

IAS | INSTITUTE FOR ADVANCED STUDY

Faculty and Members 2026–2027

> “The Institute is pledged to assemble a group of scientists and scholars who with their pupils and assistants may devote themselves to the task of pushing beyond the present limits of human knowledge and to training those who may “carry on” in this sense.”
>
> — Mission statement of the Institute for Advanced Study by founding Director Abraham Flexner, Organization Meeting, October 10, 1930

> “It is fundamental in our purpose, and our express desire, that in the appointments to the staff and faculty as well as in the admission of workers and students, no account shall be taken, directly or indirectly, of race, religion, or sex. We feel strongly that the spirit characteristic of America at its noblest, above all the pursuit of higher learning, cannot admit of any conditions as to personnel other than those designed to promote the objects for which this institution is established, and particularly with no regard whatever to accidents of race, creed, or sex.”
>
> — Louis Bamberger and Caroline Bamberger Fuld, in a letter dated June 4, 1930, to the Institute’s first Board of Trustees

Cover: At a seminar focused on Early Modern Europe and adjacent fields, convened by Francesca Trivellato, Andrew W. Mellon Professor in the School of Historical Studies, Trivellato engages in discussion with Marisa J. Fuentes, Friends of the Institute for Advanced Study Member (2024–25) in the School. Photo by Maria O’Leary

Right: Members in the School of Mathematics regularly gather in Rubenstein Commons to exchange ideas at the blackboards. Photo by Thomas Robert Clarke

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Information contained herein is current as of September 30, 2026

Introduction

The Institute for Advanced Study is an international center for theoretical research and intellectual inquiry that provides an exceptional environment for the acceleration of ideas and knowledge. It creates time and space for solitary work as well as dialogue among some 250 researchers selected each year from more than 100 institutions around the world. Scholars, who come to the Institute at various stages in their careers, are mentored by a permanent Faculty, each of whom is a preeminent leader in their field. From postdocs with new perspectives and tools, to established experts who create and advance fields of inquiry, the Institute's focused yet freely inquisitive atmosphere enables advancement in unforeseeable ways, leading to societal innovation and new understanding.

Located in Princeton, New Jersey, the Institute was founded in 1930 with the motto "Truth and Beauty." It is an independent educational institution that charges no tuition and relies on charitable contributions and grants for its operation. Brother-and-sister philanthropists Louis Bamberger and Caroline Bamberger Fuld established the Institute in the vision of founding Director Abraham Flexner.

At the Institute, everything is designed to encourage scholars to pursue their research: Members carry out their work in a setting where human scale has been carefully maintained to encourage the sharing of ideas, serendipitous interaction, and friendship. Members' freedom to express their scholarly convictions on a wide range of topics without institutional hindrance or interference is considered vital to the Institute's academic integrity, and the Institute refrains from issuing statements except on matters directly related to its founding values in order to support the free pursuit of research.

Research spans four Schools—Historical Studies, Mathematics, Natural Sciences, Social Science—as well as the Jonathan M. Nelson Center for Collaborative Research, focusing on long-term and fundamental outcomes, with no concern for immediate application but rather revolutionary and sustained impact. IAS is a scholar's paradise—a campus of unparalleled energy and curiosity, free of external pressures and academic restraints, where exceptional minds have boundless opportunity to explore what is not yet known. Among present and past Faculty and Members, there have been 37 Nobel Laureates, 49 of the 68 Fields Medalists, 25 of the 29 Abel Prize Laureates, as well as winners of the Turing Award; the Pulitzer Prize in History; the Balzan, Holberg, Kluge, Shaw, and Wolf prizes; and many MacArthur and Guggenheim fellows, among other honors.

Long and complex chains of knowledge have developed in numerous and astounding ways through research originating at the Institute—from

the development of programmable computers and the uncovering of deep symmetries of nature to advances in societal understanding and historical practice. Current research at IAS involves the following ventures: pursuing a theory of everything that governs the smallest and largest phenomena in our universe, a unified framework pursued by founding IAS Professor Albert Einstein, father of the theory of relativity; using computational tools, models, and simulations to determine the origins and long-term fate of the universe; establishing the theoretical foundations of machine learning; reconstructing history through textual and material evidence, utilizing digital resources, climate data, and genetic information; examining facets of society previously overlooked or hidden, such as racial formation and social citizenship and emerging scientific and technological phenomena; and developing a critical anthropology of politics and morality.

Albert Einstein, Kurt Gödel, Hetty Goldman, George F. Kennan, Erwin Panofsky, John von Neumann, and Hermann Weyl were among the first in a long line of distinguished Institute scientists and scholars to produce a deeper understanding of the physical world and of humanity. Flexner's vision has been maintained by his successors as Director: Frank Aydelotte, J. Robert Oppenheimer, Carl Kaysen, Harry Woolf, Marvin L. Goldberger, Phillip A. Griffiths, Peter Goddard, Robbert Dijkgraaf, and David Nirenberg, who became the Institute's tenth Director in February 2022.



DAVID NIRENBERG

Director and Leon Levy Professor

Director and Leon Levy Professor David Nirenberg is a historian and author, recognized for wide-ranging scholarship on the interaction of Christians, Jews, and Muslims. His research provides insight into questions of racism, Anti-Semitism, and Christian-Muslim relations. At the University of Chicago, Nirenberg served as founding director of the Neubauer Collegium for Culture and Society, Dean of the Social Sciences, Executive Vice Provost, and Interim Dean of the Divinity School. Nirenberg is a member of the American Philosophical Society, American Academy of Arts and Sciences, and Medieval Academy of America. His most recent book, co-authored with his father (Ricardo L. Nirenberg) is *Uncountable: A Philosophical History of Number and Humanity from Antiquity to the Present*, which seeks to understand the powers and limits of the sciences and the humanities. He is currently at work on a history of racial thought in Judaism, Christianity, and Islam.

School of Historical Studies

Administrative Officer | Janet Yoon

The School of Historical Studies was established in 1949 with the merging of the School of Economics and Politics and the School of Humanistic Studies. It bears no resemblance to a traditional academic history department as it brings together disciplines that are normally isolated in separate departments. The School supports all inquiry for which historical methods and approaches are appropriate throughout the humanistic disciplines, from socioeconomic developments, political theory, and modern international relations, to the history of art, science, philosophy, music, and literature. In geographical terms, the School concentrates primarily on the history of Western, Near Eastern, and Asian civilizations, with emphasis on Greek and Roman civilizations, the history of Europe (medieval, early modern, and modern), the Islamic world, and East Asia, but it also promotes research in areas beyond the scholarly interests of its Faculty. The School also supports scholars whose work focuses on other regions, including Central Asia, India, Africa, and the Americas.

The Members of the School represent a variety of nationalities and career stages, with a continually increasing number of young researchers and scholars from less privileged countries. The Faculty and Members of the School do not adhere to any one point of view but practice a range of methods of inquiry and scholarly styles, both traditional and innovative, ranging from the edition of texts and the analysis of images to cooperations with the social and natural sciences. Uniquely positioned to sponsor work that crosses conventional departmental and professional boundaries, the School actively promotes interdisciplinary research and cross-fertilization of ideas. It thereby supports research that often is not possible in other academic environments and encourages the creation of new historical enterprises.

FACULTY



SUZANNE CONKLIN AKBARI

Professor | **Medieval Studies**

Suzanne Conklin Akbari has expanded the range and methods of exploring texts from the Middle Ages, pushing the boundaries of traditional readings and exploring shared histories. Her research has traced the evolving relationship between sight and knowledge as manifested in a range of poetic texts, explored the relationship between Islam and Christianity, challenged the notion of medieval European literature's insularity, and highlighted the influence of Arabic poetry, music, and philosophy. Her current research considers how historical fields intersect with Indigenous Studies, grounded on ongoing collaborations with Lunaape (Delaware) communities. She also co-hosts a literature podcast called *The Spouter-Inn*.



ANGELOS CHANIOTIS

Professor | **Ancient History and Classics**

Angelos Chaniotis is engaged in wide-ranging research in the social, cultural, religious, legal, and economic history of the Hellenistic world and the Roman East. The author of many books and articles, he has worked on war, religion, communicative aspects of rituals, and strategies of persuasion in the ancient world. His current research focuses on emotions, memory, identity, the history of the night, and the history of Aphrodisias (Asia Minor). He is the co-director of the archaeological excavation of Lyktos on Crete.



NICOLA DI COSMO

Luce Foundation Professor in East Asian Studies | **East Asian Studies**

Nicola Di Cosmo's main field of research is the history of the relations between China and Inner Asia from prehistory to the modern period. Within that broad area, he has published on the early history of China's relations with steppe nomads, Mongol history, and early Manchu history. His most recent works explore the use of proxy data from climatology and other palaeosciences in historical research.



MYLES W. JACKSON

Ernst and Elisabeth Albers-Schönberg Professor in the History of Science | **History of Science**

Myles W. Jackson explores the intersections between science, technology, aesthetics, history, and society. The breadth of Jackson's research extends from the artisanal production of scientific knowledge in nineteenth-century Germany to molecular biology and physics, intellectual property and privacy issues, knowledge sharing, race and genomics, bioengineering, and the interactions between musicians, natural scientists, and radio engineers. His scholarship is noted for its cross-disciplinary methodology which interweaves economic, commercial, and scientific insights, pushing the boundaries of the field to establish fresh lines of inquiry.



MARIA H. LOH

Professor | **Art History**

Maria H. Loh is best known for her work on Venetian art of the sixteenth and seventeenth centuries, particularly Titian and the numerous copies and variants that his works have inspired. Through her scholarship, she has developed radical new approaches to key issues in the field of art history, producing groundbreaking work on originality and repetition, and the emergence of the early modern artist. Loh has also written on rainbow imagery in Stuart England, melancholia and the Renaissance in nineteenth-century Italy, remakes in Chinese cinema, repetition in Alfred Hitchcock's *Vertigo*, and the work of contemporary artists such as Sherrie Levine. She is an advocate for the critical role of art history as a humanistic discipline and for the public humanities at large.



SABINE SCHMIDTKE

Professor | **Islamic Intellectual History**

Sabine Schmidtke is a scholar of Islamic intellectual history whose pioneering research has transformed perspectives on the interrelations and connections among different strands of intellectual inquiry—across time, place, religions, and philosophical schools. Schmidtke is currently working on the history of Islamic thought in the post-classical period (thirteenth to nineteenth century), with a focus on reconstructing the textual heritage and the intellectual import of the Islamic intellectual world, from Iran and Central Asia to Turkey and Yemen. She is also engaged in a comprehensive study of the Muslim reception of the Bible, a topic on which she has published extensively over the past years.



FRANCESCA TRIVELLATO

Andrew W. Mellon Professor | **Early Modern Europe**

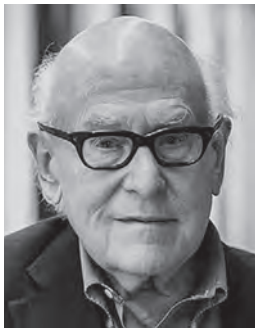
A leading historian of early modern Italy and continental Europe, Francesca Trivellato has made significant and groundbreaking contributions to our understanding of the organization and culture of the marketplace in the pre-industrial world. Her original and imaginative research combines archival work with methodological reflections on the history of scholarship.



YVE-ALAIN BOIS

Professor Emeritus | **Art History**

A specialist in twentieth-century European and American art, Bois is recognized as an expert on a wide range of artists, from Henri Matisse and Pablo Picasso to Piet Mondrian, Barnett Newman, and Ellsworth Kelly. Bois is currently working on several long-term projects, foremost among them the five-volume catalogue raisonné of Ellsworth Kelly's paintings and sculptures.



GLEN W. BOWERSOCK

Professor Emeritus | **Ancient History**

Glen W. Bowersock is an authority on Greek, Roman, and Near Eastern history and culture as well as the classical tradition in modern literature. He uses his exceptional knowledge of classical texts in many languages, together with inscriptions, coins, mosaics, and archaeological remains, to illuminate the mingling of different cultures and to draw unexpected and revelatory conclusions. His research interests include the Greek East in the Roman Empire and late antiquity as well as pre-Islamic Arabia.



CAROLINE WALKER BYNUM

Professor Emerita | **European Medieval History**

Caroline Walker Bynum's work has been instrumental in introducing the concept of gender into the study of medieval Christianity. Her path-breaking books have created the paradigm for the study of women's piety that dominates the field today and helped propel the history of the body into a major area of premodern European Studies. Several of her essays are widely cited in discussions of historical method. Her work in *Christian Materiality* (2011) and *Dissimilar Similitudes* (2020) is a radical reinterpretation of the nature of Christianity on the eve of the reformations of the sixteenth century and an exploration of theoretical problems concerning questions of historical comparison. She is currently continuing to work on Christian devotional objects in comparative perspective.



PATRICK J. GEARY

Professor Emeritus | **Medieval History**

Patrick J. Geary's work extends over a vast range of topics in medieval history, both chronologically and conceptually—from religiosity and social memory, to language, ethnicity, social structure, and political organization. Currently, Geary is leading a major project that studies the migration of European societies north and south of the Alps through the analysis of ancient DNA in Longobard-era cemeteries in Hungary and in Italy. He is Co-Principal Investigator of a European Research Council Synergy Grant project integrating genetic, archaeological, and historical perspectives on Eastern Central Europe in order to understand the impact of migrations and mobility on the population of the Carpathian Basin from 400–900 C.E.



JONATHAN ISRAEL

Professor Emeritus | **Modern European History**

Jonathan Israel's work is concerned with European and European colonial history from the Renaissance to the eighteenth century. His recent work focuses on the impact of radical thought (especially Spinoza, Bayle, Diderot, and the eighteenth-century French materialists) on the Enlightenment and on the emergence of modern ideas of democracy, equality, toleration, freedom of the press, and individual freedom.



HEINRICH VON STADEN

Professor Emeritus | **Classics and History of Science**

Heinrich von Staden has written on a variety of topics in ancient science, medicine, philosophy, and literary theory, from the fifth century B.C.E. to the fifth century C.E. Drawing on a wide range of scientific, philosophical, and religious sources, he has contributed to the transformation of the history of ancient science and medicine, particularly of the Hellenistic period. His book *Herophilus: The Art of Medicine in Early Alexandria* (1989) is a major contribution to the history of Greek intellectual discourse. His current projects include a book on Erasistratus (one of the two early pioneers of human dissection), a study of the role of animals in ancient scientific theories and practices, and further work on the "semantics of matter" in ancient science.



SOFÍA TORALLAS TOVAR

Classics, Papyrology, The Ancient Mediterranean, Greco-Roman Egypt |
Institute for Advanced Study

Sofía Torallas Tovar's current research projects include the study of a papyrus containing Athanasius's *Letter to Dracontius*, the critical edition of the Coptic versions of the Gospel of Mark (with Anne Boud'hors), and *Transmission of Magical Knowledge* dedicated to the publication of Greco-Egyptian magical papyri (with Christopher Faraone).

F First Term • *S* Second Term • *V* Visitor • *VA* Visiting Associate • *SRA* Senior Research Associate • *RA* Research Associate



ABRAHAM ADAMS

Poetics of Images | *Institute for Advanced Study* | *V*

Abraham Adams is interested in conditions of belief in modernity, distributed decision-making, and the relation between poetic and photographic form. While at IAS, Adams will research how the camera functions as a model of the unconscious in early psychoanalytic discourse, later operationalized as a method for organizing decision.



ARIELLE XENA ALTERWAITE

History of Political Economy | *Institute for Advanced Study*

Arielle Xena Alterwaite is a historian who studies slavery, emancipation, and political economy in eighteenth- and nineteenth-century Europe with a particular focus on France and its empire. Her research on Haitian debt explores how financial speculation and sovereign debt shaped imperial expansion in the modern world.



HASSAN FARHANG ANSARI

Islamic Law and Theology | *Institute for Advanced Study* | *RA*

Hassan Farhang Ansari focuses on the study of Islamic theology, philosophy, law, and legal theory.



BENJAMIN BARSON

Jazz Studies and Afro-Atlantic History | *Bucknell University* | *F*
Funding provided by the Herodotus Fund

Benjamin Barson is a historian, saxophonist-composer, and musicologist. At the Institute, he will work on a book project exploring jazz, radio, and Black internationalist politics across the Caribbean and circum-Caribbean, with particular attention to Cuba, Haiti, and New Orleans between 1898 and 1959.



THOMAS WILLIAM BARTON

Medieval and Early Modern Iberian History | *University of San Diego*
Infosys Member; additional funding provided by the Fund for Historical Studies

This year at IAS, Thomas William Barton is researching his book project, "Policing Female Bodies: Sex and Intermarriage in the Premodern Catholic World." The book explores how evolving legal and religious frameworks shaped attitudes toward mixed sexual relations in the Spanish and Portuguese empires from the 1300s to the 1600s.



DEBJANI BHATTACHARYYA

Environmental History, South Asian History | *University of Zurich*
Robbert Dijkgraaf Member

Debjani Bhattacharyya is a historian of climate and political economy focusing on colonial South Asia. At IAS, she will be completing her book "Climate Futures Past: Insurance and Weather Knowledge in the Indian Ocean World." She is particularly interested in how financial risk shaped meteorology in the nineteenth century.



ALEKSANDR BIERIG

History of Architecture | *University of Toronto*
The Andrew W. Mellon Foundation Fellowship for Assistant Professors

Aleksandr Bierig studies the history of architecture, infrastructure, and environment since the eighteenth century. At IAS, he is completing a book on the spatial, commercial, and cultural consequences of coal use in Britain between 1700 and 1850.



