



Graduate School of Arts and Sciences

Commencement Convocation

Yale University
Sunday, May 17, 2020



THE SHIELD OF THE GRADUATE SCHOOL OF ARTS AND SCIENCES

The design for the Graduate School shield was drawn by Yale art professor Theodore Sizer and approved by the University. Four themes are symbolized in the arms of the School. The background of the “chief” (the place of honor) is Yale blue, with Roman numerals in white representing 1847, the year of the founding of the Department of Philosophy and the Arts, the earliest formal organization for graduate study at Yale and, in fact, in the entire United States. Below, on a white background, is a black Y-shaped device representing the “pallium,” a garment worn by philosophers in ancient Rome, and frequently used as a symbol for Yale. The three red crosses are derived from the arms of Bishop George Berkeley, who established in 1732 an endowment for Yale College graduates “reading for the second degree.” These were the first scholarships exclusively for graduate study at Yale.

THE MACE OF THE GRADUATE SCHOOL OF ARTS AND SCIENCES

The mace is carried at the head of ceremonial processions by the School’s marshal and displayed at such events as the annual Matriculation ceremony, awards Convocation, and Commencement.

The shaft of the mace is turned red mahogany. Inset near the top of the shaft on two sides is the shield of the Graduate School, rendered in cloisonné-enameled metal. For description of the shield, see above. The shaft is topped by a disk of grained red and black macassar ebony, on which sits a large, faceted crystal orb, the chief design element of the mace. The orb symbolizes several characteristics of advanced study in the arts and sciences. The global shape suggests the ambition of advanced study to be comprehensive in its inquiry. The transparent clarity of the fine Austrian lead crystal of which the orb is made alludes to the motto of Yale University, *Lux et Veritas*, and to the enlightenment that scholars seek in their research and teaching. Finally, the many facets of the orb symbolize the complexity of advanced learning in the arts and sciences and the importance of approaching its subjects from many intellectual directions.

In addition to the large ceremonial school mace described above, there are four smaller maces that are carried by faculty and staff marshals. These marshals’ batons each have a similarly turned shaft of mahogany. At their tops is a single enameled shield.



Order of Exercises

COMMENCEMENT CONVOCATION

Sunday, May 17, 2020

Lynn Cooley

*Dean of the Graduate School of Arts and Sciences
C.N.H. Long Professor of Genetics, Professor
of Cell Biology and of Molecular, Cellular, and
Developmental Biology*

Pamela Schirmeister

Deputy Dean and Dean of Strategic Initiatives

Michelle Nearon

*Senior Associate Dean for Graduate Student
Development and Diversity*

Jasmina Besirevic Regan

Associate Dean for Partnerships and Special Projects

Ann Gaylin

Associate Dean for Graduate Education

Richard Sleight

*Associate Dean for Graduate Student
Academic Support*

Lisa Brandes

Assistant Dean

Robert Harper-Mangels

Assistant Dean

Denzil Street

Assistant Dean

Graduate School Student Prizes

Departmental Awards

The **Henry Prentiss Becton Prize** for exceptional achievement in research is awarded to a graduate student within the Council of Engineering.

QIUSHI GUO

Electrical Engineering

Adviser: Fengnian Xia

“Mid-infrared Nanophotonics in Van der Waals Materials and Heterostructures”

This thesis covers new findings in materials, devices and applications. The results reported in this thesis have deepened our understanding of the light-matter interactions in this unique van der Waals material system. Moreover, the results may also lead to future photonic devices in mid-infrared based on van der Waals materials.

The **Frederick W. Beinecke Prize** is awarded upon the recommendation of the History Department for an outstanding doctoral dissertation in the field of Western American History.

CAROLINE LIEFFERS

History of Science and Medicine

Adviser: John Warner

“Imperial Ableism: Disability and American Expansion, c.1850-1930”

Imperial Ableism is an extraordinary work of research, bold interpretation, and beautiful writing that bids fair to be a field-transforming work of historical scholarship. Magisterial in the scope and ingenuity of its research, beautifully rendered in a prose that crackles with energy and insight.

The **Frances Blanshard Fellowship Fund Prize** is awarded annually for the outstanding doctoral dissertations submitted to the History of Art Department.

YONG CHO

History of Art

Adviser: Mimi Yiengpruksawan

“The Mongol Impact: Reinventing the Arts System in Yuan China (1271-1368)”

Yong Cho's The Mongol Impact: Rebuilding the Arts System in Yuan China is a work of scholarly distinction, imagination, and vision. Cho rethinks pivotal questions brought to bear in discussions of the Mongol contribution to the arts of Yuan China and thereby opens new avenues of inquiry. His critical investigations into the conditions of cultural production in a multi-ethnic setting rife with ambivalence – Mongol/Han, woven/painted, king/god – bring to the fore issues of concern to art historians seeking to better understand the intersection of cultural systems across the Afro-Eurasian world. It has been Yong's project since his undergraduate days to explore the visual worlds and artistic practices of peoples at once inside and outside the Sino-sphere – largely the communities of the Western Regions and the steppe – and to articulate for them an art history not altogether constrained by a perspective internal to the Han paradigm. That he has chosen to do so in the context of the Yuan court places him at what is itself a crossroads in the historiography of Chinese art. This extraordinary dissertation will inspire many to think differently about the Mongols and their legacy in China and beyond.

