

Zakiyyah Angel Marie Winston

Biology: *Investigating Acer rubrum Extracts as a Potential Anti-A β Therapeutic for Alzheimer's Disease Within the Transgenic Caenorhabditis elegans Model*
with a Minor in Health Studies

Aaron Ettinger Witkin

Spanish: *La memoria traumática en el cine de horror en España: Los niños como monstruos*
with a Minor in Linguistics

Abigail Grace Wolfenden

English: *Dominican History Reimagined: Fukú and History From Below in The Brief Wondrous Life of Oscar Wao*
with a Minor in Spanish

Hannah Wolfer

Religion: *The Plight of the Agunah in America: An Examination of Orthodox Jewish Marriage and Its Repercussions*

Iris Xu

Philosophy: *A Unified Solution to Make Knowledge Possible: McDowell and Bergson Overcoming Idealism*
Mathematics at Bryn Mawr College

Leye Xu

Psychology: *The Career-Identity Development of College Students: An Investigation of Factors Influencing Career-Identity Trajectories*
with a Minor in Japanese Language

Karma Montserrat Yang

Biology
with a Minor in Spanish

Çiçek Yavuz

Philosophy: *The Emergence of Dialectic in Plato's Symposium*
with a Minor in German and German Studies

Maria Yea Seong

Music: An original composition for viola, piano, and vibraphone entitled *Dreamlike*
Biology: *Identifying Floral Traits Important in Early Divergence in Mimulus: A Focus on Epidermal Cell Shape*

Hannah Marie Nofziger Yeakey

Political Science: *School Climate and Disability Inclusion: An Exploration of Determinants of School Climate and Its Impact on Best Practices*
with a Minor in Spanish and a Concentration in Peace, Justice, and Human Rights

Jiachen Yi

Computer Science: *Phone Apps' Navigation Designs for Aging Populations: A Human-Computer Interaction Perspective*
Mathematics: *The Breslow-Day Test and Its Application in a Law Case*
with a Minor in Statistics and a Concentration in Mathematical Economics

Amra Endenat Zegeye

Biology: *Investigating the Role of Glycoprotein 63 (GP63) in the Adhesion Mechanism of Crithidia fasciculata: A Model Organism for Understudied Diseases and Parasites*
with Minors in Health Studies and Africana Studies at Bryn Mawr College

Jesse L. Zeldes

Mathematics: *Combinatorial Approaches in Total Nonnegativity*
with Minors in Astronomy and Physics

Zhang Chujia

Psychology
with a Minor in Japanese Language

Sijing Zhao

Biology: *Investigating the Antibacterial Mechanism of a Marine-Bacterially Derived Fatty Acid*

Anita Minghui Zhu

Psychology: *Asian American Solidarity With Black Lives Matter: Predictors of Own-Group and Out-Group Activism Among Asian Americans*
with a Minor in Health Studies

Jiaqi Lucas Zhu

Biology: *Investigating the Interaction Between Communication Systems in the Bacteria Streptococcus pneumoniae*
with a Minor in Music

Jacob David Zimmerman

Computer Science: *Unsupervised Deep Learning Solutions for Computer Vision*

Mateo Antonio Zules

Political Science
Film and Media Studies at Swarthmore College

Completion of graduation requirements may not be confirmed by this program, as the college transcript serves as the sole official student record. Furthermore, this program only includes those thesis titles submitted by students before the print deadline.

ACADEMIC REGALIA

On ceremonial occasions, scholars wear academic gowns indicating the level of their degree and hoods indicating the field of the degree and the institution granting it. The origins of academic regalia date back to the 12th century, when gowns and hoods provided a layer of warmth in cold stone buildings. While observers may not be able to easily decipher each aspect of the regalia, they can readily appreciate the gowns, caps, and hoods as an expression of homage to more than 800 years of academic tradition.

Gowns

- At U.S. colleges and universities, the bachelor's gown is simply cut, with open, pointed sleeves.
- The master's gown is fuller, with oblong, square-cut sleeves and two horizontal bars on the sleeve.
- The doctor's gown is long, full-cut, with bell-shaped sleeves. It has velvet panels down the front and three horizontal bars on the sleeve, which are typically black, but occasionally feature the color indicating the field of learning. Some panels feature the seal of the institution. British doctoral regalia often feature an open front and no bars on the sleeves.
- The college or university president's gown is distinguished by four horizontal bars on the sleeve.
- Doctoral gowns are often black, but sometimes are a distinctive color representing the degree-granting institution, for example: Harvard's crimson; North Carolina's, Michigan's, Berkeley's, and Columbia's various shades of blue; Princeton's black and orange; Oxford's and Pennsylvania's red and blue; or Chicago's maroon.

Caps

All academic degree holders wear the mortarboard cap or the softer tam, which often feature tassels, though some universities abroad distinguish their degree holders with more unusual headgear.

Hoods

- The inner lining of the hood carries the color or colors of the institution that granted the degree, with multiple colors divided in chevrons.
- The color of the velvet border indicates the field of learning in which the degree was earned. Dark blue indicates philosophy; white, arts, letters, and humanities; golden yellow, science; scarlet, theology; purple, law; brown, fine arts and architecture; pink, music; green, medicine; copper, economics; lemon, library science; salmon, public health; light blue, education; and drab, business. Those who have attained a Doctor of Philosophy (Ph.D.) wear the dark blue of philosophy, even when their specific focus is not philosophy. For those individuals, the edging color of their hoods or the color of their gown panels may reflect the field of learning.

Haverford Examples

- President Wendy Raymond's robes are Haverford's red and black, with four bars, befitting her role as president. As her Doctor of Philosophy (Ph.D.) is from Harvard, her hood is bordered in dark blue, and features Harvard's crimson in the hood liner.
- Provost Linda Strong-Leek's Doctor of Philosophy (Ph.D.) is from Michigan State University, whose robes are Spartan Green. Her gown's three bars indicate her doctoral degree; her hood's blue border represents her Ph.D., the green signifies the granting institution (Michigan State), and its white satin edging signifies her field, English.

SENIOR CLASS GIFT

The Senior Class Gift is an opportunity for graduating students to sustain the Haverford experience for future classes through charitable giving. With emphasis on participation and collective action, a peer-led committee encourages seniors to make a gift in any amount. This year, the senior class designated their gift toward three important programs at Haverford: The Nest, a food pantry for low-income students off the meal plan or staying on campus during breaks, The Student Health and Learning Resources Fund, which provides financial assistance for students to access specialized mental health and accessibility resources, and Financial Aid.

Senior Class Gift Co-Chairs

Caroline Elizabeth Channell
Noa Hannah Scheinfeld

Thank you to the Class of 2022 seniors and parents who helped make this effort a success.

Thank you to our Senior Commencement Committee Representatives

Ellen Carlson
Maya Sydnie Wernick



Class of 2022 tree, *Prunus x 'Okame'* (Okame cherry). This tree, part of the Leeds Okame allée, was planted by the graduating class between Leeds Hall and Lutnick Library during Customs Week in 2018. *Photo by Patrick Montero.*



Share the celebration! #haverford22

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