SAHAR BOSTOCK

History of Science, Technology, and the Environment in the Modern Middle East | *Institute for Advanced Study*
Funding provided by the Herodotus Fund and the Fund for Historical Studies

Sahar Bostock is a historian of science, technology, and the environment in the modern Middle East. At IAS, she will work on her book, "Desert Developmentalism: Infrastructure, Agriculture, and the Colonization of Southern Palestine, 1850–1966."



JAN-MATHIEU CARBON

Ancient History, Greek Epigraphy, Cultural Interactions in the Ancient Mediterranean | *Queen's University*
Edwin C. and Elizabeth A. Whitehead Fellow

Jan-Mathieu Carbon will be completing a co-authored corpus of the Greek inscriptions of ancient Halikarnassos (now Bodrum in Türkiye). Halikarnassos was the home of Herodotus and the site of the Mausoleum, one of the "Seven Wonders of the World." Despite its illustrious heritage, a systematic study of Halikarnassos has never been attempted.



SONG CHEN

Middle-Period Chinese History | *Bucknell University* | *F*
Starr Foundation East Asian Studies Member

While at the Institute, Song Chen will work on using large language models (LLMs) to study Song-dynasty texts, including tomb epitaphs and political and religious discourses.

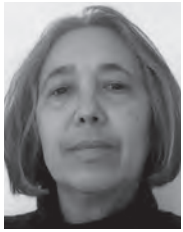
F First Term • *S* Second Term • *V* Visitor • *VA* Visiting Associate • *SRA* Senior Research Associate • *RA* Research Associate



CARLY CROUCH

Hebrew Bible, Old Testament | *Radboud University*
Funding provided by the AMIAS Member Fund

Carly Crouch is a historian of ancient Israel and Judah, with a particular interest in the use of social-scientific approaches to study the Hebrew Bible and other ancient Near Eastern literature. Her project at IAS brings contemporary research on migration, trauma, and colonialism to bear on narrations of Israelite history and identity.



GABRIELA CRUZ

Music History | *University of Michigan* | *S*
Edward T. Cone Member in Music Studies

Gabriela Cruz is a musicologist and opera scholar. While at IAS, she will be working on her new book project, which tracks the centrality of the idea of happiness in musical theater from the eighteenth century to the postwar era.



SUSAN DACKERMAN

Early Modern Art History | *Institute for Advanced Study*
Funding provided by Friends of the Institute for Advanced Study

This year at IAS, Susan Dackerman will work on a history of early modern print culture in relationship to theories of nature and the environment.



BRUNO DE NICOLA

Medieval Middle East and Central Asian History | *Austrian Academy of Sciences*
Willis F. Doney Member; additional funding provided by the Patrons' Endowment Fund

Bruno De Nicola specializes in the cultural history of the Islamicate World during the Mongol period (thirteenth–fourteenth centuries). At IAS, he will work on a book looking at the process of transculturation between Mongol conquerors and native populations in Iran and Central Asia through surviving manuscripts from the period.



MIKHAL DEKEL

The Historical Memoir and Contemporary Middle East | *City College of New York and the CUNY Graduate Center*
Elizabeth and J. Richardson Dilworth Member

Mikhal Dekel works on the intersection between personal, social, and material history. Her current book project focuses on the history of a single building and its inhabitants in the city of Haifa.



WILLIAM DERINGER

History of Science and Technology | *Massachusetts Institute of Technology*
Infosys Member; additional funding provided by the Fund for Historical Studies

William Deringer is a historian of science and technology who studies practices and technologies of calculation in economic, financial, and political life. He is completing a book, "The Formula That Rules Our Future: A Social History of Discounting." At IAS, he will begin research on a history of randomness in the twentieth century.



MARTA DOMÍNGUEZ DÍAZ

Modern History of North Africa, Islamic Studies, Muslim-Jewish Relations | *University of St. Gallen, Switzerland* | *V*

Marta Domínguez Díaz studies the social history of North Africa between the eighteenth and twentieth centuries, with a focus on the communities of Iberian origin. While at IAS, she will work on a monograph examining how extraterritoriality shaped social relations between Jews and Muslims in Morocco on the eve of colonial rule (1860–1912).



CHOUKI EL HAMEL

African Studies, Precolonial North African History | *Arizona State University*
Alfred Landecker Member

Chouki El Hamel is a historian specializing in North African slavery and resistance, with a focus on Morocco. His research addresses why the region's history of marronage has been overlooked. While at IAS, he will work on his book project "Moroccan Marronage: Fugitivity, Resistance, and the Quest for Liberation."



ROQUINALDO FERREIRA

Early Modern History, African History, Oceanic History | *University of Pennsylvania* | *F*
Funding provided by the Patrons' Endowment Fund

Roquinaldo Ferreira is completing a biography of Nicolau da Água Rosada, a Kongolese prince assassinated in 1860, as well as pursuing projects on *kijila* ritual interdictions in the Atlantic world, early eighteenth-century connections between Gujarat and Mozambique, and a connected history of the Age of Revolutions linking the Atlantic and Indian Oceans.



LUKE FIDLER

Medieval Art History | *University of Southern California*
Funding provided by the Herodotus Fund

Luke Fidler is an art historian of the northern European Middle Ages. At IAS, he will work on a new account of embodiment and environment in early-medieval Scotland, with a focus on the conceptual and historiographical problem of Pictish sculpture.

F First Term • *S* Second Term • *V* Visitor • *VA* Visiting Associate • *SRA* Senior Research Associate • *RA* Research Associate



THOMAS J. FIGUEIRA

Ancient Greek and Roman History and Literatures | *Rutgers University* | *F*
Funding provided by The Andrew W. Mellon Foundation

Thomas J. Figueira will spend his year finishing a long-term project on the Athenian phoros ("tribute") system, which will explore the financing of Attic hegemony in the fifth century, with particular attention to its strategic and economic ramifications. This project proposes to synthesize many earlier studies.



HANNAH FRYDMAN

Modern French History and Culture | *Harvard University* | *F*
Martin L. and Sarah F. Leibowitz Member

Hannah Frydman is a cultural historian of modern France with a special interest in the ways textuality and sexuality intersect and interact. At IAS, Frydman is working on a book exploring the relation between the circulation of queer fiction and the construction of queer lives in modern France.



PAUL GALVEZ

Art History | *V*

Paul Galvez is a historian of modern art, from its historical emergence to the present. Galvez's research interests range broadly from realist painting to the Russian avant-garde to contemporary abstraction.



MASSIMO GIUSEPPETTI

Ancient Greek Literature | *Universitá degli Studi Roma Tre* | *S*
Willis F. Doney Member

At IAS, Massimo Giuseppetti will work on a monograph examining how ancient Greek literary texts use civic festivals not just as contexts, but as dynamic frameworks for shaping meaning, emotion, and cultural memory.



SAMUEL GRIMES

Medieval South Asian History | *Fairfield University*
The Andrew W. Mellon Foundation Fellowship for Assistant Professors

While at the Institute, Samuel Grimes will examine negotiations between polarized tantric Buddhist traditions on how to interpret transgressive language as recorded in a thirteenth-century Sanskrit commentary from Nepal.



CHRISTOPHER B. HAYS

Hebrew Bible and Ancient Near East | *Fuller Theological Seminary* | *V*

Christopher B. Hays will be working on two book projects: "'I Will Dwell in the House of the Lord Forever': Remnants of Royal Funerary Liturgy in the Psalms"; and "Through Fire: Thinking with the Bible About Disaster, Trauma, and Recovery."



MATTHEW HERSCH

History of Technology | *New York University*
George F. Kennan Member

Matthew Hersch will complete a book manuscript on the role of technology in the American experience of warfare, and on military technology's origins in, and impact upon, the nation's political culture.



MICHEL HOCKX

Modern Chinese Literature and Culture | *University of Notre Dame*
Starr Foundation East Asian Studies Member

Michel Hockx specializes in the study of modern Chinese literary communities, their products and their values, their institutions, and their relationship with the state. This year at IAS, he will work on a project that looks at how modern Chinese writers and texts achieve geographical or social mobility.



MICHAEL HOECKELMANN

Medieval Chinese History | *Friedrich-Alexander-Universität Erlangen-Nürnberg*
Fritz Thyssen Stiftung Member

Michael Hoeckelmann's current research traces the evolution of medieval studies in modern China. While at IAS, Hoeckelmann will complete a book on the adaptation of the European Middle Ages by Chinese historians from the 1920s to 1940s. It shows how historians *medievalized* their country's past and thereby revolutionized historical time and temporality.

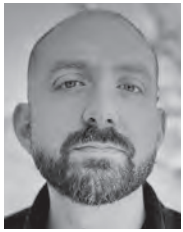


NICOLE T. HUGHES

The Early Modern World, Colonial Latin America | *University of California, Irvine* | *S*
Funding provided by the Herodotus Fund

Nicole T. Hughes's forthcoming first book argues that missionaries, conquistadors, and Indigenous elites created foundational narratives of New Spain and Brazil by envisioning distant conflicts through theater. At IAS, she will begin a new project on narratives of death and dying, and especially of martyrdom, in the Americas.

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ALESSANDRO IANDOLO

Modern Russian History | *University College London*
Gerda Henkel Stiftung Member

Alessandro Iandolo is a historian of modern Russia in the world. He is writing a history of Soviet professionals in healthcare, engineering, and education working in Cuba, Guinea, and Indonesia between 1955 and 1991.



EVA JAKAB

Ancient Legal History, Roman Law, Papyrology | *Károli Gáspár University of the Reformed Church in Hungary* | *F*
Funding provided by The Andrew W. Mellon Foundation

The aim of Eva Jakab's research is to explore the dynamics between Roman law and local laws in a new way. The law of the Empire cannot be understood as a homogeneous system that equally applied in all of its provinces. Rather the contrary: local people kept their cultural and legal identity, and their own customary laws.



KATARZYNA JEŻOWSKA

Eastern European History, History of Design | *University of New South Wales, Sydney* | *V* | *S*

Katarzyna Jeżowska's first book, *Socialist by Design: The Politics of Material Culture in Cold War Poland*, is forthcoming with Cornell University Press. At IAS, she will work on a project on the extractive-industrial complex in twentieth-century Eastern Europe.



TAO JIANG

Chinese Intellectual History | *Rutgers University* | *F*
Starr Foundation East Asian Studies Member

At IAS, Tao Jiang will work on his third monograph, tentatively titled, "Buddha Nature, One Mind, and the Invention of a Universal Mind in Early Medieval China."



GRIGORY KESSEL

Syriac Christianity | *Austrian Academy of Sciences*, *Institute for Medieval Research*
Patricia Crone Member

Grigory Kessel's research project examines the Syriac manuscript heritage of Saint Catherine's Monastery at Mount Sinai, with particular emphasis on dispersed fragments and palimpsests.



CAT LAMBERT

Classics | *Cornell University* | *S*
The Andrew W. Mellon Foundation Fellowship for Assistant Professors

Cat Lambert works on Greek and Latin literature through the lenses of book history, history of reading, queer theory, and reception studies. At IAS, she will work on a book that explores how Eve Sedgwick's uses of the poet C. P. Cavafy offer new critical approaches to handling harmful, homophobic narratives about classical antiquity.



JESSICA LAMONT

Classics, Ancient History, Religion, Magic, Medicine | *Yale University* | *S*
Funding provided by the Herodotus Fund

Jessica Lamont's research focuses on Ancient Greek social history, religion, magic, and medicine. Her projects at IAS include a study of magic inscriptions from Roman Greece (Corinth), in addition to healing practices and medical pluralism in Classical Greece.



SNEZANA LAWRENCE

History of Mathematics, Intellectual History | *V* | *F*

Snezana Lawrence will use her visit for archival research on "Zero-Sum Games: The Minimax Revolution" (to be published by Yale University Press), exploring the birth of game theory and its Cold War impact. She will focus on mathematics and computing from John von Neumann's arrival at the Institute in 1933 to the creation of the JOHNNIAC computer in 1953.



LISA LEE

Modern and Contemporary Art History | *Emory University*
Agnes Gund and Daniel Shapiro Member; additional funding provided by the Fund for Historical Studies

Lisa Lee is initiating a project on the rhetorical uses of proportion as a form of political provocation, in which the ideals of commensuration and harmony render disunity starkly visible. Anchored in the postwar moment, the project will engage in diachronic study of earlier moments of proportional thinking.



LIHONG LIU

History of Art | *University of Michigan* | *S*
Roger E. Covey Member in East Asian Studies

Lihong Liu studies Chinese art and the visual and material culture of the late imperial period. At IAS, she will complete a book on the relationship between waterways and artistic practices from approximately the 1470s to the 1670s.

F First Term • *S* Second Term • *V* Visitor • *VA* Visiting Associate • *SRA* Senior Research Associate • *RA* Research Associate



KYLE WILLIAM MAHONEY

Ancient Greek History | *Swarthmore College* | *F*
Willis F. Doney Member

Kyle William Mahoney is an ancient historian and archaeologist who specializes in epigraphy and Mycenology. At IAS, Mahoney is working on a manuscript about toponymy and topography in the ancient Peloponnese, with a particular focus upon the place names attached to mountains.



ELIZABETH C. MANSFIELD

Eighteenth-Century European Art History | *Pennsylvania State University*
Willis F. Doney Member; additional funding provided by The Ruth Stanton Foundation Fund

Elizabeth C. Mansfield will work on a book tentatively titled "Picture This: Realism and the Empirical Imagination," which aims to reorient art historical understanding of the nineteenth-century Realist movement by approaching it historically via the Enlightenment rather than as an inchoate expression of avant-garde modernism.



CHRISTIAN MCMILLEN

American Indian History | *University of Virginia*
Elizabeth and J. Richardson Dilworth Member; additional funding provided by the George F. Kennan Membership Fund

Thirty million acres of individually held Native land were lost in the twentieth century. Christian McMillen's *Land Melting Like Snow* (Yale University Press) explains how the federal government forcibly privatized trust land, opening it to sale, taxation, and foreclosure, thereby dispossessing tens of thousands of people.



SARAH MCNAMER

Medieval English Literature and the History of Emotion | *Georgetown University*
George William Cottrell, Jr. Member

Sarah McNamer studies the interplay between medieval literature and the history of emotion. She also enjoys literary-historical detective work. Her project at IAS draws on affective evidence to advance a new theory of the identity and cultural location of the Pearl poet, one of the most brilliant and elusive of all English writers.



ROBERT MORRISON

History of Science in Islamic Societies and Jewish Cultures | *Bowdoin College* | *S*
Funding provided by The Andrew W. Mellon Foundation

Robert Morrison is beginning a study of *You Did It So Do Not Blame Me*, a scientific polemic by the polymath Qutb al-Din al-Shirazi (d. 1311).



AYA NAKAMA

History of Medieval and Early Modern Art, Global and Cross-cultural Perspective in Art History, Intersections of Art and Science | *V* | *F*

Aya Nakama specializes in the mystical representation of the Virgin Mary. At IAS, she will explore the artistic transformation of the value of love within the context of global development. She will also investigate the historical intersection of scientific observation and artistic creation in understanding spatial scales beyond human visual perception.



LAILA PARSONS

Modern Middle East History | *McGill University* | *V* | *F*

Laila Parsons is a historian of the modern Middle East. While at IAS, she will work on her third book, a study of the British occupation of Palestine, 1917–48.



MARKKU PELTONEN

Early Modern Intellectual History | *University of Helsinki* | *S*
Funding provided by The Gladys Kriebel Delmas Foundation and The Andrew W. Mellon Foundation

Markku Peltonen is an intellectual historian. At IAS, he is writing a book on democratic thought in early modern Europe, with a particular focus on the Holy Roman Empire.



FILIPPO PETRICCA

Medieval Italian and French Literature | *Indiana University at Bloomington*
Funding provided by the Herodotus Fund

Filippo Petricca is a scholar of the literary imagination whose research examines how medieval fiction engages with economic theories and practices. His project at the Institute is entitled "The Virtuous Economy: Money and the Literary Imagination in Late Medieval Paris and Florence."



PAUL REITTER

German Studies | *Ohio State University* | *S*
George F. Kennan Member

Paul Reitter's research has focused on German-Jewish culture and intellectual history, the history of the university, and translation. At IAS, he will be working on a new English translation/edition of Karl Marx's *Capital*, Vol. 2.



ANNA RIPATTI

History of Art and Architecture | *University of Helsinki* | *V* | *S*

Anna Ripatti is an art historian specializing in nineteenth-century art and architecture in Europe. While at IAS, she will be working on a book project on political efforts to standardize architecture for the working class in mid-nineteenth-century France.



SERGIO ROMERO

Linguistic Anthropology | *University of Texas at Austin*
Hans Kohn Member

Sergio Romero will be working on a study of the composition, translation, and circulation of sixteenth- and seventeenth-century doctrinal and devotional literature in Highland Mayan languages of Guatemala. The study considers multiple pastoral genres as well as notebooks kept in Mayan languages by native assistants of Dominican and Franciscan friars.



VALENTINA SAGARIA ROSSI

Arabic Manuscript Studies and Textual Traditions | *Università degli Studi di Roma Tor Vergata* | *F*
William D. Loughlin Member

At IAS, Valentina Sagaria Rossi will edit the rich and unexplored correspondence (1897–1917) between Giuseppe Caprotti and the Arabist Eugenio Griffini, focusing on Yemen's manuscript heritage and on the networks connecting the Arabian Peninsula and Europe, and thereby shed new light on the transfer of Yemeni manuscripts to European libraries.



ASIF A. SIDDIQI

History of Science and Technology | *Fordham University*
Funding provided by the Hetty Goldman Membership Fund

Asif A. Siddiqi is a historian of modern science and technology. While at IAS, he will work on "Departure Gates: Postcolonial Histories of Space on Earth," which explores the considerable infrastructural imprint of spaceflight activities on the physical and social geography of our home planet, often manifest in damage and displacement.