NICOLE PAXTON SULLO

History of Art

Adviser: Robert Nelson

“The Art of Memory in Byzantium during the Later Middle Ages”

In her stunningly original dissertation, “The Art of Memory in Byzantium During the Later Middle Ages,” Nicole Sullo presents the first extended discussion of that culture’s senses of memory and cognition. While much attention has been paid to the subject in the Latin Middle Ages and the Renaissance, the Greek Middle Ages has been unknown territory in regard to their understanding of how memory was thought to operate. In this respect, Nicole Sullo is a pioneer, discovering large quantities of little-known texts and visual evidence. Through three major case studies, the dissertation explores the importance of memory for the Byzantines and their art. The faculty of the Department of the History of Art recognize that the publication of this dissertation in book form will be a major contribution to scholarship.

The **Harding Bliss Prize** for Excellence in Engineering and Applied Science is awarded annually to the outstanding student who has completed his or her Ph.D. thesis during the current academic year and who has done the most to further the intellectual life of the department.

BRIDGET HEGARTY

Chemical & Environmental Engineering

Adviser: Jordan Peccia

“Connecting Indoor Fungal Communities and Human Health: Novel Insights from DNA-based Community Profiling and Metatranscriptomics”

This is a very strong computational biology analysis of fungal microbial ecology. The work with machine learning in identifying damp,

moldy buildings from DNA sequences found in air samples is very novel.

The **Sylvia Ardyn Boone Prize** is awarded annually in memory of Sylvia Boone, a noted scholar of African art, who was the first tenured African-American woman on the Yale faculty. In her memory, Vera Wells, Yale '71, has established a prize to honor Sylvia Boone's life and work.

LUCY CAPLAN

American Studies, African American Studies

Adviser: Daphne Brooks

“High Culture on the Lower Frequencies: African Americans and Opera, 1900-1933

High Culture on the Lower Frequencies: African Americans and Opera illuminates the intricate ways that a range of black artists as well as audiences have revolutionized the form, content, and culture of opera at key moments in history. Ms. Caplan’s brilliant dissertation explores the difference that opera makes in conceptualizations of blackness and black freedom struggle movements and, likewise, how blackness enlivened and elevated the socio-political stakes of this putative “highbrow” genre in the in the Jim Crow era.

CAMILLE OWENS

African American Studies, American Studies

Adviser: Jacqueline Goldsby

“Blackness and the Human Child: Race, Prodigy, and the Logic of American Childhood”

Blackness and the Human Child: Race, Prodigy, and the Logic of American Childhood reveals how concepts of childhood were racialized and operated as a “logic” that established “grammars of blackness,” parameters of rights, and epistemologies of the human that imperiled Black children and adults, from America’s origins to the present day. Taking us from the 1770s to the 1960s, Ms. Owens’

brilliant dissertation illuminates the myriad ways in which anti-Black racism shaped dominant definitions of the child prodigy and with them, the meanings of American humanism.

The **F. Herbert Bormann Prize** is awarded annually to a doctoral student who produces a publication judged to best exemplify Herb's legacy: interdisciplinary research that creates new insights into the relationship between humans and the environment.

PETER UMUNAY

Forestry and Environmental Studies

Adviser: Tim Gregoire

“Selective logging emissions and potential emission reductions from reduced-impact logging in the Congo Basin”

Considering that timber yields from selectively logged tropical forests in the Congo Basin are crucial for the long-term economic and social well-being of Central African nations, Peter's insightful work presents management tools that will help to ensure much more responsible and responsive extractive operations for the livelihoods of the people in this region.

The **Dirk Brouwer Memorial Prize** was established in 1966 by friends of Professor Dirk Brouwer, Chairman of the Department of Astronomy and Director of the Yale Observatory from 1941 to 1966. It is awarded to a student in the department for a contribution of unusual merit to any branch of astronomy.

ANGELO RICARTE

Astronomy

Adviser: Priyamvada Natarjan

“The Assembly of Supermassive Black Holes: from the Seeding Epoch to the Present Day”

Using a combination of N-body and semi-analytic techniques, in this dissertation the assembly of supermassive black holes throughout cosmic time is explored. The work developed an innovative suite of empirically driven models that enable detailed study of how supermassive black holes form, how they grow, and how their growth impacts their hosts. These models are constrained by the wealth of modern AGN surveys and make new predictions for observational validation with ongoing surveys and next-generation observatories such as Lynx, LISA, and LSST.

JOHANNES ULF LANGE

Astronomy

Adviser: Frank van den Bosch

“Probing the Galaxy-Halo Connection and Cosmology in the Non-Linear Regime”

This dissertation develops several new methods to test our cosmological paradigm on small (non-linear) scales using state-of-the-art and future galaxy surveys. It demonstrates the huge power of data on non-linear scales and proves the feasibility of overcoming a plethora of challenges in using such data to robustly test our theories of galaxy formation and cosmology.

The **George Washington Egleston Historical Prize**, established in 1901, is awarded annually to a research student who discovers new facts of importance for American history or gathers information or reaches conclusions which are useful from a historical, literary, and critical point of view.

JUSTIN RANDOLPH

History

Advisers: Glenda Gilmore and Beverly Gage

“Civil Rights Arrested: Black Freedom Movements and Mass Incarceration in Rural Mississippi, 1938 to 1980”

Justin Randolph has written a deeply researched, originally argued, and eloquently written dissertation. It represents the best kind of work that the Yale History Department finds articulated by its graduate students. One has to note--and laud--the depth of research represented in this work. Overall, this is a work of genuine scholarly creativity; its final contours simply could not have been imagined before Justin went out and performed the archival work, finding a vast range of twists and turns and surprises along the way.

The **English Department Dissertation Prize** is awarded for the best dissertation in the current year.