KUTLUGHAN SOYUBOL

Intellectual History, History of Science, Modern Middle East | *Boğaziçi University* | *F*
Willis F. Doney Member; additional funding provided by the Fund for Historical Studies

Kutlughan Soyubol is an intellectual historian whose work examines the entanglements of religion, secularism, and science in the Middle East. At IAS, he will complete a book project that focuses on the reconfiguration of concepts of mental health and selfhood within the context of secular nation-building in early republican Turkey.



JESSE SPOHNHOLZ

Early Modern History | *Washington State University* | *S*
Edwin C. and Elizabeth A. Whitehead Fellow

Jesse Spohnholz is writing a history of a Dutch settlement begun in the German lands in 1562. Frankenthal, as it was called, was a refugee community, a utopian experiment, a colony within Europe, and an exercise in state building. This research puts early modern mobility and re-settlement taking place within Europe in global perspective.



JENNIFER TAMAS

Early Modern French Culture, History and Literature | *Rutgers University*
Funding provided by the Florence Gould Foundation Fund

Jennifer Tamas works at the crossroads of gender studies and early modern French culture. At the Institute, she will work on a new book project, "Behind Closed Doors: Historicizing Conjugal Duty in Early Modern France (1607–1701)," which investigates judicial records, canards, notarial deeds, literary texts, and neglected family papers.



PETER VALE

History of Capitalism and the Environment | *Institute for Advanced Study*

Peter Vale is a historian of capitalism and the environment in Africa. His current book project, "The Copper Eaters: Inventing Capitalism in Central Africa," is a cultural and social history of copper mining in today's most valuable geological landscape: Democratic Republic of the Congo (DRC).



VESSELA VALIAVITCHARSKA

Byzantine Literature and Rhetoric | *University of Maryland, College Park* | *F*
George William Cottrell, Jr. Member; additional funding provided by the Fund for Historical Studies

At IAS, Vessela Valiavitcharska will study the philosophy of language implicit in Byzantine rhetorical treatises from the ninth to the eleventh centuries. Ideas of how language worked affected everything, from argument construction to verbal expression.

F First Term • *S* Second Term • *V* Visitor • *VA* Visiting Associate • *SRA* Senior Research Associate • *RA* Research Associate



Q. EDWARD WANG

Chinese Historiography | *Rowan University*
Funding provided by the Hetty Goldman Membership Fund and The Andrew W. Mellon Foundation

This year at IAS, Q. Edward Wang will examine the later life of Gu Jiegang, a leading historian of modern China best known for the Doubting Antiquity movement. Drawing mainly on his diaries and letters in Gu Jiegang's *Completed Works* (2011), it explores how he navigated the ideological pressures of Maoist China.



ANDREW WASSERMAN

Art History | *Missouri State University*
Funding provided by Friends of the Institute for Advanced Study and the Fund for Historical Studies

Andrew Wasserman is an art and architectural historian. While at IAS, he will be working on a book about postwar public art in North American cities and the construction of a new civic body.



MEG WEEKS

Modern Latin American History | *University of Florida*
The Andrew W. Mellon Foundation Fellowship for Assistant Professors

This year at IAS, Meg Weeks will finish revisions on her first book, "From the House to the Street," which examines informal women workers during Brazil's democratic transition. She will also draft two new articles, one on transnational feminisms in the Americas and another on mid-twentieth-century experiments in red-light district regulation in Rio.



DAVID WILTON

Historical Linguistics, Medieval English Literature | *Institute for Advanced Study* | *V*

David Wilton's current project examines lexicographic methodological practices, in particular the selection, presentation, and citation of usage citations in historical dictionaries, and how these practices are affected by the shift from print dictionaries to digital ones.



ROBERT WISNOVSKY

Islamic Intellectual History | *McGill University* | *F*
Patricia Crone Member

Robert Wisnovsky studies the history of Arabic-Islamic philosophy. While at IAS, he will be working on the reception of Avicenna's (i.e., Ibn Sīnā, d. 1037) logic and metaphysics up to Muhammad 'Abduh (d. 1905).



LI YANG

Modern East Asian History, Women and Gender History | *Shanghai International Studies University* | *V* | *S*

Li Yang researches modern East Asian history, specializing in Chinese and Japanese women's and gender history. At IAS, Yang will examine 1970s exchanges between Japanese and Western feminist ideas and their impact on Japanese women's historical writing.



JOSEPH ZIEGLER

History of Medieval Medicine and Science | *University of Haifa*

Joseph Ziegler studies learned medieval physiognomy and works on a book project about the rise of physiognomic thinking in the Latin West from ca. 1200–ca. 1500.

F First Term • *S* Second Term • *V* Visitor • *VA* Visiting Associate • *SRA* Senior Research Associate • *RA* Research Associate

School of Mathematics

Administrative Officer | Nicole Maldonado

The School of Mathematics, established in 1933, was the first School at the Institute for Advanced Study. Oswald Veblen, Albert Einstein, John von Neumann, and Hermann Weyl were the first Faculty appointments. Kurt Gödel, who joined the Faculty in 1953, was one of the School's first Members. Today, the School is an international center for research in mathematics and theoretical computer science. Members discover new mathematical results and broaden their interests through seminars and interactions with the Faculty and with each other. Several central themes in mathematics in the last nine decades owe their major impetus to discoveries that took place at the Institute. As an example, the creation of one of the first stored-program computers, which von Neumann built on the Institute's campus, influenced the development of today's computers and formed the mathematical basis for computer software.

During the 2026–27 academic year, the School will have a special year on Conformally Symplectic Dynamics and Geometry. Michael Hutchings from the University of California, Berkeley will be the Distinguished Visiting Professor.

The purpose of this special year is to investigate the relations of conformally symplectic dynamics with classical symplectic dynamics, to understand the new phenomena that appear, and to develop associated geometric structures, such as locally conformal symplectic manifolds. Symplectic dynamics studies the dynamics of symplectic maps, Hamiltonian vector fields, and Reeb vector fields on contact manifolds. There have been some recent breakthroughs in symplectic dynamics using Floer theoretic techniques, for example, the proofs of smooth closing lemmas in low dimensions. Conformal symplectic dynamics is an extension of symplectic dynamics in which the symplectic form is rescaled and not necessarily preserved, which allows for dissipative behavior. Some well-established results of symplectic dynamics have natural extensions to the conformal setting (for example KAM theory, Aubry-Mather subsets, Arnold diffusion, and rigidity results for invariant manifolds), while there are new phenomena special to the dissipative case, such as Birkhoff attractors.

The goal of the program is to bring together experts in symplectic geometry, dynamics, partial differential equations, and applications, in order to exchange ideas between subfields and develop the broader world of conformally symplectic dynamics and geometry.

Senior participants include Marie-Claude Arnaud, Inmaculada Baldomá Barraca, Jacques Fejoz, Marian Gidea, Marco Mazzucchelli, Tere M-Seara, Alfonso Sorrentino, Claude Viterbo, and Maxime Zavidovique.



BHARGAV BHATT

Fernholz Joint Professor

Bhargav Bhatt is interested in algebraic geometry, in a broad sense, and especially enjoys arithmetic questions. He has made fundamental contributions to *p*-adic Hodge theory and applied them to longstanding questions in commutative algebra and algebraic topology.



CAMILLO DE LELLIS

IBM von Neumann Professor

Camillo De Lellis, a geometric analyst, has broad expertise in the calculus of variations, geometric measure theory, and fluid dynamics. Using modern tools and innovative approaches, De Lellis has contributed to central problems in analysis and geometry, resulting in the creation of transparent proofs of regularity for minimal surfaces and opening new lines of inquiry for geometric analysts to explore.



IRIT DVEER DINUR

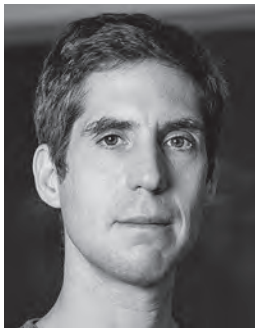
Betsey Lombard Overdeck Theory of Computing Professor

Irit Dveer Dinur is interested in theoretical computer science, especially error-correcting codes and probabilistically checkable proofs, both of which capture a certain “robustness” in computation. Currently, she is interested in connecting these to so-called high-dimensional expansion—an analogue of expander graphs that draws on group theory, topology, and combinatorics.



ELON LINDENSTRAUSS
Professor

Elon Lindenstrauss is a leading authority in the field of ergodic theory, dynamical systems, and their applications to number theory. His major breakthroughs include the development of the theory of mean topological dimension, the proof of quantum unique ergodicity for arithmetic surfaces, and the characterization of the set of possible exceptions to the celebrated Littlewood conjecture in Diophantine approximation.



JACOB LURIE
Frank C. and Florence S. Ogg Professor

Jacob Lurie's research has influenced a diverse range of fields from topology to number theory, providing foundational work that has changed the way mathematicians describe and work with derived phenomena. His ideas have redefined the foundations of homotopy theory and topological aspects of algebraic geometry, providing a channel through which algebraic topology influences algebraic geometry. His proof of the Baez-Dolan cobordism hypothesis changed the field dramatically, providing a precise dictionary between manifold theory and operadic algebra as well as an applicable language for topological field theory.



AARON NABER
Professor

Aaron Naber, a world-renowned geometric analyst, has opened new horizons for studying singular sets arising in the calculus of variations. Powerful techniques that he has developed in the field of Riemannian geometry have also brought about new understandings of the structure of Gromov-Hausdorff limit spaces with lower Ricci bounds, Einstein manifolds, and their degenerations.



TIM ROUGHGARDEN

Professor

Widely regarded as a field-defining figure in algorithmic game theory, Tim Roughgarden works at the interface of computer science and economics, and on the design, analysis, and limitations of algorithms. His research spans many application areas, including networks, auctions, markets, and blockchain protocols. He has written or edited numerous books and monographs, including *Twenty Lectures on Algorithmic Game Theory*, *Beyond the Worst-Case Analysis of Algorithms*, and the *Algorithms Illuminated* series.



AKSHAY VENKATESH

Robert and Luisa Fernholz Professor

Akshay Venkatesh is a mathematician who has worked on many topics at the interface between number theory and other fields, including representation theory, dynamics, and algebraic topology. His recent work examines new algebraic structures related to the topology of locally symmetric spaces.



AVI WIGDERSON

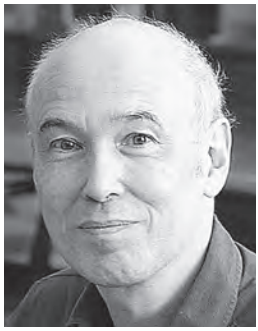
Herbert H. Maass Professor

Avi Wigderson is a widely recognized authority in the diverse and evolving field of theoretical computer science. His main research area is computational complexity theory. This field studies the power and limits of efficient computation and is motivated by such fundamental scientific problems as Does P = NP? (Can mathematical creativity be efficiently automated?) Can every efficient process be efficiently reversed? (Is electronic commerce secure?) Can randomness enhance efficient computation? Can quantum mechanics enhance efficient computation? How do we learn, and can machines be taught to learn like us (or better)?



ENRICO BOMBIERI
Professor Emeritus

Enrico Bombieri, a Fields Medalist for his work on the large sieve and its application to the distribution of prime numbers, is one of the world's leading authorities on number theory and analysis. His work ranges from analytic number theory to algebra and algebraic geometry, and the partial differential equations of minimal surfaces. In the past decade, his main contributions have been in the active area of Diophantine approximation and Diophantine geometry, exploring questions of how to solve equations and inequalities in integers and rational numbers. Some of the above topics, in particular those related to prime number theory, have potential practical applications to cryptography and security of data transmission and identification.



PIERRE DELIGNE
Professor Emeritus

Pierre Deligne is known for his work in algebraic geometry and number theory. He pursues a fundamental understanding of the basic objects of arithmetical algebraic geometry—motive, L-functions, Shimura varieties—and applies the methods of algebraic geometry to trigonometrical sums, linear differential equations and their monodromy, representations of finite groups, and quantization deformation. His research includes work on Hilbert's twenty-first problem, Hodge theory, the relations between modular forms, Galois representations and L-series, the theory of moduli, Tannakian categories, and configurations of hyperplanes.



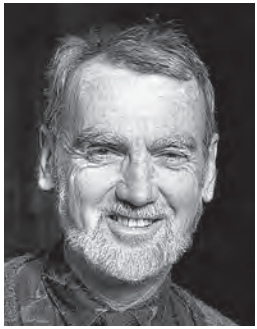
PHILLIP A. GRIFFITHS
Professor Emeritus

Phillip A. Griffiths initiated, with his collaborators, the theory of variation of Hodge structure, which has come to play a central role in many aspects of algebraic geometry and its uses in modern theoretical physics. In addition to algebraic geometry, he has made contributions to differential and integral geometry, geometric function theory, and the geometry of partial differential equations. A former Director of the Institute (1991–2003), Griffiths chaired the Science Initiative Group, which fosters science in the developing world through programs such as the Carnegie–IAS African Regional Initiative in Science and Education.



HELMUT HOFER
Professor Emeritus

One of the founders of the area of symplectic topology, Helmut Hofer works on symplectic geometry, dynamical systems, and partial differential equations. His fundamental contributions to the field have led to a new area of mathematics known as Hofer geometry.



ROBERT P. LANGLANDS
Professor Emeritus

Robert P. Langlands's profound insights in number theory and representation theory include the formulation of general principles relating automorphic forms and algebraic number theory; the introduction of a general class of L-functions; the construction of a general theory of Eisenstein series; the introduction of techniques for dealing with particular cases of the Artin conjecture (which proved to be of use in the proof of Fermat's theorem); the introduction of endoscopy; and the development of techniques for relating the zeta functions of Shimura varieties to automorphic L-functions. Mathematicians have been working on his conjectures, the Langlands Program, for the last three decades. In recent years, he has been preoccupied by the geometric theory of automorphic forms.



ROBERT MACPHERSON
Professor Emeritus

Robert MacPherson's work has introduced radically new approaches to the topology of singular spaces and promoted investigations across a great spectrum of mathematics. He works in several fields of geometry-topology, algebraic geometry, differential geometry, and singularity theory. He is especially interested in aspects of geometry that interact with other areas of mathematics, such as the geometry of spaces of lattices, which interacts with modular forms, and the geometry of toric varieties, which interacts with combinatorics.



PETER SARNAK

Professor Emeritus

Peter Sarnak has made major contributions to number theory and to questions in analysis motivated by number theory. His interest in mathematics is wide-ranging, and his research focuses on the theory of zeta functions and automorphic forms with applications to number theory, combinatorics, and mathematical physics.



THOMAS SPENCER

Professor Emeritus

Thomas Spencer has made major contributions to the theory of phase transitions and the study of singularities at the transition temperature. In special cases, he and his collaborators have proved universality at the transition temperature. Spencer has also worked on partial differential equations with stochastic coefficients, especially localization theory. He is presently developing a mathematical theory of supersymmetric path integrals to study the quantum dynamics of a particle in random media. His other interests include random matrices, chaotic behavior of dynamical systems, and nonequilibrium theories of turbulence.

DISTINGUISHED VISITING PROFESSORS



MICHAEL HUTCHINGS

Symplectic Geometry | *University of California, Berkeley*
Funding provided by the Charles Simonyi Endowment

Michael Hutchings studies dynamics in symplectic geometry with connections to low dimensional topology.



KAREN UHLENBECK

Geometric Partial Differential Equations, Gauge Theory | *The University of Texas at Austin*

Karen Uhlenbeck works primarily on geometric partial differential equations. She has worked in the areas of the calculus of variations, minimal surfaces, harmonic maps, gauge theory, and integrable systems. Her current interest is in analysis connected with the best Lipschitz model for Teichmüller space of Thurston.

VISITING PROFESSORS



WEI HO

Number Theory, Algebraic Geometry | *Institute for Advanced Study* | *Princeton University* | *University of Michigan*
Funding provided by the Fund for Mathematics

Wei Ho's research is in number theory, algebraic geometry, and related fields. Some of her favorite work involves finding arithmetic applications of classical algebro-geometric constructions.

F First Term • *S* Second Term • *V* Visitor • *VRI* Veblen Research Instructor • *BF* Bourgain Fellow
VEB Veblen Fellow • *VNF* von Neumann Fellow

VISITING PROFESSORS



ISHAN LEVY

Homotopy Theory | *Institute for Advanced Study*
Funding provided by the National Science Foundation

Ishan Levy is broadly interested in homotopy theory and related subjects. Topics he is interested in include telescopic stable homotopy theory and its relations to algebraic K-theory, homotopy groups of spheres, and homology of Hurwitz spaces.



ANKUR MOITRA

Theoretical Machine Learning | *Massachusetts Institute of Technology*
von Neumann Member-at-Large

Ankur Moitra will work on theoretical foundations for modern machine learning, including generative AI.



HUY TUAN PHAM

Combinatorics, Probability, Theoretical Computer Science | *Caltech* | *F*
Funding provided by the Bell System Fellowship

This year at IAS, Huy Tuan Pham plans to work on problems around high-dimensional phenomena in combinatorics and probability, with connections and applications to theoretical computer science, large deviations, and Ramsey theory.

F First Term • *S* Second Term • *V* Visitor • *VRI* Veblen Research Instructor • *BF* Bourgain Fellow
VEB Veblen Fellow • *VNF* von Neumann Fellow



ALBERTO ABBONDANDOLO

Symplectic Topology and Dynamics | *Ruhr-Universität Bochum*
Funding provided by an anonymous donor

Alberto Abbondandolo is currently working on inverse problems and rigidity questions in Hamiltonian dynamics.



ANSHUL ADVE

Analysis, Spectral Theory, Automorphic Forms | *Institute for Advanced Study*
Funding provided by the National Science Foundation

Anshul Adve is interested in analysis, especially concerning automorphic forms and the spectral theory of hyperbolic surfaces.



MARIE-CLAUDE ARNAUD

Dynamical Systems | *University of Avignon* | *S*
Funding provided by an anonymous donor

Marie-Claude Arnaud will work on conformal and contact dynamical systems.



INMACULADA CONCEPCION BALDOMÁ BARRACA

Dynamical Systems | *Universitat Politècnica de Catalunya*
Funding provided by an anonymous donor

Inmaculada Concepcion Baldomá Barraca's research focuses on the study of dynamical systems, with a particular interest in how the invariant objects and the geometry of their invariant manifolds determine the qualitative behavior of the system. She studies mechanisms leading to instability and chaos through the transverse intersections between these manifolds.



EDWARD BELBRUNO

Celestial Mechanics | *Yeshiva University* | *V*

Edward Belbruno studies celestial mechanics, quantum mechanics, dynamical systems, and low energy chaotic transfers to the moon and beyond. He is also an artist of abstract expressionism.

F First Term • *S* Second Term • *V* Visitor • *VRI* Veblen Research Instructor • *BF* Bourgain Fellow
VEB Veblen Fellow • *VNF* von Neumann Fellow



GABRIELE BENEDETTI

Hamiltonian Dynamics | *Vrije Universiteit Amsterdam* | *S*
Funding provided by an anonymous donor

Gabriele Benedetti studies dynamics on symplectic manifolds with the goal of understanding the motion of particles in a magnetic field. At IAS, Benedetti plans to investigate thermostats, which are dissipative generalizations of magnetic systems and are described by conformal symplectic geometry.



MASSIMILIANO BERTI

Dynamics of Partial Differential Equations | *SISSA* | *F*
Funding provided by the Giorgio and Elena Petronio Fellowship Fund

Massimiliano Berti's research focuses on the dynamical study of Hamiltonian dispersive PDEs, including Euler equation, water waves, KdV, SQG, Schrödinger, wave, and Klein-Gordon equations. He has pioneered unconventional approaches to KAM theory, Birkhoff normal forms, and modulational instability for quasi-linear Hamiltonian PDEs.



DANIEL W. BOUTROS

Partial Differential Equations | *Institute for Advanced Study*
Funding provided by The Simons Foundation

Daniel W. Boutros's research interests lie in the analysis of partial differential equations and fluid mechanics, in particular in relation to geophysical flows and turbulence.



RENATO CALLEJA

Dynamical Systems | *IIMAS-Universidad Nacional Autónoma de México (UNAM)* | *S*
Funding provided by an anonymous donor

Renato Calleja works in dynamical systems, particularly KAM theory and invariant structures in Hamiltonian and conformally symplectic systems. His research combines analytical methods and validated numerics to study quasi-periodic motions, breakdown of invariant tori, and applications to thermostated Hamiltonian dynamics.



SPENCER CATTALANI

Symplectic Geometry | *Institute for Advanced Study*
Funding provided by the National Science Foundation

Spencer Cattalani studies the interactions between symplectic geometry, complex geometry, and geometric analysis, with a focus on generalizations of pseudoholomorphic curves.

F First Term • *S* Second Term • *V* Visitor • *VRI* Veblen Research Instructor • *BF* Bourgain Fellow
VEB Veblen Fellow • *VNF* von Neumann Fellow



JULIAN CHAIDEZ

Symplectic Topology and Smooth Dynamics | *University of Southern California* | *F*
Funding provided by the National Science Foundation

Julian Chaidez works at the interface of symplectic topology, smooth topology, and dynamical systems. At IAS, he will study open problems in the characteristics dynamics of hypersurfaces in contact manifolds, pseudo-Anosov flows, and billiards.



SKANDER CHARFI

Mathematics, Symplectic Dynamics, Weak KAM Theory | *Institute for Advanced Study* | *S*
Funding provided by an anonymous donor

This year, Skander Charfi plans to study regularity properties of the Birkhoff attractor in the conformally symplectic setting. More generally, Charfi is interested in non-autonomous weak KAM theory and in the asymptotic behavior of viscosity solutions.



SHULI CHEN

Geometric Analysis | *Institute for Advanced Study*
Funding provided by The Ambrose Monell Foundation

Shuli Chen is interested in geometric analysis, with a focus on geometric variational problems. She will continue to investigate the Morse index of minimal surfaces and the geometric and topological effects of scalar curvature.



DANIEL ANTHONY CRISTOFARO-GARDINER

Symplectic Geometry | *University of Maryland, College Park* | *F*
Funding provided by the Charles Simonyi Endowment

While at IAS, Daniel Anthony Cristofaro-Gardiner plans to work on symplectic dynamics. He is interested in using topological methods to study periodic orbits and more general invariant sets. He is also interested in continuous phenomena.



ADRIEN GUILLAUME CURRIER

Mathematics | *Peking University*
Funding provided by the National Science Foundation

This year at IAS, Adrien Guillaume Currier will work on rigidity phenomena for exact Lagrangians in locally conformally symplectic geometry.

F First Term • *S* Second Term • *V* Visitor • *VRI* Veblen Research Instructor • *BF* Bourgain Fellow
VEB Veblen Fellow • *VNF* von Neumann Fellow



SANATH DEVALAPURKAR

Homotopy Theory, Representation Theory, Arithmetic Geometry |
Institute for Advanced Study | *F*
Shiing-Shen Chern Member

Sanath Devalapurkar will explore the numerous connections between homotopy theory and other branches of mathematics like geometric representation theory, arithmetic geometry, and symplectic geometry.



OLIVER EDTMAIR

Symplectic Geometry, Dynamics | *Institute for Advanced Study*
Funding provided by an anonymous donor

Oliver Edtmair is interested in symplectic geometry, dynamical systems, and related subjects. He is currently working on problems in Hamiltonian dynamics, quantitative symplectic geometry, and C^0 symplectic geometry.



YUVAL EFRON

Theoretical Computer Science, Foundations of Blockchains and Related Topics |
Columbia University
Kovner Member

Yuval Efron works on the foundations of fault-tolerant distributed computing, with a specific emphasis on its connections and applications in cryptography, quantum computing, and blockchains.



ANNA ERSCHLER

Group Theory | *Sorbonne University, Paris and CNRS* | *V* | *F*

This year, Anna Erschler plans to work on growth of groups and isoperimetry.



JOAKIM FÆRGEMAN

Mathematics | *Institute for Advanced Study* | *BF*
Minerva Research Foundation Member

Joakim Færgeman is interested in automorphy lifting over function fields and motivic aspects of the geometric Langlands correspondence.



SHAH FAISAL

Symplectic Geometry | *Institute for Advanced Study*
Funding provided by an anonymous donor

Shah Faisal works in symplectic geometry, focusing on problems related to Lagrangian capacity and symplectic embeddings. At IAS, he plans to apply techniques from string topology to compute the Lagrangian capacity of Liouville domains and investigate properties of extremal Lagrangian submanifolds in Liouville domains.



ALBERT FATHI

Hamiltonian Systems | *École Normale Supérieure de Lyon* | *V* | *F*

Albert Fathi studies Lagrangian systems, Hamiltonian dynamics, and transportation problems.



JACQUES FEJOZ

Dynamical Systems, Celestial Mechanics | *Université Paris Dauphine* | *S*
Funding provided by an anonymous donor

Jacques Fejoz will focus on stability and instability properties in Hamiltonian, symplectic, and conformally symplectic dynamical systems, especially coming from celestial mechanics or vortex dynamics.



MAXWELL FISHELSON

Machine Learning Theory and Algorithmic Game Theory | *Institute for Advanced Study*
Funding provided by the National Science Foundation

Maxwell Fishelson's research focuses on the theoretical foundations of provably reliable AI. He designs learning algorithms for regret minimization and calibration in dynamic, adversarial environments.



REZA GHEISSARI

Probability Theory | *Northwestern University* | *S*
Funding provided by the National Science Foundation

Reza Gheissari's research interests are in probability theory and its applications. He is interested in the equilibrium and out-of-equilibrium behavior of statistical mechanics models, related Markov chains, and applications to sampling and optimization questions in high-dimensional spaces.

F First Term • *S* Second Term • *V* Visitor • *VRI* Veblen Research Instructor • *BF* Bourgain Fellow
VEB Veblen Fellow • *VNF* von Neumann Fellow



MARIAN GIDEA

Mathematics | *Northeastern Illinois University* | *V* | *S*

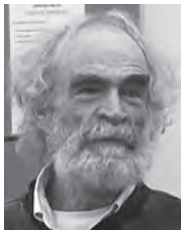
Marian Gidea works on instability problems in Hamiltonian systems and conformally symplectic dynamical systems, with applications to celestial mechanics.



MARK GORESKY

Geometry, Automorphic Forms | *Institute for Advanced Study* | *V*

Mark Goresky is interested in singularities as they arise in topology, algebraic geometry, number theory, and analysis.



MIKHAEL GROMOV

Riemannian Geometry, Symplectic Geometry, Geometric Group Theory | *New York University and Institut des Hautes Études Scientifiques* | *F*

Mikhael Gromov is known for his work in geometry, analysis, and group theory. His research interests are Riemannian geometry, symplectic geometry, and geometric group theory.



PAZIT HAIM-KISLEV

Symplectic Geometry | *Institute for Advanced Study*
Erik Ellentuck Fellow

Pazit Haim-Kislev's research delves into the intricate intersections of symplectic and convex geometries, with a particular focus on symplectic capacities and their connections to geometric structures and dynamics within convex domains.



JAKOB HEDICKE

Contact and Symplectic Geometry | *Radboud University*
Funding provided by an anonymous donor

Jakob Hedicke is interested in contact and symplectic geometry, and their interactions with mathematical physics, in particular with general relativity. At IAS, Hedicke will work on orderability phenomena in contactomorphism groups, topological properties of Weinstein manifolds, and the dynamics of Reeb flows in low dimensions.

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MAX HOPKINS

High Dimensional Expanders and Hardness of Approximation | *Institute for Advanced Study*
Funding provided by the National Science Foundation

Max Hopkins is broadly interested in the role of structure and randomness in computation, especially with respect to the nascent theory of high dimensional expansion. He is also interested in the interplay of combinatorial, geometric, and topological structure in learning and algorithmic stability.



CHENZI JIN

Complex Algebraic Geometry | *Institute for Advanced Study* | *VEB*
Funding provided by the Fund for Mathematics

Chenzi Jin is interested in complex algebraic geometry, especially log canonical thresholds and stability thresholds, as well as the enumeration of lattice points and related problems in discrete and convex geometry.



VADIM KALOSHIN

Mathematics | *Institute of Science and Technology Austria* | *S*
Funding provided by the Bell System Fellowship

This year at IAS, Vadim Kaloshin will work on spectral rigidity of billiards and geodesic flows.



DONGRYUL KIM

Geometry, Topology, Dynamics | *Institute for Advanced Study*
Funding provided by an anonymous donor

Dongryul Kim is broadly interested in geometry, topology, dynamics, and rigidity. His recent works focus on dynamical systems originating from geometry and topology, especially with infinite measures. He works on developing techniques from geometric topology and geometric group theory to study dynamics and rigidity, and vice versa.



WOOYEON KIM

Dynamical Systems | *V* | *S*

Wooyeon Kim is interested in homogeneous dynamics and its applications to number theory. While at IAS, he will study escape of mass, density, and equidistribution problems on homogeneous spaces.

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CONSTANTIN KOGLER

Random Walks on Lie Groups, Fractal Geometry, Ergodic Theory | *Institute for Advanced Study*

Constantin Kogler is interested in random walks on Lie groups and homogeneous spaces. Kogler's work also focuses on understanding properties of fractal measures that arise from limits of random walks. Kogler relies on techniques from probability, analysis, additive combinatorics, and number theory (particularly Diophantine approximation).



GUY KORNOWSKI

Machine Learning and Optimization | *Institute for Advanced Study* | *S*
Kovner Member

Guy Kornowski is interested in the foundations of modern machine learning, focusing on the optimization and generalization of large-scale models.



OLIVER KORTEN

Computational Complexity Theory | *Institute for Advanced Study*
Funding provided by the National Science Foundation

Oliver Korten works in computational complexity theory, with a particular interest in circuit lower bounds, explicit construction problems, and the role of randomness in computation.



JANE C. LANGE

Learning Theory, Sublinear Algorithms | *Institute for Advanced Study*
Funding provided by the National Science Foundation

Broadly, Jane C. Lange's research is in the theory of machine learning and property testing. Her recent areas of focus are intermediate models between distribution-specific and distribution-free PAC learning, and learning hypotheses with guarantees besides accuracy, such as robustness.



MATT W. LARSON

Combinatorial Algebraic Geometry | *Institute for Advanced Study* | *BF*
Funding provided by the National Science Foundation

Matt W. Larson is interested in applications of algebraic geometry to combinatorics, especially to matroids and their generalizations. He is also interested in applying combinatorial tools to problems in algebraic geometry.

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SPENCER LESLIE

Automorphic Representation Theory | *Boston College* | *VNF*
Funding provided by the National Science Foundation

Spencer Leslie will study aspects of automorphic forms and their arithmetic invariants, with a particular focus on issues related to endoscopy for relative trace formulas.



MICHAEL LEVIN

Topology | *Ben-Gurion University of the Negev* | *S*
Funding provided by an anonymous donor

This year at IAS, Michael Levin will work on mean dimension, a topological invariant of dynamical systems introduced by M. Gromov.



YINGKUN LI

Number Theory
Funding provided by the Marvin V. and Beverly J. Mielke Fund

Yingkun Li is interested in automorphic forms and their applications to number theory. While at IAS, he plans to work on constructing automorphic forms with singularities using theta lift, and their applications to explicit class field theory.



ZHENGHUI LI

Arithmetic Geometry | *Institute for Advanced Study*
Funding provided by the Simons Foundation

Zhenghui Li works on *p*-adic Hodge theory and *p*-adic Langlands program. He is currently interested in prismatic cohomology, Hyodo-Kato cohomology, and Poincaré duality for *p*-adic etale cohomology of rigid analytic varieties.



LEVIN MAIER

Hamiltonian Dynamics, Infinite-dimensional Geometry, Symplectic Geometry | *University of Münster* | *F*
Funding provided by an anonymous donor

Levin Maier is generally interested in the interplay of dynamics, geometry, and partial differential equations. While at IAS, he will work on the interplay between billiards and symplectic geometry, as well as geometric fluid dynamics.



PETER MANOHAR

Theoretical Computer Science | *Institute for Advanced Study*
Funding provided by the National Science Foundation

Peter Manohar is broadly interested in theoretical computer science, specifically in the areas of algorithms and coding theory. His current research is focused on designing spectral algorithms for semirandom instances of optimization problems.



MARCO MAZZUCCHELLI

Symplectic Dynamics | *CNRS* | *Institut de Mathématiques de Jussieu - Paris Rive Gauche, Sorbonne Université*
Funding provided by an anonymous donor

Marco Mazzucchelli works in symplectic dynamics, in particular on questions concerning periodic orbits, the complexity of Hamiltonian systems, and rigidity phenomena in symplectic topology and Riemannian geometry.



CHEN MEIRI

Arithmetic Groups | *Technion* | *VNF*
Kovner Member

Chen Meiri studies model theory and conjugacy width in anisotropic arithmetic groups.



GRIGORII MONAKOV

Random Dynamical Systems | *Institute for Advanced Study*
Minerva Research Foundation Member

This year at IAS, Grigorii Monakov will work on random dynamical systems and applications to spectral theory.



AGUSTIN MORENO

Contact and Symplectic Geometry | *Heidelberg University, Germany* | *S*
Funding provided by the Oswald Veblen Fund

Agustin Moreno is broadly interested in contact and symplectic geometry, and interactions (e.g., mathematical physics or Hamiltonian dynamics).

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TERE M-SEARA

Dynamical Systems | *Universitat Politecnica de Catalunya* | *S*
Funding provided by an anonymous donor

This year at IAS, Tere M-Seara will work on instability and Arnold diffusion for analytic systems, as well as when some small dissipation is present on the system.



PETR NARYSHKIN

Actions of Countable Discrete Groups | *Institute for Advanced Study* | *F*
Funding provided by the Marvin V. and Beverly J. Mielke Fund

In general, Petr Naryshkin is interested in the actions of discrete countable groups on measure spaces, Borel spaces, topological spaces, and C*-algebras. Specific topics include classifiability of crossed products, Borel hyperfiniteness, mean dimension, and quantitative orbit equivalence.



JO NELSON

Symplectic and Contact Topology, Geometry, and Dynamics | *Rice University* | *F*
Funding provided by the Bell System Fellowship

This year, Jo Nelson will study the interactions between dynamics and symplectic and contact geometry.



GEORGY NOAROV

Machine Learning, AI | *Institute for Advanced Study*
von Neumann Member-at-Large

Georgy Noarov is broadly interested in the intersection of computer science, statistics and ML, and economics. Noarov's research focuses on AI/ML-driven decision-making and on uncertainty quantification, spanning predictive and generative AI. In particular, Noarov develops methodology for provable and robust calibration of model uncertainties.



ALEXANDRU OANCEA

Symplectic Topology | *Université Pierre et Marie Curie* | *S*
Funding provided by an anonymous donor

Alexandru Oancea will work on symplectic topology and Hamiltonian dynamics. He will, in particular, pursue the study of algebraic structures on Floer homology groups, both regarding foundations and applications.

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SUNG GI PARK

Algebraic Geometry | *Institute for Advanced Study and Princeton University* | *VRI*

Sung Gi Park is interested in birational geometry and Hodge theory. Park's recent works focus on applications of the theory of mixed Hodge modules to problems in birational geometry, particularly concerning singularities and hyperbolicity.