CARLOS ALONSO NUGENT
English Language and Literature

Advisers: Wai Chee Dimock, Amy Hungerford, and Michael Warner

“Imagined Environments: Mediating Race and Nature in the U.S.-Mexico Borderlands”

This dissertation assembles a vast array of primary sources—from advertising tracts, radio broadcasts, and legal records to pamphlets, poems, plays, novels, films, and paintings—into a fascinatingly detailed study of the US-Mexico borderlands as a site of racial domination and resistance, ecological devastation, environmental activism, romantic fantasy, technological experimentation, brutal exploitation, and visionary feats of collective imagination and will.

Honorable Mention
BRITTANY LEVINGSTON
English Language and Literature; African American Studies

Advisers: Jacqueline Goldsby, Anthony Reed, and Robert Stepto

“In the Day of Salvation: Christ and Salvation in Early Twentieth-Century African American Literature”

This dissertation confidently claims African American literary modernism as both an aesthetic and a theological revolution, in which the life, death, and resurrection of Christ are put to radically new narrative, political, and spiritual uses, becoming a rich imaginary resource for representing black suffering, citizenship, and salvation in the aftermath of slavery and emancipation.

Honorable Mention
ANNA SHECHTMAN
English Language and Literature; Film and Media Studies

Advisers: Amy Hungerford, John Durham Peters, and Michael Warner

“The Media Concept: A Genealogy”

This dissertation offers a comprehensive, finely grained genealogy of the concept of media, tracing the consolidation of the idea across different domains of twentieth-century discourse and carefully disambiguating its many variants. The resulting analysis draws art critics, political activists, philosophers, novelists, and TV celebrities into charged conversation about the often-unspoken terms of their—and our—shared engagement.

The **Estwing Hammer Prize** is awarded by the Estwing Manufacturing company to outstanding geology or geophysics graduate students.

JOACHIM KATCHINOFF
Geology and Geophysics
Adviser: Noah Planavsky

The **Excellence in Teaching Prize** is given in recognition of a student's outstanding contribution to the teaching process at the Department of Geology and Geophysics.

ULLA HEEDE

Geology and Geophysics

Adviser: Alexey Fedorov

SOPHIE WESTACOTT

Geology and Geophysics

Adviser: Pincelli Hull

The **Harry Burr Ferris Prize** was established by Harry Burr Ferris (B.A. 1887, M.D. 1890), who was the E. K. Hunt Professor of Anatomy in the Department of Anatomy, the predecessor to the current Department of Cell Biology. The Prize is awarded to a Cell Biology student for a doctoral dissertation demonstrating exceptional research and scholarship.

JOSEPH AMICK

Cell Biology

Adviser: Shawn Ferguson

“Communication of Cationic Amino Acid Availability by Lysosomal Proteins”

Dr. Amick's thesis research identified a new pathway centered around the C9orf72 protein that allows human cells to sense and respond to changes in intracellular nutrient availability. As C9orf72 mutations are the most frequent known genetic cause of amyotrophic lateral sclerosis and frontotemporal dementia, his findings are also of interest to the field of neurodegenerative disease.

EMMA SUNDBERG

Cell Biology

Adviser: Christopher Burd

“Coordinated sorting of proteins and lipids in the secretory pathway”

Dr. Sundberg's thesis research investigated the sorting of secreted proteins and lipids

within the secretory pathway. A sorting receptor for secreted lipoprotein lipase, an enzyme released into the blood where it controls lipid metabolism, was identified as Syndecan-1 and shown to direct lipoprotein lipase into secretory vesicles.

DAVID THALLER

Cell Biology

Adviser: Patrick Lusk

“A Surveillance Mechanism that Maintains the Integrity of the Nuclear Envelope Barrier”

The nucleus is enclosed by a membrane barrier that protects the genomic DNA. In several diseases like cancer and neurodegeneration, this membrane barrier is breached leading to DNA damage and cell death. Dr. Thaller has discovered a new protective mechanism that cells employ that constantly surveils the integrity of the nuclear membranes and, if damaged, to quickly drive their repair.

DIANA VALVERDE

Cell Biology

Adviser: Karin Reinisch

“Lipid Trafficking in Close Proximity: Insights into Protein-Mediated Lipid Transport from Structural and Biochemical Studies”

Diana Valverde has made important contributions in our understanding of how lipids are transferred between membranes to regulate membrane lipid composition. She identified the autophagy protein ATG2 as a lipid transporter that is involved in organelle biogenesis, a finding that suggests that other members of this protein family also participate in membrane expansion. She further elucidated at the molecular level how the START-family of proteins recognizes sterols to transport them between membranes.

The **William Ebenezer Ford Prize** was established in 1963 by gift from Mary Ford in memory of her husband, Professor William E. Ford, Ph.B. 1899, Ph.D. 1903. It is awarded to students who have distinguished themselves in study or research in mineralogy.

ZHENG GONG

Geology and Geophysics

Adviser: David Evans

MICHAEL HANSON

Geology and Geophysics

Adviser: Bhart-Anjan Bhullar

“The Evolutionary Origins and Embryonic Development of the Avian Cranial Kinetic System”

The **Hans Gatzke Prize** is awarded upon the recommendation of the History Department for the outstanding dissertation or dissertations in a field of European history.

KEVIN FEENEY

History

Adviser: Noel Lenski

“Roman Imperial Accession from Maximinus Thrax to Justinian (235-527 CE)”

This is a pioneering thesis in later Roman political history, and it establishes a new research agenda at the intersection of identity and the complex political ideology of the later Roman Empire. Feeney has succeeded for the first time in laying out rationalized principles from what used to appear to be a situation of irreducible chaos. This is a tremendously important, interesting, well-researched, well-written, and original work of scholarship that is deserving of the highest distinction.