ORI PARZANCHEVSKI

Group Theory | *The Hebrew University of Jerusalem*
Kovner Member

Ori Parzanchevski is studying applications of groups and number theory to problems in combinatorics and computer science. He is particularly interested in notions of high-dimensional expansion, and their manifestations in groups and combinatorics.



JONATHAN SEJR PEDERSEN

Manifolds and Hermitian K-theory | *Institute for Advanced Study*
Funding provided by an anonymous donor

Jonathan Sejr Pedersen is interested in manifold topology and its interactions with homotopy theory. Recently, he has enjoyed applying tools from hermitian K-theory to study invariants of manifolds coming from K- or L-theory.



AARON POLLACK

Automorphic Forms | *UC San Diego*
Funding provided by the Charles Simonyi Endowment

Aaron Pollack works in the area of automorphic forms. While at IAS, Pollack will study arithmetic properties of automorphic forms on groups whose associated symmetric space has a quaternionic structure.



ANANTHARAM RAGHURAM

Number Theory, Representation Theory, Automorphic Forms and L-functions | *Fordham University*

Anantharam Raghuram will develop the machinery of Eisenstein cohomology for a reductive group over a number field with the aim of understanding the arithmetic properties of Langlands-Shahidi L-functions.

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HANLIN REN

Complexity Theory | *Institute for Advanced Study* | *V*

Hanlin Ren has a broad interest in complexity theory. Recently, Ren's research has focused on meta-complexity, which studies the difficulty of complexity theory using insights from complexity theory itself.



ANDRE REZNIKOV

Number Theory | *Bar-Ilan University* | *V* | *F*

Andre Reznikov studies periods of automorphic representations.



MEGAN RODA

Dynamical Systems, Ergodic Theory | *Institute for Advanced Study*

Funding provided by the National Science Foundation

Megan Roda studies dynamical systems and ergodic theory.



VERED ROM-KEDAR

Dynamical Systems Theory and Applications | *Weizmann Institute* | *S*

Funding provided by the Charles Simonyi Endowment

Vered Rom-Kedar's main work is on Hamiltonian impact systems, focusing on near pseudo-integrable systems—perturbations of systems whose motion is conjugate to directional flows on translation surfaces. She also develops mathematical models of the innate immune system and of human relations.



SHIRI RON

Algorithmic Game Theory | *Princeton University and Institute for Advanced Study* | *V*

Shiri Ron studies algorithmic game theory, approximation algorithms, mechanism design, and contract theory.

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DANIIL RUDENKO

Algebraic K-theory | *University of Chicago* | *VNF* | *F*
Funding provided by the National Science Foundation

Daniil Rudenko works on the connection between multiple polylogarithms and algebraic K-theory of fields.



GIULIA SACCÀ

Algebraic Geometry | *Columbia University* | *VNF* | *S*
Funding provided by the National Science Foundation

Giulia Saccà is an algebraic geometer, interested in hyper-Kähler manifolds and more generally K-trivial varieties. She plans to work on the relationship between hyper-Kähler manifolds and Fano varieties, as well as on topological and cycle theoretic properties of abelian fibrations.



EGOR SHELUKHIN

Symplectic Topology | *Université de Montréal* | *F*
Funding provided by an anonymous donor

During his stay at IAS, Egor Shelukhin will work on questions in Hamiltonian and contact dynamics, persistence modules, and related subjects.



OMRI SOLAN

Homogeneous Dynamics | *Institute for Advanced Study and Princeton University* | *BF*
Kovner Member

Omri Solan studies homogeneous dynamics, with a focus on diagonal actions and effectivization problems. In his studies, he incorporates techniques from probability theory, ergodic theory, number theory, and algebraic topology.



ALFONSO SORRENTINO

Hamiltonian Dynamics, Symplectic Dynamics, Mathematical Billiards | *Università degli Studi di Roma Tor Vergata*
Funding provided by an anonymous donor

Alfonso Sorrentino's research focuses on Hamiltonian dynamics, symplectic dynamics, and mathematical billiards, with particular emphasis on the interplay between analysis, geometry, and dynamical behavior. During his stay at IAS, he will investigate conformally symplectic dynamics and geometry, exploring both their connections with and their differences from the classical Hamiltonian and symplectic setting.

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KONSTANTINOS STAVROPOULOS

Foundations of Machine Learning | *Institute for Advanced Study*
Funding provided by an anonymous donor

Konstantinos Stavropoulos works on the foundations of reliable machine learning. He designs efficient algorithms that remain trustworthy under distribution shift and data contamination, providing provable guarantees under minimal assumptions. His work develops certification methods and advances robust and smoothed analysis techniques.



SHIRA TANNY

Symplectic Geometry, Hamiltonian Dynamics | *Weizmann Institute* | *F*

Shira Tanny focuses on dynamical applications of geometric methods. Specific interests include billiard dynamics, contact topology, and the closing lemma.



PACÔME VAN OVERSCHELDE

Symplectic and Contact Geometry | *Institute for Advanced Study*
Funding provided by the Marvin V. and Beverly J. Mielke Fund

Pacôme Van Overschelde works in symplectic and contact geometry, with a focus on locally conformally symplectic geometry and its interactions with contact topology and dynamics. During his visit to the Institute, he will study quantitative aspects of locally conformally symplectic geometry in connection with conformal Hamiltonian dynamics.



VERA VERTESI

Low-dimensional Topology | *University of Vienna*
Funding provided by The Ambrose Monell Foundation

During her time at IAS, Vera Vertesi will study problems in contact topology, focusing on extending Giroux's tightness criterion near hypersurfaces to higher dimensions, and on which three-dimensional contact-topological properties can be read off from the relative positions of supporting open books.



CLAUDE VITERBO

Floer Homology, Symplectic Invariants, Connections of Symplectic Geometry, Algebraic Geometry, Partial Differential Equations | *Université de Paris-Saclay*
Funding provided by an anonymous donor

While at IAS, Claude Viterbo will study conformal symplectic dynamics and applications to symplectic topology.

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LUYA WANG

Symplectic Geometry and Low-dimensional Topology | *Institute for Advanced Study and Princeton University*
Funding provided by the Giorgio and Elena Petronio Fellow II Fund

Luya Wang is currently interested in the interactions between smooth and symplectic topology. At IAS, she will continue to study symplectic structures via existing techniques, such as psuedoholomorphic curves and algebraic invariants in Floer theories, as well as building new tools in the Floer homotopy program.



ANDREAS LORENZO WIESER

Homogeneous Dynamics | *Institute for Advanced Study and Princeton University* | *V*

Andreas Lorenzo Wieser is interested in homogenous dynamics, with a focus on applications in number theory. While at IAS, he will work on effective equidistribution problems for periodic orbits of semisimple groups and also investigate density and equidistribution problems for orbits of tori.



KAI XU

Geometric Analysis | *Institute for Advanced Study*
Massive Dynamics Member

Kai Xu is currently focused on the geometry of Ricci and scalar curvature, the inverse mean curvature flow, and nonlinear potential theory (p-harmonic functions).



JINXIN XUE

Dynamical Systems | *Tsinghua University* | *F*
Funding provided by the S. S. Chern Foundation for Mathematical Research Fund

This semester at IAS, Jinxin Xue will work on problems in symplectic and contact topology and geometric flows related to dynamical systems.



MAXIME ZAVIDOVIQUE

Hamiltonian Dynamics, Weak KAM Theory | *Institut de Mathématiques de Jussieu - Paris Rive Gauche*
Funding provided by an anonymous donor

Maxime Zavidovique studies conformally symplectic systems and notions of integrability for such systems.

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VEB Veblen Fellow • *VNF* von Neumann Fellow



BINGYU ZHANG

Symplectic Geometry, Microlocal Sheaf Theory, Homotopy Theory, Higher Algebras | *Kyiv School of Economics*
Funding provided by an anonymous donor

Bingyu Zhang is a mathematician specializing in symplectic geometry and microlocal sheaf theory. During his visit to IAS, he plans to study interactions between sheaf-theoretic invariants and conformal symplectic geometry and dynamics.



RUIXIANG ZHANG

Analysis | *University of California, Berkeley* | *VNF*
Funding provided by the National Science Foundation

Ruixiang Zhang works in harmonic analysis, particularly on Fourier restriction type problems. Currently, Zhang is particularly interested in the role of additive combinatorics in harmonic analysis.



ZIHAN ZHANG

Coding Theory, Pseudorandomness, Combinatorics, and Cryptography | *Institute for Advanced Study* | *S*
Funding provided by the National Science Foundation

Zihan Zhang is interested in the theory of error-correcting codes and combinatorics, particularly their algebraic and combinatorial aspects, as well as broader connections with pseudorandomness and cryptography.



KAI ZHE ZHENG

Computer Science and Discrete Mathematics | *Institute for Advanced Study* | *S*
Funding provided by the National Science Foundation

Kai Zhe Zheng is a researcher in theoretical computer science interested in proof systems and their applications to complexity theory and cryptography.



YUXIN ZHOU

Spin Glasses and Random Matrices | *Institute for Advanced Study*
Funding provided by the National Science Foundation

Yuxin Zhou is a probabilist, with her primary research interests centered on mean field spin glass systems. In particular, she studies the landscape of Hamiltonians in mean field spin glass models.

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DAVID ZUCKERMAN

Theoretical Computer Science | *The University of Texas at Austin* | *S*
Funding provided by the Charles Simonyi Endowment

David Zuckerman's research focuses primarily on pseudorandomness, randomness extraction, and the role of randomness in computing. He is also interested in other areas of computational complexity, as well as coding theory, random walks, and extremal combinatorics.

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School of Natural Sciences

Administrative Officer | Michelle Sage

The School of Natural Sciences, established in 1966, provides a unique atmosphere for research in broad areas of theoretical physics, astronomy, and systems biology.

From its earliest days, the Institute has been a leading center for fundamental physics, contributing substantially to many of its central themes, which now interrelate with mathematics, astrophysics, and biology. Members in the astrophysics research group employ an array of tools from theoretical physics, large-scale computer simulations, and ground- and space-based observational studies to investigate the origin and composition of the universe, and to use the universe as a laboratory to study fundamental physics. At the Simons Center for Systems Biology, established in the School in 2004, the tools of modern physics and mathematics are being applied to biological investigation.

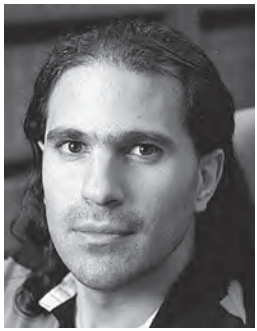
Areas of current interest in theoretical physics include elementary particle physics, particle phenomenology, string theory, quantum theory, and quantum gravity, and their relationship to geometry, theoretical and observational astrophysics, and cosmology. The astrophysics group combines theory with modern observational studies to understand a wide variety of astrophysical phenomena, from nearby planets to distant galaxies, from black holes to the dark matter and dark energy that dominate the evolution of the universe. The Simons Center conducts research at the interface of biology and the physical sciences, developing theoretical and experimental methods necessary for studying the collective behavior of biomolecules, cells, and organisms, exploring how individual components can give rise to complex, collective phenomena.

During the 2026–27 academic year, the Simons Center for Systems Biology will host a special year on Modeling Fly Vision co-organized by C.V. Starr Professor Misha Tsodyks and Visiting Professor Sebastian Seung.

New kinds of brain maps are driving a renaissance of visual neuroscience, starting with the fruit fly *Drosophila*. The fly connectome yielded as a corollary the first wiring diagram for an entire visual system. Transcriptomics is identifying the ion channels and synaptic receptors in fly visual neurons. Using such detailed information, it is now possible to model the fly visual system with unprecedented realism. Our program will address the perception of motion, color, polarization, form, and objects, as well as complex visually guided behaviors such as navigation and courtship. The program promises to have historic impact by helping to refound theoretical and computational neuroscience on the bedrock of twenty-first-century brain maps.

Senior participants include Alexander Borst, Dimitri Chklovskii, Damon Clark, Carina Curto, Tobi Delbrück, Dezhe Jin, and Shih-Chii Liu.

The School also hosts Prospects in Theoretical Physics (PiTP), a two-week residential summer program traditionally held at the Institute for promising graduate students and postdoctoral scholars, who attend lectures and sessions on the latest advances and open questions in the field of theoretical physics.



NIMA ARKANI-HAMED

Gopal Prasad Professor | **Particle Physics**

One of the leading particle physics phenomenologists of his generation, Nima Arkani-Hamed is concerned with the relation between theory and experiment. His research has shown how the extreme weakness of gravity, relative to other forces of nature, might be explained by the existence of extra dimensions of space, and how the structure of comparatively low-energy physics is constrained within the context of string theory. He has taken a lead in proposing new physical theories that can be tested at the Large Hadron Collider at CERN in Switzerland.



JUAN MALDACENA

Carl P. Feinberg Professor | **Theoretical Physics**

Juan Maldacena's work focuses on quantum gravity, string theory, and quantum field theory. He has proposed a relationship between quantum gravity and quantum field theories that elucidates various aspects of both theories. He is studying this relationship further in order to understand the deep connection between black holes and quantum field theories, and he is also exploring the connection between string theory and cosmology.



NATHAN SEIBERG

Charles Simonyi Professor | **Mathematical Physics**

Nathan Seiberg's research focuses on various aspects of string theory, quantum field theory, and particle physics. He has made deep contributions to the understanding of the dynamics of quantum field theories, especially two-dimensional conformal field theories and supersymmetric quantum field theories. His exact solutions of supersymmetric systems have uncovered many new and unexpected phenomena, including the fundamental role of electric-magnetic duality in these theories. These exact solutions have led to many applications in physics and in mathematics. Recently, he combined insights from his earlier work to shed new light on quantum field theories in three space-time dimensions, which are also of interest to condensed matter physics.



JAMES STONE

Professor | **Computational Astrophysics**

James Stone has developed novel numerical algorithms that have shaped the field of computational astrophysics and ushered in a new era of precision simulations with a wide range of applications. Stone's research is focused on fluid dynamics, particularly magnetohydrodynamics, for which he has developed some of the most powerful and widely used astrophysical codes. He has contributed groundbreaking methods to address a few of the field's most challenging problems, resulting in foundational insights into the nature of giant molecular clouds, the evolution of accretion disks, the process of planetary migration, and the phenomena of radiation transport.



MICHAIL TSODYKS

C.V. Starr Professor | **Theoretical Neuroscience**

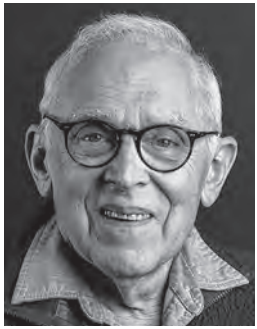
Michail "Misha" Tsodyks is a leading theoretical neuroscientist whose research has influenced important areas of neurobiology and the development of a quantitative understanding of brain functioning and human cognitive abilities. His work is focused on identifying neural algorithms that define functions of cortical systems and, in recent years, various aspects of cognitive behavior. From demonstrating the importance of sparsity in neural networks to providing deep insights into the mechanisms of short-term synaptic plasticity and working and associative memory, Tsodyks has devised conceptual models that make quantitative, testable predictions for experiments.



MATIAS ZALDARRIAGA

Richard Black Professor | **Astrophysics and Cosmology**

Matias Zaldarriaga has made many influential and creative contributions to our understanding of the early universe, particle astrophysics, and cosmology as a probe of fundamental physics. Much of his work centers on understanding the clues about the earliest moments of our universe encoded in the cosmic microwave background, in the faint glow of radiation generated by the Big Bang, and in the distribution of matter in the late universe.



STEPHEN L. ADLER

Professor Emeritus | **Particle Physics**

In a series of remarkable, difficult calculations, Stephen L. Adler demonstrated that abstract ideas about the symmetries of fundamental interactions could be made to yield concrete predictions. The successful verification of these predictions was a vital step toward the modern Standard Model of particle physics. In more recent work, he has been exploring generalized forms of quantum mechanics, both from a theoretical and a phenomenological standpoint. He has developed new algorithms for multidimensional integration, and is currently exploring a novel proposal for the "dark energy" that drives the accelerated expansion of the universe. He is also studying horizonless "dynamical gravastars" as alternatives to mathematical black holes at the center of galaxies.



PETER GODDARD

Professor Emeritus | **Mathematical Physics**

Peter Goddard's research concerns quantum field theory and string theory. With his collaborators, he has made pioneering contributions to these areas, in particular: the quantization of the relativistic string; the "no ghost theorem" of string theory; electric-magnetic duality in gauge theories; the construction of conformal field theories; and the realization of gauge symmetry in string theory. Before serving as the eighth Director (2004–12) of the Institute for Advanced Study, he was Master of St. John's College and Professor of Theoretical Physics at the University of Cambridge, where he played a leading role in establishing the Isaac Newton Institute for Mathematical Sciences and the University of Cambridge Centre for Mathematical Sciences.



PETER GOLDREICH

Professor Emeritus | **Astrophysics**

Peter Goldreich has made profound and lasting contributions to planetary science and astrophysics, providing fundamental theoretical insights for understanding the rotation of planets, the dynamics of planetary rings, pulsars, astrophysical masers, the spiral arms of galaxies, oscillations of the sun and white dwarfs, turbulence in magnetized fluids, and planet formation. His current research is focused on the production of impact spherules.



STANISLAS LEIBLER

Professor Emeritus | **Biology**

Stanislas Leibler has made contributions to theoretical and experimental biology, extending the interface between physics and biology to develop new solutions and approaches to problems. Interested in the quantitative description of microbial systems on both cellular and population levels, Leibler is developing the theoretical and experimental methods necessary for studying the collective behavior of biomolecules, cells, and organisms. By selecting a number of basic questions about how simple genetic and biochemical networks function in bacteria, he and his laboratory colleagues are beginning to understand how individual components can give rise to complex, collective phenomena.



ARNOLD J. LEVINE

Professor Emeritus | **Biology**

Arnold J. Levine is a widely acclaimed leader in cancer research. In 1979, Levine and others discovered the p53 tumor suppressor protein, a molecule that inhibits tumor development. He established the Simons Center for Systems Biology at the Institute, concentrating on research at the interface of molecular biology and the physical sciences. Recognizing the potential of convergence research in the life sciences, Levine has inaugurated a program of research collaborations, in partnership with Stand Up to Cancer (and others), that bring together quantitative scientists from theoretical physics, computer science, and mathematics, with biologists and clinicians, to develop novel approaches to solve important problems in cancer research. He also leads the NSF-sponsored Cancer Convergence Education Network, and focuses on fostering convergence research to produce fundamental insights in the areas of immunology and infectious diseases.



SCOTT TREMAINE

Professor Emeritus | **Astrophysics**

Scott Tremaine has made seminal contributions to understanding the formation and evolution of planetary systems, comets, black holes, star clusters, galaxies, and galaxy systems. He predicted the Kuiper belt of comets beyond Neptune and, with Peter Goldreich, the existence of shepherd satellites and density waves in Saturn's ring system, as well as the phenomenon of planetary migration. He interpreted double-nuclei galaxies, such as the nearby Andromeda galaxy, as eccentric stellar disks, and elucidated the role of dynamical friction in galaxy evolution.



EDWARD WITTEN

Professor Emeritus | **Mathematical Physics**

Edward Witten's work exhibits a unique combination of mathematical power and physics insight, and his contributions have significantly enriched both fields. He has greatly contributed to the modern interest in superstrings as a candidate theory for the unification of all known physical interactions. Most recently, he has explored quantum duality symmetries of field theories and string theories, opening significant new perspectives on particle physics, string theory, and topology.

DISTINGUISHED VISITING PROFESSORS



SHINSEI RYU

Condensed Matter Physics | *Princeton University*

Shinsei Ryu is a theoretical condensed matter physicist whose research focuses on quantum many-body systems, with an emphasis on quantum entanglement, topological phases, and nonequilibrium dynamics, using methods that bridge quantum information, quantum field theory, and statistical mechanics.

VISITING PROFESSORS



CHRISTOPHER BEEM

Theoretical Physics, Mathematical Physics | *University of Oxford* | *SM*
J. Robert Oppenheimer Visiting Professor

Christopher Beem is a theoretical physicist and mathematician who specializes in the study of supersymmetric, conformal, and superconformal quantum field theories, with an emphasis on the algebraic and representation-theoretic structures that arise in these systems.



JACOB BOURJAILY

Physics | *The Pennsylvania State University* | *SM*
J. Robert Oppenheimer Visiting Professor

Jacob Bourjaily studies the mathematical structure of perturbative scattering amplitudes in quantum field theory.

VISITING PROFESSORS



SEBASTIAN SEUNG

Computational Neuroscience | *Princeton University*

Sebastian Seung has done influential research in both computer science and neuroscience. Over the past decade, he helped pioneer the new field of connectomics, developing machine learning and social computing technologies for reconstructing neural circuits from high resolution brain images.



YIFAN WANG

Theoretical Physics | *New York University*

Funding provided by The Ambrose Monell Foundation and Friends of the Institute for Advanced Study

Yifan Wang's research focuses on non-perturbative structural aspects of quantum field theory and string theory, with connections to condensed matter physics, quantum information theory, and gravity. More recently, he has worked on the dynamics of extended operators and defects.

F First Term • *S* Second Term • *M* Long-term Member • *V* Visitor • *SM* Sabbatical Member



JAMES BEATTIE

Theoretical Astrophysics | *Institute for Advanced Study*
NASA Hubble Fellow

This year at IAS, James Beattie will work on analytical and numerical models for how the plasma turbulence in our galaxy is driven and maintained by young supernova remnants.



ALEXANDER BELSTEN

Theoretical Neuroscience | *Institute for Advanced Study*
Funding provided by the Simons Foundation

Alexander Belsten develops computational models of visual processing. In particular, he is interested in how neural circuits process form, color, and motion. At IAS, he will study the *Drosophila* visual system, using connectome data to integrate computational theories with circuit-level mechanisms.



ANDREAS BLOMMAERT

Theoretical Physics | *Institute for Advanced Study*
Leinweber Physics Member
Funding provided by the U.S. Department of Energy and the Sivian Fund

Andreas Blommaert studies quantum gravity and quantum black holes. In particular, Blommaert attempts to understand black holes (and their interiors) by developing a precise understanding of low-dimensional models of quantum gravity, with simple holographic duals.



KWABENA ADU BOAHEN

Neuromorphic Computing, Computational Neuroscience | *Stanford University* | *SM* | *F*
Funding provided by the Simons Foundation

Kwabena Adu Boahen analyzes neural behavior computationally to elucidate principles of neural design at the cellular, circuit, and systems levels; and synthesizes neuromorphic electronic systems that scale energy-use with size as efficiently as the brain does. While at IAS, Boahen will be branching out into connectomics.



ALEXANDER BORST

Computational Neuroscience | *Max-Planck-Institute for Biological Intelligence* | *SM* | *F*
Funding provided by the Simons Foundation

Alexander Borst studies information processing in the visual system of the fruit fly *Drosophila*. This year at IAS, he will make use of knowing the complete wiring diagram of the fly nervous system and work on a connectome-constrained, biophysically realistic computer model of the fly optic lobe.



ANDREA CAPUTO

Theoretical Physics | *CERN & Sapienza University of Rome* | *SM* | *F*
Funding provided by an anonymous donor

Andrea Caputo works at the interface of particle physics, astrophysics, and cosmology, with a particular interest in unveiling the nature of dark matter. While at IAS, Caputo plans to focus on using galactic dynamics and black hole astrophysics to study dark matter properties, as well as broader questions in fundamental physics.



NIANYI CHEN

Astrophysics | *Institute for Advanced Study and Max Planck Institute for Astrophysics*
Funding provided by an anonymous donor

Nianyi Chen is interested in using numerical simulations to model the evolution of galaxies across cosmic time as well as the connection between massive black holes and their host galaxies. While at IAS, she will develop simulations for characterizing the observation signatures of such evolution through different probes and scales.



MARK HO-YEUK CHEUNG

Gravitational Wave Astrophysics | *Institute for Advanced Study*
Funding provided by an anonymous donor

Mark Ho-Yeuk Cheung is a gravitational-wave astrophysicist. His interests include binary compact-object mergers, black hole physics, gravitational-wave lensing, and tests of general relativity.



YICHUL CHOI

Theoretical Physics | *Institute for Advanced Study*
Funding provided by the National Science Foundation and the Fund for Natural Sciences

Yichul Choi studies topological and global aspects of quantum field theory. In particular, his research focuses on symmetries, anomalies, and their generalizations. He is interested in applying new generalized symmetry principles to particle physics phenomenology and condensed matter physics.



SAMUEL COHEN

Biology, Statistical Physics, Optics | *Institute for Advanced Study*
Starr Foundation Member in Biology

Samuel Cohen is interested in collective phenomena in biological systems and other complex systems. While at IAS, he has changed the focus of his research to include problems in ecology and evolutionary biology that he believes may expand the scope of physics. His other research includes optics and chemical and statistical physics.

F First Term • *S* Second Term • *M* Long-term Member • *V* Visitor • *SM* Sabbatical Member



CARINA CURTO

Mathematical Neuroscience | *Brown University* | *SM* | *S*
Funding provided by the Simons Foundation

Carina Curto studies mathematics—algebra, topology, geometry—applied to and arising from theoretical and computational neuroscience, neural network theory, and neural coding.



RAFFAELE D'AGNOLO

Theoretical Particle Physics | *Institute of Theoretical Physics CEA Saclay* | *SM*
Funding provided by an anonymous donor

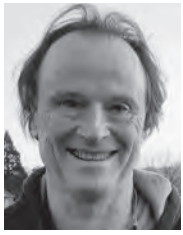
Raffaele D'Agnolo works at the interface between physics beyond the standard model and cosmology. He studies the electroweak hierarchy problem, axion dark matter, gravitational wave detection, and how to extract information from large multivariate datasets in particle physics.



BIWEI DAI

Cosmology | *Institute for Advanced Study*
Funding provided by the Corning Glass Works Foundation Fellowship and the Fund for Memberships in Natural Sciences

Biwei Dai is interested in developing and applying physics-motivated machine learning models to learn the fundamental properties of the universe from large-scale structure datasets. He currently works on the data analysis of weak gravitational lensing at the field level.



TOBI DELBRÜCK

Neuromorphic Electronic Engineering | *University of Zurich* | *SM* | *F*

Tobi Delbrück is a Professor of Physics and Electrical Engineering with the Institute of Neuroinformatics, University of Zurich and ETH Zurich. The Sensors group that he co-directs currently focuses on neuromorphic sensory processing, efficient hardware AI, and neural robotic control. Delbrück is known for pioneering event camera silicon retinas and neural accelerators that exploit various forms of neuromorphic sparsity.



ALEXANDER J. DITTMANN

Astrophysics | *Institute for Advanced Study*
NASA Einstein Fellow

Alexander J. Dittmann works on numerous topics in theoretical and computational astrophysics. His research often focuses on the interactions between binary systems and their accretion disks, and using X-ray observations of neutron stars to glean insight into the nature of matter at supranuclear densities.



JOB FELDBRUGGE

Physics and Astronomy | *University of Edinburgh* | *S*
Funding provided by an anonymous donor

Job Feldbrugge is a theoretical physicist specializing in cosmology and quantum gravity. He applies advanced mathematics to understand the universe's structure and evolution. His work ranges from Lorentzian path integrals in quantum cosmology and lensing of radio and gravitational waves in wave optics to the cosmic web.



JACOB FIELDS

Numerical Relativity | *Institute for Advanced Study*
Funding provided by NASA

Jacob Fields is a computational astrophysicist with a background in modeling compact objects. He is particularly interested in several aspects of binary neutron star and black hole-neutron star mergers, including predicting observational signatures, exploring how different physical mechanisms (e.g., magnetohydrodynamic turbulence and instabilities) contribute to these signals, and developing improved numerical methods.



SAMANTHA FOURNIER

Statistical Physics, Theoretical Neuroscience | *Institute for Advanced Study*
Funding provided by the Simons Foundation and the Charles L. Brown Membership in Biology

Samantha Fournier's research focuses on simplified models of the brain, viewed as high-dimensional dynamical systems of interacting neurons that inherently operate far from equilibrium. She is particularly interested in how learning emerges from local synaptic plasticity mechanisms that are tightly coupled to ongoing neural activity.



HADLEIGH FROST

Theoretical Physics | *Institute for Advanced Study*
Funding provided by the European Research Council for the UNIVERSE+ Project

Hadleigh Frost is interested in algebraic and combinatorial problems that arise when computing scattering amplitudes in quantum field theory and string theory, in order to better understand the physics of particle scattering at weak and strong coupling.



NAOMI GENDLER

Theoretical Physics | *Institute for Advanced Study*
Funding provided by the U.S. Department of Energy and the Sivian Fund

Naomi Gendler works on identifying observational signatures of string theory. In particular, she studies the properties of axions that arise in string theory.

F First Term • *S* Second Term • *M* Long-term Member • *V* Visitor • *SM* Sabbatical Member



ANTONIS GEORGIOU

Human Memory | *Institute for Advanced Study*
Martin A. and Helen Chooljian Member in Biology; additional funding provided by the Charles L. Brown Membership in Biology

Antonis Georgiou studies mathematical models of human memory, including forgetting dynamics.



ROSS GLEW

Scattering Amplitudes | *Institute for Advanced Study*
Funding provided by an anonymous donor

This year at IAS, Ross Glew will work on the mathematical structures of scattering amplitudes and cosmological correlators.



ALFREDO GUEVARA

High-Energy Physics | *Institute for Advanced Study*
Funding provided by the Simons Foundation

Alfredo Guevara is researching high-energy physics with emphasis on both astrophysical and quantum aspects of black holes, combining analytical and numerical approaches. He considers these problems through the lens of new techniques such as scattering amplitudes and holography.



MURYEL GUOLO

Observational Astrophysics | *Institute for Advanced Study*
Funding provided by the Space Telescope Science Institute

Muryel Guolo is interested in the general aspects of black hole physics, including accretion, formation, and demographics, particularly those that can be probed through observational high-energy astrophysics and time-domain astronomy. Tidal disruption events have been the major focus of his research.



MATTHEW HO

Cosmology | *Institute for Advanced Study*
Ashvin B. Chhabra and Daniela Bonafede-Chhabra Member; additional funding provided by The Ambrose Monell Foundation and the IBM Einstein Fellowship Fund

Matthew Ho uses machine learning techniques to maximally extract physical information from observations of the cosmic large-scale structure. At IAS, he will develop models to drive scientific discovery, focusing on constraining cosmology, characterizing galaxy astrophysics, and understanding emergent phenomena in numerical simulations.



KIRIL HRISTOV

String Theory, Supergravity | *Sofia University* | *SM* | *F*
Funding provided by an anonymous donor

Kiril Hristov works in high-energy theory and mathematical physics, with a focus on supergravity, black holes, and holography. During his visit to IAS, he aims to understand better how geometric and topological structures govern quantum aspects of gravity.



DEZHE Z. JIN

Computational Neuroscience and Condensed Matter Physics | *The Pennsylvania State University* | *SM*
Starr Foundation Member in Biology

Dezhe Z. Jin is interested in understanding how the brain's neural dynamics give rise to efficient and intelligent behaviors. He also applies AI techniques to problems in condensed matter physics. While at IAS, he will work on the neural dynamics of the fly visual system.



YGAL KLEIN

Astrophysics | *Institute for Advanced Study*

Ygal Klein is interested in the dynamics of planets, stars, and black holes, from hot Jupiters to gravitational-wave sources. While at IAS, Klein will research analytic theories of extreme eccentricities in hierarchical systems—a pathway to black-hole mergers and close-in planets—and orbital stability in stellar binaries.



BENCE KOCSIS

Black Hole Astrophysics | *University of Oxford* | *SM* | *S*
Funding provided by an anonymous donor

Bence Kocsis's research addresses the dynamics of compact objects and dense stellar systems, including star clusters and active galactic environments, with a strong focus on gravitational wave sources, black holes, and the astrophysical processes that drive their evolution.



JORIS KOEFLER

Positive Geometry, Scattering Amplitudes | *Institute for Advanced Study*
Funding provided by an anonymous donor

Joris Koefler loves algebro-geometric structures appearing in particle physics, and studies positive geometries and canonical forms through the lens of real algebraic geometry and Hodge theory. Koefler is also exploring connections between positive geometry in cosmology and in gravity theories.



NICKOLAS KOKRON

Cosmology | *Institute for Advanced Study*

Funding provided by Edward and Kiyomi Baird, the Bershadsky Fund, and the Fund for Memberships in Natural Sciences

Nickolas Kokron is interested in the formation of large-scale dark matter structures in the universe and their connection to luminous tracers such as galaxies. He employs both numerical simulations and pen-and-paper theory in this study, with an emphasis on techniques that combine both paradigms.



DAVID KOLCHMEYER

Theoretical Physics | *Institute for Advanced Study*

Funding provided by the National Science Foundation and the Fund for Natural Sciences

David Kolchmeyer studies quantum gravity using ideas from algebraic field theory, with a focus on cosmology and the black hole interior.

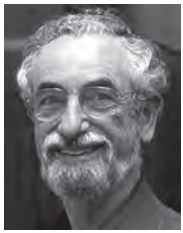


JONAH KUDLER-FLAM

Theoretical Physics | *Institute for Advanced Study*

Funding provided by the National Science Foundation and Friends of the Institute for Advanced Study

Jonah Kudler-Flam is interested in quantum information theoretic aspects of quantum many-body physics, field theory, and gravity. His research focuses on chaos and thermalization in quantum systems and, in parallel, the quantum physics of black holes.



ELLIOTT H. LIEB

Mathematical Physics | *Princeton University* | *V*

Elliott H. Lieb's research interests include mathematical physics and mathematical analysis, especially functional analysis. In physics, his main interests are in condensed matter physics, statistical mechanics, and questions concerning stability of matter and atomic physics.



MIN-KAI LIN

Theoretical Astrophysics | *Academia Sinica Institute of Astronomy and Astrophysics* | *SM*

Funding provided by an anonymous donor

Min-Kai Lin specializes in astrophysical fluid dynamics applied to protoplanetary disks and the formation and evolution of planets. At IAS, he will study how planets interact with turbulent disks.



SHIH-CHII LIU

Neuromorphic AI Computing | *University of Zurich* | *SM* | *F*

Shih-Chii Liu's research focuses on co-designed hardware-software energy-efficient intelligent hearing systems deployed in real-world conditions. At IAS, Liu will look at how advances in both fly neuroscience and neural network areas can be used to develop better models for small energy-efficient real-time computing systems.



QIANSHU LU

Theoretical Particle Physics | *Institute for Advanced Study and New York University*

Funding provided by the National Science Foundation and Friends of the Institute for Advanced Study

Qianshu Lu studies the interplay between cosmology and particle theory. She is particularly interested in cosmological signatures of particle physics models that are motivated by constraints from quantum gravity.



CLAUDIO ANDREA MANZARI

Theoretical Particle Physics | *Institute for Advanced Study*

Funding provided by the U.S. Department of Energy and Friends of the Institute for Advanced Study

Claudio Andrea Manzari's research interests lie in theoretical particle physics and phenomenology. His work focuses on advancing the theoretical understanding of fundamental unresolved questions in nature, such as the strong CP problem, the flavor puzzle, the electroweak hierarchy problem, and the nature of dark matter.