CHOON HWEE KOH

History

Adviser: Alan Mikhail

“The Sublime Post: A History of Empire and Power through the Ottoman Post Station System, 1600-1839”

This is a stupendous dissertation. The dissertation not only informs us in detail about the Ottoman regime, it also provides many sparkling insights for researchers of other empires, and points to productive comparative and social scientific work. This is a truly remarkable dissertation in terms of the originality of the subject, the mastery of difficult archival sources, and the author's ability to link the Ottoman case to a wide array of historiographical and contemporary debates about the material infrastructure of state authority and information networks.

The **Award for Academic Excellence in Global Affairs** is given to the master's student in Global Affairs with the highest academic achievement.

VU ANG HA

Global Affairs

TUOMAS LIHR

Global Affairs

The **James B. Grossman Dissertation Prize** was established in memory of a doctoral student in Psychology. It is given to the author of an outstanding Ph.D. dissertation in Psychology, with preference for research embodying some of the characteristics of James Grossman's scholarship, such as creativity, use of other disciplines, and clinical work with children.

KEVIN ANDERSON

Psychology

Adviser: Avram J. Holmes

“Integrative Molecular Bases of Brain Function and Organization”

Anderson's elegant dissertation research adopts a multi-level analytic framework to identify genetic and genomic mechanisms that support core brain functions known to be involved in human psychological health and disease. This methodologically rich body of work offers both tools and insights to aid in the discovery of critical brain markers of psychiatric illness.

APRIL BAILEY

Psychology

Advisers: Marianne LaFrance and John F. Dovidio

“Men at the Center: Androcentric Bias in Cultural Practices and Cognitive Structure”

In this theoretically rich and empirically ambitious dissertation, Bailey explores the cultural routes, socio-cognitive underpinnings, and societal outcomes of androcentrism – the tendency to think of “people” as male by default and quite automatically and, thus, organize society around and for men more than women.

The **Mary Ellen Jones (Ph.D. 1951, Biochemistry) Prize** is awarded to the most distinguished dissertation in Molecular Biophysics & Biochemistry submitted during the academic year. Dr. Jones was a leading scientist and a pioneer in the advancement of women in academia.

TARA ALPERT

Molecular Biophysics and Biochemistry

Adviser: Karla Neugebauer

“Coordination between Pre-mRNA Splicing and Cleavage in Budding Yeast”

Alpert's dissertation has provided novel insights into the significance of genomic context for gene expression. Specifically, her work identified how expression of one gene can affect neighboring genes through complicated networks of biological processes. In a field that classically treats genes as individual units, Tara's work highlights the

importance of utilizing novel technologies to investigate the bigger genomic picture.

JEREMY SCHOFIELD

Molecular Biophysics and Biochemistry

Adviser: Matthew Simon

“TimeLapse-seq: examining the dynamics of the transcriptome through 4-thiouridine nucleoside recoding”

This dissertation focused on developing TimeLapse-seq, a chemical method to specifically modify newly made RNAs, providing a temporal dimension to standard RNA sequencing. In this novel method, we can now explore RNA processes in new ways—allowing us to see beyond a single snapshot of cellular RNAs in time. This will allow researchers to continue to investigate mechanisms of gene expression and regulation with biological implications in cancer and genetic disorders.

The **Annie Le Fellowship** is awarded each year to one or more Ph.D. students in the biological and biomedical sciences whose demonstrated commitment to bettering the world around them and outstanding record in research exemplify the life and career of Annie Marie Le, a Yale graduate student between 2007 and 2009.

MELANIE BRADY

Interdepartmental Neuroscience Program

Adviser: Flora Vaccarino

SHARIF KRONEMER

Interdepartmental Neuroscience Program

Adviser: Hal Blumenfeld

The **Elias Loomis Prize** is awarded for excellence in studies of physics of the earth. Elias Loomis was a professor of natural philosophy and astronomy in Yale College.

YOSHINORI MIYAZAKI

Geology and Geophysics

Adviser: Jun Korenaga

NICOLE SHIBLEY

Geology and Geophysics

Adviser: Mary-Louise Timmermans

“The Physics of Layers and Interfaces in the Arctic Ocean”

The **James G. March Award** was established in 2018 by Professor Jim March (Ph.D. '53). This prize is awarded annually to an outstanding dissertation from any field of Political Science.

STEPHEN MONCRIEF

Political Science

Adviser: Elisabeth Wood

“The Long Commitment: UN Peacekeeping, Statebuilding and Security Sector Reform”

The United Nations deploys peacekeeping missions to many conflict-affected countries, and these missions increasingly focus on rebuilding central states. This dissertation argues that these statebuilding missions are unlikely to succeed, and can remain deployed for many years. It contributes to the literature on how UN intervention can more effectively build peace.

KYLE PEYTON

Political Science

Adviser: Gregory Huber

“Experiments on Legitimacy and Intergroup Relations: Policing, Trust, and Prejudice in the United States”

Kyle pioneered numerous experiments that established original causal facts about pressing problems in social science and policy. A field experiment demonstrated that non-enforcement contact with

patrol officers can durably improve police legitimacy and residents' willingness to cooperate. Survey experiments quantified the effects of trust in government on support for redistribution, and behavioral experiments identified attitudes prognostic of costly racial discrimination.

The Neuroscience Doctoral Thesis Prize was established in 2020 by Sandra and Charles Greer and is awarded annually to a graduate student in neuroscience whose Ph.D. thesis reflects the highest standards of scientific achievement.