ELIA MAZZUCCHELLI

Amplitudes, Positive Geometries | *Institute for Advanced Study*

Funding provided by an anonymous donor

Elia Mazzucchelli loves mathematical structures in physics. Mazzucchelli works on geometric structures and positivity properties of scattering amplitudes, and wants to explore the implications of positive geometries and, possibly, similar structures in the non-perturbative regime or in relation with the AdS/CFT correspondence.



ALEXANDER MIGDAL

Quantum Field Theory, Turbulence | *Institute for Advanced Study* | *SM*

Alexander Migdal is interested in quantum chromodynamics and quantum gravity.

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GIANLUIGI MONGILLO

Theoretical Neuroscience | *Sorbonne University* | *SM* | *S*
Funding provided by the Simons Foundation

Gianluigi Mongillo is interested in understanding how time gets encoded in memory and, in particular, working (short-term) memory, based on the hypothesis that, in working memory, time is encoded by short-term synaptic plasticity over multiple time scales.



BEATRIX MÜHLMANN

Quantum Gravity | *Institute for Advanced Study*
Leinweber Physics Member; funding provided by the National Science Foundation and the IBM Einstein Fellowship Fund

Beatrix Mühlmann is studying low-dimensional theories of quantum gravity. One central aspect of her work aims to construct explicit and rigorous models of de Sitter quantum gravity.



ANDREW MUMMERY

Theoretical Astrophysics | *Institute for Advanced Study*
Martin A. and Helen Chooljian Member; additional funding provided by the W. M. Keck Foundation Fund

Andrew Mummery is interested in the dynamics of material falling onto black holes through so-called accretion disks. By modeling these systems in detail, he uses astronomical observations and numerical simulations to learn more about the black holes in our universe and the behavior of fluids in extreme gravity.



SALVATORE PACE

Theoretical Physics | *Institute for Advanced Study*
Marvin L. Goldberger Member; additional funding provided by the U.S. Department of Energy, the William Loughlin Membership, and the IBM Einstein Fellowship Fund

Salvatore Pace's research bridges quantum lattice systems, quantum information, and quantum field theory. Their work seeks to uncover the organizing principles of these systems and to understand their consequences for condensed matter and high-energy physics.



DU PEI

Quantum Field Theory, Mathematical Physics | *University of Southern Denmark* | *SM* | *S*
Funding provided by an anonymous donor

Du Pei uses ideas motivated by quantum physics to discover new structures and tackle old problems in mathematics. In the opposite direction, Pei applies modern mathematical tools to better understand algebraic, geometric, topological, and categorical structures in quantum field theories.



BRANDON RAYHAUN

Theoretical Physics | *Institute for Advanced Study*
Leinweber Physics Member; funding provided by the U.S. Department of Energy and the Fund for Memberships in Natural Sciences

Brandon Rayhaun works on problems at the interface of high energy theory, condensed matter physics, and pure mathematics, using quantum field theory and string theory as guiding frameworks.



JAKOB ROBNIK

Astrostatistics | *Institute for Advanced Study*
Funding provided by an anonymous donor

Jakob Robnik works on developing algorithms in computational statistics and applying them to astronomical datasets. During his stay at the Institute, he intends to study the population of transiting exoplanets at the detection limit, particularly the rocky Earth-like planets in the habitable zones of Sun-like stars.



JAVIER ROULET

Gravitational Wave Astronomy | *Institute for Advanced Study and University of Chicago*
Funding provided by the Jonathan M. Nelson Center for Collaborative Research

Javier Roulet is interested in compact object astrophysics. To this end, he develops algorithms for detecting gravitational waves from compact binary mergers, measuring their parameters and analyzing them collectively to characterize the astrophysical population.



MOR ROZNER

Astrophysics | *Institute for Advanced Study*
Kovner Member

Mor Rozner is interested in planet formation, stellar and planetary dynamics, and gravitational wave sources.

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GIULIO SALVATORI

Scattering Amplitudes | *Institute for Advanced Study*
Funding provided by the European Research Council for the UNIVERSE+ Project

Giulio Salvatori is mostly interested in the study of scattering amplitudes. In this context, he has been investigating the connection between positive geometries, such as the amplituhedron, and amplitudes. Salvatori has also been working on semi-analytical techniques for the computation of Feynman diagrams necessary for processes being studied at the Large Hadron Collider.



NIKKI SANDERSON

Connectomics | *Institute for Advanced Study*
Funding provided by the Simons Foundation

Nikki Sanderson plans to use topological data analysis to tease apart the roles of connectome architectural features in shaping network dynamics.



ALESSANDRO SANZENI

Theoretical Neuroscience | *Bocconi University* | *SM*
Funding provided by the Simons Foundation

Alessandro Sanzeni studies how neural circuits represent and process information, using mathematical modeling to understand how network architecture shapes function. At IAS, he will investigate how visual systems transform retinal input into flexible neural representations for perception and behavior, comparing fly and mammalian vision.



GABRIELA SATO-POLITO

Cosmology | *Institute for Advanced Study*
John N. Bahcall Fellow

Gabriela Sato-Polito is interested in connecting new observations of the most elusive corners of the universe with tests of fundamental physics. Her recent work explores techniques to map the matter distribution in the distant universe, and measurements of gravitational waves by precisely timing pulsars.



SAHAND SEIFNASHRI

Theoretical Physics | *Institute for Advanced Study*
Funding provided by an anonymous donor

Sahand Seifnashri works on quantum field theory and its applications in high-energy and condensed matter physics. He is interested in generalized symmetries, their anomalies, and understanding the structures of extended operators and defects in quantum field theory.



NADINE SOLIMAN

Theoretical Astrophysics | *Institute for Advanced Study*
NASA Hubble Fellow

Nadine Soliman is interested in the interplay between microphysical processes and large-scale astrophysical structures, with a focus on star and planet formation, galactic dynamics, and plasma physics. At IAS, Soliman will refine star formation simulations to capture the multiscale processes governing the collapse of molecular clouds, the birth of stellar clusters, and the formation of protoplanetary disks.



THOMAS SPIEKSMA

Gravitational Physics | *Institute for Advanced Study*
Funding provided by the Simons Foundation and Friends of the Institute for Advanced Study

Thomas Spieksma is interested in black holes, gravitational waves, and their ability to probe new physics. His work explores how astrophysical environments shape black hole dynamics and their gravitational-wave signatures.



ZIMO SUN

Theoretical Physics | *Institute for Advanced Study*
Funding provided by the U.S. Department of Energy and the Sivian Fund

Zimo Sun works on quantum field theory and quantum gravity. In particular, he is interested in quantum cosmology, critical phenomena, and RG flows.



RAMAN SUNDRUM

Particle Theory Beyond the Standard Model, Cosmology | *University of Maryland* | *SM* | *S*
Funding provided by the Paul Dirac Fund

Raman Sundrum's research focuses on new quantum field theory mechanisms that can play important roles in fundamental physics and cosmology, and their implications for a broad range of experiments and observations. During his IAS visit, he will study energy-correlators, cosmological correlators, and supersymmetric strong-coupling dynamics.



PIOTR SURÓWKA

Emergent Hydrodynamics, Topology, Non-equilibrium Phenomena in Complex and Quantum Many-body Systems | *Wrocław University of Science and Technology* | *SM* | *S*
Funding provided by an anonymous donor

Piotr Surówka is a theoretical physicist specializing in complex and quantum many-body systems, with a focus on emergent hydrodynamics, topological phenomena, and non-equilibrium behavior. His research bridges high-energy physics, condensed matter, and statistical mechanics, often employing field-theoretic methods.

F First Term • *S* Second Term • *M* Long-term Member • *V* Visitor • *SM* Sabbatical Member

CHRIS THOMPSON

Theoretical Astrophysics | *University of Toronto, CITA* | *SM* | *S*
Funding provided by an anonymous donor

During his visit to IAS, Chris Thompson will investigate the behavior of high-energy plasma around neutron stars and black holes, and more broadly transient phenomena in the universe.



GIOVANNI MARIA TOMASELLI

Gravitational Physics | *Institute for Advanced Study*
Rubicon Fellow

Giovanni Maria Tomaselli is interested in theoretical and astrophysical aspects of black holes, gravitational waves, and dark matter. His research has explored signatures of new ultralight particles in black hole binary inspirals.



SALVATORE TORQUATO

Statistical Mechanics | *Princeton University* | *SM*

Salvatore Torquato plans to continue theoretical investigations to rigorously identify new interacting many-particle hyperuniform systems, and to characterize both their bulk equilibrium and nonequilibrium properties using the machinery of statistical mechanics. Torquato also plans to work on sphere packing problems across Euclidean space dimensions.



ETHAN TREPKA

Theoretical Neuroscience | *Institute for Advanced Study*
Eric and Wendy Schmidt Member in Biology; additional funding provided by the Simons Foundation and the Charles L. Brown Membership in Biology

Ethan Trepka is interested in how fundamental perceptual and cognitive functions emerge from the collective interactions of networks of neurons. His current research focuses on understanding the neural circuit mechanisms underlying visual computation.



MYKHAYLO USATYUK

Theoretical Physics | *Institute for Advanced Study*
Leinweber Physics Member; funding provided by the National Science Foundation and Friends of the Institute for Advanced Study

Mykhaylo Usatyuk is a theoretical physicist studying quantum gravity. His research focuses on quantum properties of black holes and quantum cosmology.



FRANCISCO VAZÃO

Theoretical Physics | *Institute for Advanced Study and University of Pennsylvania*
Funding provided by an anonymous donor

Francisco Vazão is interested in the study of cosmological observables. Vazão has been exploring the connection between the cosmological observables and positive geometries, such as polytopes, as well as their analytic structure.



DAVID VELASCO-ROMERO

Computational Astrophysics | *Institute for Advanced Study*
Funding provided by the National Science Foundation and the Fund for Memberships in Natural Sciences

David Velasco-Romero's research focuses on developing and adapting high-order numerical methods for astrophysical simulations, particularly in the areas of magneto-hydrodynamics and planet-disk interactions. Velasco-Romero is also interested in high-performance computing techniques, including GPU acceleration and parallelization, to tackle complex astrophysical problems.



MICHAEL VOGELEY

Astrophysics | *Drexel University* | *SM*
Roger Dashen Member

Michael Vogeley's research interests include observational cosmology, cosmic voids, galaxy formation and evolution, statistical analysis of large data sets, active galactic nuclei, and time-series analysis. Current work includes cosmic void detection, environmental dependence of galaxy properties, and variability of AGN.



TIMM WRASE

String Theory | *Lehigh University* | *SM* | *S*
Funding provided by the Fund for Memberships in Natural Sciences

Timm Wrase works on string phenomenology and, in particular, applications of string theory to cosmology.



MATTHEW YU

Mathematical Physics | *Institute for Advanced Study*
Funding provided by the Fund for Natural Sciences and the Adler Family Fund

Matthew Yu works on applying concepts of higher category theory, homotopy theory, and algebraic geometry in the study of quantum field theory, string theory, and topological phases of matter.



KEMING ZHANG

Astrophysics | *Institute for Advanced Study*
NASA Sagan Fellow

Keming Zhang specializes in gravitational microlensing, exoplanet demographics, and AI for science.



WEISHUN ZHONG

Statistical Physics, Neuroscience, AI | *Institute for Advanced Study*
Funding provided by the Simons Foundation

Weishun Zhong wants to understand natural and artificial intelligence through the lens of statistical physics. In particular, he is interested in how intelligent behaviors can arise in disordered systems and neural networks, and how complex many-body interactions affect the emergent computation capabilities in such systems.



HANJUE ZHU

Theoretical Astrophysics | *Institute for Advanced Study*
Bezos Member; additional funding provided by the IBM Einstein Fellowship Fund

Hanjue Zhu studies the intergalactic medium and cosmic reionization. Her broader interests include cosmology and astrophysical plasma processes, including cosmic-ray transport and its effects on multiphase gas.

School of Social Science

Administrative Officer | Miriam Harris

Founded in 1973, the School of Social Science is dedicated to rigorous, critical approaches to social research that span theoretical and empirical inquiry. Each year, approximately 20 scholars pursue research within a designated annual theme or individual topics, engaging in sustained intellectual exchange.

The theme for the 2026–27 academic year is Emerging Forces in Global Political Economy, led by Visiting Professor Benjamin Braun.

Protectionism, resurgent national industrial policy, and growing corporate concentration in key sectors are shrinking the share of economic activity coordinated primarily by markets. At the same time, the ambitious, transformative projects required to address shared global predicaments such as climate change pose formidable challenges for resource mobilization and coordination. The theme seminar will explore how societies navigate this changing political economy.

Neoliberal governance confined state power to facilitating market-based coordination among citizens, firms, and states themselves. One focus of the theme is on how, more recently, firms, financial institutions, and states have expanded the realm of non-market coordination and how, in this newly corporatized world, societies mobilize capital, people, and knowledge. How and why do globe-spanning firms such as Apple or BYD withdraw swaths of economic activity from the market through horizontal and vertical integration? What are the implications of "private" capital controlled by a small number of venture capital and private equity firms replacing "public" stock and bond markets as the headquarters of financial coordination? Does China's epoch-making industrial development reveal contemporary production processes as growing too large to be coordinated by consumer-driven markets, instead requiring long-term state planning?

A second focus of the theme is the political implications of this resurgence of non-market resource mobilization and coordination. On one hand, the enlarged footprint of non-market logics in the economy may provide new openings for democratic politics and for the democratization of economic life. On the other hand, corporatization and other forms of power concentration may undermine existing forms of democratic representation and justice-minded global governance. Can democracy and redistributive transnational and multilateral institutions adapt to a corporatized world? What are the implications of states reimposing control over economic activities in an age of diminished state capacity? And what are the conditions for peaceful cooperation between fundamentally different regimes of resource mobilization?

The School of Social Science cultivates intellectual experimentation that

refuses narrow disciplinary boundaries or methodological orthodoxies. By convening scholars with varied perspectives, methods, and subjects from across the social sciences and related fields, the School provides a distinctive space for dialogue and debate. Whether pursuing the annual theme or independent research agendas, Members benefit from this community of scholars committed to examining pressing historical and contemporary problems through sustained, collaborative inquiry. This approach, which prizes both depth and breadth, individual scholarship and collective exchange, enables the School to advance innovative research at the frontiers of social research.



ALONDRA NELSON

Harold F. Linder Professor

An acclaimed sociologist, Alondra Nelson examines questions in science, technology, and social inequality. Nelson's work offers a critical and innovative approach to the social sciences in fruitful dialogue with other fields. She has developed a distinctive approach that interrogates the social life of emerging technologies—from genomics to artificial intelligence—and their entanglements with justice, democracy, and public accountability. Her major research contributions are situated at the intersection of racial formation and social citizenship, on the one hand, and emerging scientific and technological phenomena, on the other. Nelson's scholarship spans topics including the social implications of DNA and genomics, medical discrimination and health activism, and AI governance and platform society.



WENDY BROWN

Professor Emerita

Wendy Brown is a political theorist who investigates the subterranean powers shaping contemporary EuroAtlantic polities, with particular attention to their deformations of democracy—its institutions, citizenries, and cultures. She has brought these concerns to her early studies of masculinism in political life, political identity, and discourses of tolerance, and, more recently, to her work on sovereignty and border fortification, neoliberal reason, and nihilism. She is currently writing a book on the intersection between ecological crises and crises of constitutional democracy, tentatively entitled "Reparative Democracy."



DIDIER FASSIN

Professor Emeritus

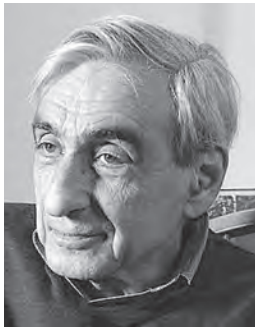
An anthropologist and sociologist who has conducted fieldwork in Senegal, Ecuador, South Africa, and France, Didier Fassin was initially trained as a physician in internal medicine and public health. He developed the domain of critical moral anthropology. His recent research was on the theory of punishment, the politics of life, and the public presence of social science. He currently works on displacement and on violence. A recipient of the Huxley Medal of the Royal Anthropological Society and of the Nomis Distinguished Scientist Award, he is involved in a global program on crises, in particular in the context of the erasure of Gaza. He is also Professor at the Collège de France, where he holds the chair on Moral Questions and Political Issues in Contemporary Societies.



JOAN WALLACH SCOTT

Professor Emerita

Joan Wallach Scott's groundbreaking work has challenged the foundations of conventional historical practice, including the nature of historical evidence and historical experience and the role of narrative in the writing of history. Broadly, the object of her work is the question of difference in history: its uses, enunciations, implementations, justifications, and transformations in the construction of social and political life. Scott's books have focused on the vexed relationship of the particularity of gender to the universalizing force of democratic politics. Her most recent work explores the question of the ethical responsibility of history-writing.



MICHAEL WALZER

Professor Emeritus

Michael Walzer has written about a wide variety of topics in political theory and moral philosophy, including political obligation, just and unjust war, nationalism and ethnicity, economic justice, and the welfare state. He has played a critical role in the revival of a practical, issue-focused ethics and in the development of a pluralist approach to political and moral life. Walzer's books include *Just and Unjust Wars* (1977), *Spheres of Justice* (1983), *On Toleration* (1997), *Arguing About War* (2004), and *The Paradox of Liberation* (2015); he served as co-editor of the political journal *Dissent* for more than three decades, retiring in 2014. Currently, he is working on issues to do with international justice and the connection of religion and politics, and also on a collaborative project focused on the history of Jewish political thought.