USMAN FAROOQ

Interdepartmental Neuroscience Program

Adviser: George Dragoi

“Development and nature of internal neural representations in the hippocampus”

The thesis has provided a new understanding of how the hippocampal formation in the brain subserves memory formation and its long-term stability, a process called consolidation. To do so, innovative approaches needed to be developed that supported high density recording of neuronal ensembles and subsequent computational modeling. The research provided answers to key questions regarding the role of experience versus innate genetic determinants in the organization and development of sequential patterns of activity in the hippocampus.

The **John Spangler Nicholas (Ph.D. 1921) Prize** was established in 1972 by bequest of Helen Brown Nicholas in memory of her husband. The prize is awarded annually to outstanding doctoral candidates in experimental zoology.

CHRISTOPHER DUTTON

Ecology and Evolutionary Biology

Adviser: David Post

“Animal Inputs Drive Shifts in Biogeochemical Processes and Microbial Communities”

Dutton's dissertation presents detailed and important work on the influence of hippos on the microbial biogeochemistry of rivers and resulting aquatic ecosystem function. There are few studies tackling these questions and the ambitious and meticulous field experiments conducted here provide a novel contribution to science.

The **Philip M. Orville Prize** was established in 1981 in memory of Philip M. Orville. The prize is awarded to graduate students in geology and geophysics in recognition of outstanding research and scholarship in the earth sciences.

NEALA CREASY

Geology and Geophysics

Adviser: Maureen Long

“Investigation of Lower Mantle Seismic Anisotropy and Heterogeneity Via Seismic Observations and Mineral Physics Experiments”

NICOLAS MONGIARDINO KOCH

Geology and Geophysics

Adviser: Derek Briggs

“The evolutionary history of sea urchins: Phylogenomic and macroevolutionary insights into echinoid diversification”

The **Marguerite A. Peyre Prize** was established in 1964 and is awarded at the discretion of the chair of the Department of French to a graduate student in that department.

IAN CURTIS

French

Adviser: Alice Kaplan

“The J3 Affair: Historical Fantasies and Modern Literature in a Postwar Murder”

Ian Curtis's captivating dissertation is about a 20th-century fait divers known as the J-3 Affair: the 1948 planning and killing of Alain Guyader by three of his classmates, Claude Panconi (the murderer), Bernard Petit and Nicole Illy (his accomplices). Curtis deftly uses the criminal case to discuss post-war youth, the memory of Occupation in France, and the use of literature in a trial.

IMANE TERHMINA

French

Advisers: Jill Jarvis and Christopher Miller

“Tales of the Civil Service: Bureaucracy, Democracy, and Justice in Francophone African Literature”

Imane Terhmina's distinguished dissertation is about literary and cinematic depictions of bureaucracy and the civil service in North and Sub-Saharan Africa. Terhmina studies a variety of authors, classics of Francophone African literature as well as lesser-known works, and shows how they reveal the inner workings of nation-states and their democratic experiments.

The **George Gaylord Simpson Prize** was established in 1984 in honor of Professor Simpson and is awarded to graduate students and recent Ph.D. recipients for an exceptional paper concerning evolution and the fossil record.

ROSS P. ANDERSON

Geology and Geophysics

Adviser: Derek Briggs

“Doushantuo-type microfossils from latest Ediacaran phosphorites of northern Mongolia”

Anderson's research uses fossils to chart the Proterozoic (2.5–0.5 billion years ago) evolution and early diversification of eukaryotes (organisms with a cell nucleus like animals and plants). Few of these early eukaryotes possessed mineralized skeletons, so Anderson uses novel analytical techniques to illuminate the unusual conditions conducive to their fossilization. The prize-winning paper describes a new exceptionally preserved fossil biota from Mongolia dating to the Ediacaran Period. The biota includes only the third examples of microfossils that have been argued to be the oldest animal embryos. These fossils were first reported from China and interpreted as animal embryos over 20 years ago, but their animal affinity has proved controversial. The discovery of a new locality yields the possibility of new insights which may resolve this debate. The new Mongolian fossils are also slightly younger than their Chinese counterparts and may evidence survival over a major extinction event.

MICHAEL HANSON

Geology and Geophysics

Adviser: Bhart-Anjan Bhullar

“Complete *Ichthyornis* skull illuminates mosaic assembly of the avian head”

Hanson's research seeks to understand the origins of cranial kinesis employing methods from multiple biological disciplines, including developmental biology, paleontology, and comparative anatomy. With new contrast-stained μ CT scanning and confocal microscopy methods he is investigating musculoskeletal structures associated with the feeding apparatus in embryonic development, fossil specimens, and fluid-preserved museum specimens of birds and their relatives.

ELIZABETH SPRIGGS

Ecology and Evolutionary Biology

Adviser: Michael Donoghue

“Restriction-Site-Associated DNA sequencing reveals a cryptic *Viburnum* species on the North American Coastal Plain”

Genetic sequencing methods developed over the past decade have made it possible to resolve many of the longstanding problems in plant taxonomy. In this study, RAD sequencing was applied to a well-known North American lineage with surprising results. In contrast to all recent taxonomic treatments which recognized 1–2 species in the *Viburnum nudum* species complex, genetic analysis identified three clearly distinct lineages (species). Although two of the species are widespread across the Southeastern United States, each species occurs in a unique environment – either in swamps or in sand soils along streams.

The **Carolyn Slayman Prize** in Genetics recognizes the remarkable achievements of our best students in the Department of Genetics, based on their body of work, the impact of their findings in the field of Genetics and their commitment to the Genetics Graduate Program and graduate education at Yale.

SHUN HANG CHAN

Genetics

Adviser: Antonio Giraldez

“Transcriptional Competency Acquisition in the Early Embryo: The Molecular Mechanism that Regulates Zygotic Genome Activation”

After fertilization, a new embryo's genome is silent and must be activated for development to proceed. This work uses elegant studies in zebrafish to determine the mechanism for genome activation. It is found that the embryo translates two mRNAs inherited from its mother; these factors then act on proteins associated with embryonic DNA, enabling expression of embryonic genes.

The **Edwin W. Small Prize** was established in memory of Edwin W. Small (B.A. 1930, M.A. 1934) and is awarded in recognition and furtherance of outstanding work in the field of American history.

ASHANTI SHIH

History of Science and Medicine

Adviser: Paul Sabin

“Invasive Ecologies: Science and Settler Colonialism in Twentieth-Century Hawai’i”

A marvelous dissertation that weaves together developments in the history of ecology with the evolution of Hawaiian land use, environmental protection, and social conflict. This work is original and cutting edge; it provides much-needed epistemological and theoretical interventions in multiple fields as it challenges the segregation of knowledge production in the genealogies of science, settler colonialism, and preservation. Overall, this is a wonderful work and will be an important book for scholars working in U.S. environmental history, history of ecology, U.S. empire, and ethnic studies.

JAMES SHINN

History

Adviser: David Blight

“The Cuban Question: The Ten Years’ War and the Reconstruction of U.S. Foreign Policy, 1865-1878”

This dissertation examines a truly original topic and does so with great skill. This is a remarkable chapter in the international history of the United States and most of us didn’t even know this was important. The diplomatic scenes emerge vividly, and Shinn analyzes them adroitly. He tells the story of continuity beautifully, with clear and elegant prose and rich archival detail.

The **Marvin B. Sussman Prize** is awarded annually by the Sociology department to the graduate student whose distinguished dissertation, completed within the previous two academic years, is judged the most outstanding.

HIROKAZU SHIRADO

Sociology

Advisers: Nicholas Christakis, Emily Erikson, Forrest Crawford, and Andrew Papachristos

“Autonomous-Agent Interventions in Human Network Cooperation and Coordination”

This dissertation is a masterful combination of social scientific theory and cutting-edge advances in network science that takes on the central sociological problem of cooperation in society. It makes core contributions in a number of areas in exploring how theories of cooperation and collective action can be formalized and tested empirically in controlled experimental settings.

The **George Trimis Prize** was established in May 2003 in memory of a doctoral student in Economics who succumbed to cancer. In recognition of the extraordinary example that Trimis set, the prize is awarded to students whose dissertations demonstrate exceptional and distinguished achievement.

IAN BALL

Economics

Advisers: Dirk Bergemann, Johannes Horner, and Larry Samuelson

“Essays on Information Economics”

Ball builds a model of predictive scores, which are used in a variety of ways, e.g. FICO credit scores. He shows how to construct an optimal scoring rule, when scoring induces a game between the sender of high dimensional information to be aggregated into a score, and the receiver whose objective is to predict the quality of the sender.

RO'EE LEVY

Economics

Advisers: Dean Karlan, Joseph Shapiro, and Ebonya Washington

“Essays on Political Economy in the Age of Digital Media”

Levy investigates the role of social media in polarization by conducting a field survey on Facebook, offering each participant a randomly chosen liberal or conservative outlet. When a conservative (liberal) outlet is offered to a liberal (conservative), exposure to counter-attitudinal news decreases negative attitudes toward the opposing political party. But this is unlikely to happen under the currently used algorithm.

OREN SARIG

Economics

Advisers: Jason Abaluck, Steven Berry, and Philip Haile

“Essays in Industrial Organization”

Sarig studies the relative effectiveness of prior authorization, which can be costly to physicians, against out-of-pocket (OOP) sharing and other means of controlling moral hazard in prescription drug demand. He finds that prior authorization is efficient and concludes that beneficiaries would prefer the current use of prior authorization over a counterfactual policy in which only OOP cost sharing is used.

HANNAH TRACHTMAN

Economics

Advisers: Jason Abaluck, Dean Karlan, Costas Meghir, and Chris Udry

“Essays in Development and Behavioral Economics”

Trachtman conducts an online experiment, in which individuals receive messages and incentives for healthy behavior, to investigate their potential unintended negative spillover effect, namely, worsening other health behaviors by overcrowding the individuals' limited attention. She explores underlying mechanism behind it with both economic

and psychological theories. This highlights an important trade-off that needs to be addressed in designing such intervention.

KATHERINE WAGNER

Economics

Advisers: Jason Abaluck, Joseph Altonji, Matthew Kotchner, and Joseph Shapiro

“Essays in Environmental Public Finance”

Wagner finds that public flood insurance plans in the US are generally underpriced, but because of inaccurate perceptions, too few consumers buy them. Incorporating this into her analysis of policy reforms, she shows that raising insurance prices to their fair levels would lead to a large welfare loss, whereas making flood insurance mandatory would induce a significant welfare gain.

CONOR WALSH

Economics

Advisers: Costas Arkolakis, Samuel Kortum, Giuseppe Moscarini, and Michael Peters

“Essays in Economic Growth”

Walsh finds that the patterns of new firm entries differ substantially across the US but are persistent across time, leading to disparities in spatial growth rates. His theoretical model explains such phenomena, suggesting that the indirect effect of declining manufacturing sectors through its negative spillover to new firm creations in other sectors is as important as their obvious direct effect.