VISITING PROFESSORS



BENJAMIN BRAUN

Political Science | *London School of Economics and Political Science*

Benjamin Braun will lead the School of Social Science theme year, Emerging Forces in Global Political Economy. He works at the intersection of comparative and international political economy with a focus on the political economy of money and finance. His current research interests include the interplay between monetary and fiscal policy, compensation versus mobilization as green political strategies, and the determinants of business elite discipline.

F First Term • *S* Second Term • *V* Visitor • *RA* Research Associate



CARINA ALBRECHT

Science and Technology Studies | *Institute for Advanced Study* | *RA*

Carina Albrecht researches digital media technologies and their impact on culture and society. During her time at IAS, she will work on the Sociotechnical Imaginaries and Narratives of AI (SINAI) project at the Science, Technology, and Social Values Lab, and on her book, "Magical Intelligence," which develops a media theory of AI.



ANA ALIVERTI

Criminology, Law | *University of Warwick*

Ana Aliverti's research lies at the intersection of criminology, law, sociology, and anthropology. She specializes in criminal justice and border controls. At IAS, she will work on a project on the UK asylum bureaucracy investigating it as a moral institution—a site where moral emotions and values are mobilized, regulated, and contested.



SAREETA AMRUTE

Anthropology | *The New School*

Sareeta Amrute is an anthropologist who investigates data-centric technologies and societies, centering race and caste as analytics of power within technological domains. At IAS, she will be writing her next book, "For Unsafe Times," which explores community security as a site of transnational imagination.



JENS BECKERT

Economic Sociology | *Max Planck Institute for the Study of Societies*
Fritz Thyssen Stiftung Member

Jens Beckert specializes in economic sociology, focusing on the social and political consequences of rising wealth concentration and the growing power of capital. He will work on a book project analyzing how the increasing importance of private assets is transforming social structures, inequality, and democratic governance.



BENJAMIN BRADLOW

Sociology | *Princeton University*

Benjamin Bradlow's work investigates connections between climate change, urbanization, technological change, and the political challenges for democracy that confront societies across the globe. This year at IAS, he will be writing his next book, "The Climate Hinge: Green Industrial Transitions in the Global South."



TATIANA CARAYANNIS

International Relations, Global Governance, Emerging Technology, Violent Conflict, Research Ethics | *Institute for Advanced Study* | *RA*

Tatiana Carayannis is a leading scholar of global governance, peace and security, and Central Africa. Over two decades, she built and ran SSRC's peace and security programs, including new initiatives on China. She currently researches the geopolitics of AI and critical minerals, with implications for international peace and security.



ROBIN CELIKATES

Social Philosophy | *Free University of Berlin* | *V* | *S*

Robin Celikates works on critical theory and the politics of social movements. At IAS, he will investigate how migration reconfigures social relations across transnational space, drawing out the implications of this reconfiguration for critical theory's epistemological foundations, social-theoretical categories, and political orientation.



ELIZABETH CHIARELLO

Medical Sociology, Socio-legal Studies | *Washington University in St. Louis*

At IAS, Elizabeth Chiarello will work on her second book, "White Coat Crime." The book examines how healthcare is criminalized by comparing dynamics between healthcare providers and enforcement agents across six types of care.



CHRISTINE CUSTIS

Ethical and Responsible AI Innovation | *Institute for Advanced Study* | *RA*

Christine Custis is a Research Associate and Program Manager at the Science, Technology, and Social Values Lab. A computer scientist and strategist with over twenty years of experience, she previously led programs and research at the Partnership on AI and now works with Harold F. Linder Professor Alondra Nelson on AI, genomics, and quantum science.



KEVIN DUONG

Political Theory and Intellectual History | *University of Virginia*

This year at IAS, Kevin Duong will be working on his book, "Freud Against Empire," which maps how an international cohort of midcentury radicals—Surrealist poets, painters, ethnographers, psychiatrists, and communists in France, Martinique, Cuba, and the United States—deployed psychoanalysis to undermine civilizational and global hierarchy.

F First Term • *S* Second Term • *V* Visitor • *RA* Research Associate



JASON FRANK

Political Theory | *Cornell University*

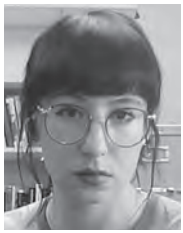
Jason Frank specializes in historically situated approaches to democratic theory, with a focus on the modern history of popular sovereignty. While he is at the Institute, he will be working on a new book exploring counter-revolutionary theories of democracy from the 1790s to the present.



ANNELIES FRYBERGER

Historical Sociology | *Society for the Advancement of Socio-Economics (SASE)* | *V*

Annelies Fryberger is working on a historical microsociology of slavery in the Mountain South. During her stay at IAS, she will be finishing a book manuscript based on this study.



SUSANNAH GLICKMAN

American History, Political Economy, History of Physics and Computing, History of the Military Industrial Complex | *Stony Brook University*

Susannah Glickman is a historian who works on the history of science and political economy of the military-scientific-industrial complex. She has a background in anthropology and mathematics. She will be writing her book project about the rise and fall of the post-Cold War state through the lens of high-tech and defense industries.



FRANK GURIDY

Twentieth-century Global Social Movements, Urban and Transatlantic History | *Columbia University*

Frank Guridy's recent research explores the efficacy of social movements. At IAS, he will work on his new book project, "City of Solidarity: New York," which examines the city's ascendance as an epicenter of global social movements throughout the twentieth century.



SOLA KIM

AI and Sustainability | *Institute for Advanced Study* | *RA*

Sola Kim is a computational social scientist studying the societal and environmental implications of artificial intelligence, with interests in algorithmic auditing, digital governance, and democratic participation. At IAS, she works with the Science, Technology, and Social Values Lab on the cumulative effects of AI in social life.



ETHAN KLEINBERG

Modern Intellectual History, Philosophy of History | *Wesleyan University*

This year at IAS, Ethan Kleinberg will work on a book-length project entitled "The Politics of the Future," which explores our increasingly impaired relationship to the future, a relationship so damaged that we are unable to confront the pressing crises of the present.



JENS VAN 'T KLOOSTER

Political Economy of Finance | *University of Amsterdam*
Roger W. Ferguson, Jr. and Annette L. Nazareth Member

At IAS, Jens van 't Klooster will work toward a realistic account of how unelected policymakers fit in a democracy; more specifically, how they can respect democratic standards of legitimacy while pushing forward fast-paced climate transition policies.



DAVID KNIGHT

Political Sociology and Black Studies | *Yale University*

This year at IAS, David Knight will complete a book project on the political movements that Black people incarcerated for long terms in U.S. prisons have launched to redress the harms of the penal state. He will also work on a new book project focusing on reproductive justice and incarceration in transnational perspective.



WENDY LEUTERT

Chinese Political Economy | *Indiana University*
Richard B. Fisher Member

Wendy Leutert specializes in the political economy of China, with interests in state-market relations, state ownership, and economic reform. At IAS, she is completing a book titled "The International Origins of China's National Champions," which develops a transnational framework for analyzing China's economic policymaking.



NOAM MAGGOR

History, Political Economy, Comparative Development, United States in Global and Comparative Context | *Queen Mary University of London*

Noam Maggor is working on a book about how the nineteenth-century United States transformed from a cotton-exporting slave society into the world's leading industrial power. The project challenges conventional accounts that link prosperity to secure property rights and limited government, treating the U.S. as a case of state-led development.

F First Term • *S* Second Term • *V* Visitor • *RA* Research Associate



KATHLEEN R. MCNAMARA

International Political Economy | *Georgetown University*

In her year at IAS, Kathleen R. McNamara will be writing a book on how value is constructed in markets, pointing to the key role of power and status in determining worth in sectors like bitcoin and crypto, electric vehicles and clean energy, contemporary paintings, and grand cru wines.



MITALI NAGRECHA

Law | *Justice Collective* | *V*

Mitali Nagrecha is a lawyer and researcher focusing on policing and criminalization in the United States and Germany. While at IAS, she will research the migration consequences of criminal convictions, as well as community-driven strategies for challenging the use of evidence generated by surveillance technologies in criminal cases.



ARVIND NARAYANAN

Computer Science and Public Policy | *Princeton University*
Alfred Landecker Member

Arvind Narayanan will study—and help shape—AI's transformation of work, institutions, society, and democracy. This research will build on the paper "AI as Normal Technology" that he co-authored.



DINA OKAMOTO

Sociology | *Indiana University*

Dina Okamoto's work focuses on race, immigration, politics, and social movements. At IAS, she will study interracial alignments among Asian Americans and other racial minorities in high-stakes U.S. policy debates, ultimately revealing the ways that race is constructed and constituted by non-state actors.



DEB RAJI

Computer Science | *Institute for Advanced Study* | *RA*

Deb Raji operates at the intersection of computer science and public policy, specifically studying how artificial intelligence products interact with legal and institutional accountability processes related to functional harms. At IAS, she will work on a series of articles on the design and regulation of administrative processes for AI deployments in public interest settings such as government, healthcare, and education.



ALEJANDRA RUIZ LEÓN

History of Science, Science Communication | *Institute for Advanced Study* | *RA*

Alejandra Ruiz León researches the history and politics of scientific institutions, focusing on Latin America. She has built a parallel career in science communication, working on media relations for universities and outreach projects. At IAS, she is part of The Public's Science, developing communication to make science publicly accountable.



CALVIN THRALL

International Political Economy | *Columbia University*

Calvin Thrall studies business-government relations in international, national, and local politics. At IAS, he will finish his book on the role of the multinational firm in fostering the decline of postwar multilateralism.



NTINA TZOUVALA

Law | *University of New South Wales* | *S*

This year at IAS, Ntina Tzouvala will work on a project on the crisis of neo/liberal legalism. Drawing from debates in heterodox political economy, Tzouvala will examine how the slowdown of economic growth contributed to the crisis of specific international laws and institutions and, more broadly, the demise of the project of legalist economic governance.



YINGYAO WANG

China in International Political Economy | *University of Virginia*
Wolfensohn Family Member

This year at IAS, Yingyao Wang will work on a project that develops a political economic and sociological analysis of the historical and contemporary waves of industrial relocation across Asia, with particular attention to the latest shift from China to Southeast Asia.



MAYA WIND

Anthropology | *University of California, Riverside*

Maya Wind is a scholar of expertise, science and technology, and war. At IAS, she will investigate permanent war as a project of managing citizens on the homefront.

F First Term • *S* Second Term • *V* Visitor • *RA* Research Associate

Jonathan M. Nelson Center for Collaborative Research

The Jonathan M. Nelson Center for Collaborative Research is dedicated to furthering the Institute's mission of advanced study by providing the funding, space, and technical and administrative expertise necessary for complex collaborations that may extend beyond the resources of a single scholar, discipline, or organization. Supporting research at scale within and across fields and institutions, the Nelson Center seeks to advance foundational knowledge by overcoming constraints that might otherwise restrict the capacity for discovery of the Institute's scholars.

DISTINGUISHED VISITING PROFESSORS



SVITLANA MAYBORODA

Analysis, Partial Differential Equations | *ETH Zurich*

Svitlana Mayboroda is interested in the interplay between geometric properties of sets and properties of the solutions to partial differential equations, as well as localization phenomena and, more generally, spectral features of elliptic operators.

SRA Senior Research Associate • *RA* Research Associate



GEORGE A. KIRAZ

Arabic Bible, Syriac Studies, Digital Humanities | *Beth Mardutho: The Syriac Institute* | *SRA*

George A. Kiraz is working on Ottoman Garshuni documents from the Mardin Patriarchal Archive dating to the late nineteenth century. These are documentary petitions addressed to the Syriac Orthodox Patriarchs who resided in Deir al-Za'frān (Monastery of the Saffron).



MELISSA MORETON

History of the Book, Global Middle Ages | *Institute for Advanced Study* | *RA*

Melissa Moreton is a codicologist and scholar of the history of the book who is particularly interested in material culture and the development and exchange of manuscript technologies across Eurasia, Africa, and the Americas. She works on projects relating to global book history (1000–1700) and Indigenous language and cultural revitalization.

SRA Senior Research Associate • *RA* Research Associate

Director's Office

Scholars within the Director's Office are from a variety of fields, including areas not represented in the Schools. They are invited to the Institute for varying periods of time, depending on the nature of their work.



MATTEO BORTOLINI

Historical Sociology of Expert Knowledge Production | *Università di Padova, Italy* | *DV*

Matteo Bortolini is a historical sociologist who studies the production of expert knowledge in the twentieth and twenty-first centuries. While at the Institute, he will work on a biography of the late American anthropologist Clifford Geertz (1926–2006), a founding Faculty member in the School of Social Science.



DAVID GYLLENHAAL

History, Religion | *RA*

David Gyllenhaal's research explores the rationalization process and impact of trauma on Greek- and Syriac-speaking Christians and Arabic-speaking Muslims during late antiquity.



ANDREW JEWETT

History | *DV*

Andrew Jewett's research explores the entanglements of science, culture, and politics. He recently completed a history of Johns Hopkins and is now researching the history of the Institute.



EUGENE MATANKY

Jewish Studies | *RA*
Kovner Research Associate

Eugene Matanky's research sits at the intersection of intellectual history, material philology, and the history of the book, focusing on the scholarly practices and material textuality that shaped Jewish kabbalistic knowledge in the early modern period.

Visiting Artists

The Institute for Advanced Study's Visiting Artist program extends the Institute's exploration of what J. Robert Oppenheimer called "the synapses" between the sciences, humanities and arts, and society by bringing select artists to the campus for short-, medium-, and long-term residencies.



CAROLINE SHAW

Composer

Caroline Shaw is a New York-based musician, appearing in many guises. She performs primarily as a violinist with the American Contemporary Music Ensemble (ACME) and as a vocalist with Roomful of Teeth. She also works with the Trinity Wall Street Choir, Alarm Will Sound, Wordless Music, Signal, The Yehudim, Victoire, the Mark Morris Dance Group Ensemble, and Opera Cabal. Shaw's music has been performed by So Percussion, ACME, the Brentano Quartet, and Roomful of Teeth, and her collaboration with artist Jane Philbrick is part of a permanent landscape installation at Mass MoCA. Shaw has been a Yale Baroque Ensemble fellow and a Rice University Goliard fellow. She was a recipient of the infamous Thomas J. Watson Fellowship, to study historical formal gardens and landscape architecture in Europe.



RENAISSANCE STRING QUARTET

Violinist, Violinist, Violist, Cellist

Founded in 2021 by violinists Randall Goosby and Jeremiah Blacklow, violist Jameel Martin, and cellist Daniel Hass, the New York City-based Renaissance String Quartet was formed on the basis of over a decade of friendship at The Perlman Music Program and The Juilliard School. Driven by a desire to reimagine the role and capacity of the string quartet as a vehicle for change—inspiring audiences, students, and collaborators around the world—the quartet feels a responsibility to command a diverse repertoire of classic, underrepresented, and new works, so they can contribute to the reclamation, redefinition, and continuation of a musical tradition that belongs to all of us.



AMIR SIRAJ

Pianist and Physicist

Amir Siraj is an astrophysicist and pianist. He is currently a Ph.D. candidate at Princeton University's Department of Astrophysical Sciences, seeking to understand the solar system through planetary dynamics, working on topics including trans-Neptunian objects, the Kuiper belt, the Oort cloud, interstellar objects, asteroids, and comets. Siraj holds a Master's degree in piano from the New England Conservatory of Music and has performed at venues including the Kennedy Center in Washington, D.C., Wigmore Hall in London, and Millennium Park in Chicago. Siraj believes in the intersectional power of the arts and sciences.

Legacy Programs

Program in Interdisciplinary Studies (2002–2023)
The Program in Interdisciplinary Studies (PIDS) explored different ways of viewing the world, spanning a range of disciplines from physics to astrophysics, geology, paleontology, and biology, to artificial intelligence, cognitive psychology, and philosophy. As a program intended to engage new interdisciplinary questions and facilitate greater communication and collaboration between the four Schools, PIDS was dedicated to developing infrastructure for open-ended intellectual exchange to help expand the interface between formal research and the larger ecosystem of human knowledge. It brought to life After Hours Conversations—short, informal, cross-disciplinary talks occurring twice a week to discuss open problems in a variety of fields—a tradition continued by other Schools. The program was headed by Professor Emeritus Piet Hut, and during its tenure had a total of 67 Visitors.



PIET HUT
Professor Emeritus

Piet Hut's main research theme is "the Nature of Reality," as seen through the lenses of Math, Matter, and Mind. Some subthemes are: for Math, "Algorithms and Foundations"; for Matter, "Physics and Biology"; and for Mind, "Phenomenology and Contemplation." In 2024 he started FEST, short for Fully Empirical Science and Technology, a new research program aiming to bridge the gap between matter and mind. Inspired by the success of science in understanding matter, using matter, this program extends the same empirical methodology to study the mind, using the mind. This requires developing new tools, partly inspired by philosophical and contemplative traditions of the past.

Electronic Computer Project (1945–1957)

The Electronic Computer Project started in late 1945 when John von Neumann, IAS Faculty from 1933–55, joined forces with a group of engineers to design and build one of the first stored-program electronic digital computers at the Institute. The ECP's goal was to create the physical realization of Alan Turing's Universal Machine, theoretically conceived in 1936. The project's many notable achievements include producing the first short-term numerical predictions of the weather, calculating the results of the thermonuclear reaction of the first H-bomb in 1950, and developing von Neumann architecture, which is still used in many modern-day computer systems. Its progress reports, which described the specifications and design principles for the machine, were made freely and widely available in the public domain rather than being patented, heralding the ideals of open access long before such a notion existed. The IAS machine was used continually and productively until 1960. Over 140 individuals were engaged in the project over its duration at the Institute.

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