PENGPENG XIAO

Economics

Advisers: Joseph Altonji, Ilse Lindenlaub, and Costas Meghir

“Essays in Gender Inequality”

Xiao develops an economic model of the gender gap in the labor market. Her model features female and male workers who are individually heterogeneous in preference and skill, and firms which are also heterogeneous. Her empirical analysis suggests that reducing maternal leave and increasing paternal leave is highly effective in reducing the gender gap in workers' lifetime earnings.

The **Karl K. Turekian Prize** is awarded for excellence in geochemical or cosmochemical studies.

DANIEL GASKELL
Geology and Geophysics
Adviser: Pincelli Hull

BORIANA KALDERON ASAEL
Geology and Geophysics
Adviser: Noah Planavsky

The **21st Century Prize** is given to a graduate whose distinguished dissertation in Sociology contributes to public policy or the public interest.

CELENE REYNOLDS
Sociology
Advisers: Julia Adams, Rene Almeling, and Emily Erikson

“From Unequal Play to Unwanted Contact: Title IX in American Universities, 1972-2016”

Reynold’s superb thesis focuses on the puzzle of how and why the application of this far-reaching law, the letter of which has not changed since the 1970s, expanded from mandating gender equity in college sports to regulating sexuality on campus.

The **Colin White Prize** is awarded annually to an outstanding graduate student in Public Health.

QILE DAI
Public Health
Adviser: Elizabeth Claus

The **Richard Wolfgang Prize** was established in 1971 in memory of Richard Leopold Wolfgang, M.A. Hon. 1962, and member of the faculty from 1956 to 1971. It is awarded each year for the best doctoral theses of

graduating chemistry students.

DANICA CUI
Chemistry
Adviser: J. Patrick Loria
“Development of Efficient Methods in Protein NMR Spectroscopy: Insights into Allostery and Conformational Dynamics in PTP1B”

This prize is awarded for developing solution Nuclear Magnetic Resonance methods to identify and characterize allosteric sites in enzymes with potential to impact drug discovery and enzyme engineering.

MASHA ELKIN
Chemistry
Adviser: Timothy Newhouse
“Computational Techniques Enable the Total Synthesis of DMOA-Meroterpenoids”

Masha’s dissertation research focused on the study of meroterpenoid natural products, which are potential sources of new medicines. She developed synthetic routes to access natural products such as berkeleyone A and studied the reactions by which enzymes construct these molecules. This work was enabled by the development of computational tools that rationalize and predict chemical reactions, and their application to challenging problems in synthetic organic chemistry.

CATHERINE WISE
Chemistry
Adviser: James Mayer
“Electrochemical Proton-Coupled Electron Transfer Studies with Molecules, Redox Mediators and Interfaces”

Energy is often stored in chemical bonds, from food to fuels. Catherine Wise’s thesis provides new fundamental understanding of proton-coupled electron transfer events central to chemical energy. Showing the pathway for oxygen reduction, developing a powerful tool to determine molecular energetics, and providing insight about interfacial reactivity, are all foundational studies that the field will build on for many years.

The *Arthur and Mary Wright Prize* is awarded upon the recommendation of the History Department for the outstanding dissertation or dissertations in the field of history outside the United States or Europe.

CAMILLE COLE

History

Adviser: Alan Mikhail

“Empire on Edge: Land, Law, and Capital in Gilded Age Basra”

This dissertation is creative and rigorous and important. It asks new and enormous questions about the Ottoman Empire and the world at the turn of the twentieth century. One of the major strengths of the dissertation is the centering of this region, and the Ottoman Empire in general, in global histories of capitalism and state formation, thereby decentering conventionally Eurocentric accounts of global political economy. The dissertation, among the most methodologically sophisticated pieces of graduate work, deftly braids methods drawn from economic history, environmental studies, legal analysis, and micro-historical narration. The scope, the substance and multifaceted aspects of the dissertation is particularly welcomed given that the region in question has remained relatively understudied.

KERI LAMBERT

History

Adviser: Robert Harms

“Elastic Allegiances: Rubber, Development, and the Production of Sovereignties in Ghana, 1880-2017”

Keri Lambert’s superb dissertation offers startling new insights into the history of 20th century Ghana by situating itself at a remove from the country’s centers of power and wealth. Lambert’s dissertation stands out for the excellence, depth, and rigor of its research. It is the first comprehensive history of rubber production in Ghana, a subject that has been previously addressed only by a handful of articles. Lambert displays the full range of the historian’s skills in this remarkable dissertation, which

combines social, environmental and economic history. Overall the research is superior, the writing is clear and compelling, and the contributions to scholarly debates manifold.

University Awards

The **Theron Rockwell Field Prize** was established in 1957 by Emilia R. Field in memory of her husband, Theron Rockwell Field, Ph.B. 1889. It is awarded for poetic, literary, or religious works by any students enrolled in the University for a degree. This prize is awarded by the Office of the Secretary of Yale University.

CLIO DOYLE

Renaissance Studies; English Language and Literature

Advisers: Catherine Nicholson and Lawrence Manley

“‘Slimy Kempes Ill Smelling of the Mud’: The Terroir of Poetry and the Desire for Change in Barclay’s Eclogues”

An erudite essay on the late medieval poet Alexander Barclay; its attention to imagery and close reading of texts explain and express the terroir of Barclay’s poetry; we learn that geography, even local diet—a “pliant leeke” or “stockfishe” anyone?—flavors Barclay’s poems, with political effect.

DANIEL EASTMAN

Religious Studies

Adviser: Stephen Davis

“How to Read the Gospel(s): Reading and Ritual in Late Ancient Syria”

Books do stuff. They make the real real as texts, read or heard and interpreted, but also as things, which—for Syriac Christians, at least—can act, judge, even heal. With linguistic and philological rigor, this essay exceptionally integrates the study of objects and the built environment with the study of texts, an important intervention in the study of early Christian reading practices.

The **John Addison Porter Prize**, named in honor of Professor John Addison Porter, B.A. 1842, is awarded for a work of scholarship in any field where it is possible, through original effort, to gather and relate facts or principles, or both, and

to present the results in such a literary form as to make the project of general human interest. This prize is awarded by the Office of the Secretary of Yale University.

KEVIN FEENEY

History

Adviser: Noel Lenski

“Roman Imperial Accession from Maximinus Thrax to Justinian (235–527 CE)”

Hail, Caesar! A holistic explication of late Roman ideology of accession to the imperial throne; emperors abound as needs demand, in frontiers, provinces, and capital; a compelling and theoretically sophisticated combination of narrative history and data analysis ably tackling the age-old problem of political legitimacy.

AYTEN TARTICI

Comparative Literature

Advisers: Amy Hungerford, Carol Jacobs, and Ruth Yeazell

“Adagios of Form”

A true work of comparative literature; an illuminating sweep through western modernity, remarkably treating music and film, food and drink, with fiction in multiple languages; a revel in and revelation of slowness as a lens to aesthetics, economics, and the way we live now.

Public Service Awards

The **Community Service Award** honors a graduate student's volunteer work in the local community while enrolled at Yale.

YANIXA QUIÑONES AVILÉS

Genetics

Yanixa is a PhD student passionate about providing equal access to health care and education. As the Chair of the Yale SACNAS Outreach Committee, she directs her efforts to stimulate the scientific curiosity of younger generations through hands-on workshops and create engaging material for students from New Haven Public Schools. Yanixa also serves as an interpreter at HAVEN Free Clinic where she facilitates physician-to-patient communication by bridging cross-cultural differences and enabling patients to give informed consent. In the future, she would love to serve as a mentor for students from underrepresented minorities in STEM while continuing to work with marginalized communities.

The **Public Scholar Award** recognizes research and activism pursued by a Yale graduate student that engages and better the world at large.

NICHOLE NELSON

History

Nichole's doctoral research focuses on how the Fair Housing Movement succumbed to moderate, white supremacist policies, despite its fight for the Fair Housing Act. Moderate factions became the dominant image of the Fair Housing Movement and won the battle for funding and publicity, obscuring the presence of progressive fair housing leaders, who advocated for reinvesting in African-American communities as well as Black Power fair housing leaders, who supported integration efforts on African Americans' own terms. Her research concludes with policy recommendations for reinvesting in African-

American neighborhoods. Nichole's work on fair housing and housing discrimination has been featured in the Yale Daily News, cited by the political website FiveThirtyEight, and reposted by Black Lives Matter Cleveland.

*Graduating Winners of Prize Teaching
Fellowships*

SAMANTHA BERSTLER

Philosophy

2017–2018

SEAN BICKERTON

Biomedical Engineering; MD/PhD

2017–2018

LUCIA HULSETH

Religious Studies

2017–2018, 2018–2019

LEE JOHNSON

American Studies

2018–2019

STEFAN KRASTANOV

Physics

2016–2017

DON LI

Cell Biology; MD/PhD

2018–2019

MARKO MITROVIC

Computer Science

2018–2019

Graduate Mentor Awards

Humanities

JOANNE MEYEROWITZ, Arthur Unobskey Professor of History and Professor of American Studies

Joanne Meyerowitz was nominated for her unwavering support for her students' academic development, personal growth and well-being. Professor Meyerowitz's students described her as a 'dream adviser' who teaches students to read history while sharpening their abilities to identify trends in historical scholarship. One nominator wrote that she is, "timely and thoughtful in her engagement with student work, frank about the rewards and difficulties of the academic job market and consistently helpful in directing her students towards resources and opportunities to develop their scholarship and intellectual community."

Known for a discerning editorial eye, her students have gone from Yale to become professors and published authors. The Yale Research Initiative on the History of Sexualities created by Professor Meyerowitz was described as 'by far the most generative, kind, and truly interdisciplinary intellectual environment' and a model for other departments and universities.

Natural Sciences

PIETER VAN DOKKUM, Sol Goldman Family Professor of Astronomy and Professor of Physics

Pieter van Dokkum teaches students how to think and ask questions with an eye to always finding the truth. His advisees commend his ability to get to the heart of a subject in a practical, accessible way. They wrote that they find his commitment to truth over methodology to be inspiring and beneficial. One nominator wrote that he finds Professor van Dokkum's advice his advice to be applicable daily as he move into postdoctoral research, and actively passes on the wisdom to his own students in astronomy. Advisees especially praised his ability to know what students need to progress by listening. According to one student, "A good adviser can guide

you into areas where he believes there is room for progress. An outstanding adviser like Professor van Dokkum does that while also finding the areas that their students would find interesting and excel in."

Social Sciences

MICHAEL KRAUS, Assistant Professor of Organizational Behavior, School of Management

Michael Kraus was nominated as a fierce champion for his advisees, his students and their field. His nominators expressed a great appreciation for his willingness to go above and beyond to support his students personally, professionally and academically. Known for his passion for justice in research and teaching, Professor Kraus was praised by his advisees for his sensitivity to inequalities and the actions he personally took to correct them. A particularly successful example is a summer internship program he created at the School of Management for underrepresented minorities. Participants in the program were able to publish and gain acceptance into graduate schools as a result of the experience. Professor Kraus's empathetic and inclusive approach to education fostered a productive department lauded by his students for the liveliness and diversity of their academic community.