Faculty and Members
2023–2024

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: The Institute community gathers for the Rubenstein Commons dedication ceremony. Photo: Andrea Kane

Opposite page: K-Sue Park, Member (2022–23) in the School of Social Science, presents "Homesteading and the American Dream" at a Social Science seminar. Photo: Andrea Kane

Contents

Information contained herein is current as of September 27, 2023

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 are preeminent leaders in their fields. 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.

Research spans four Schools—Historical Studies, Mathematics, Natural Sciences, Social Science—and is focused 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. 35 Nobel Laureates, 44 of the 62 Fields Medalists, and 23 of the 26 Abel Prize Laureates, as well as many winners of the Wolf and MacArthur prizes, have been affiliated with the Institute.

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.

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.

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 IAS founding 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

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 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 has supported 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.

Suzanne Conklin Akbari

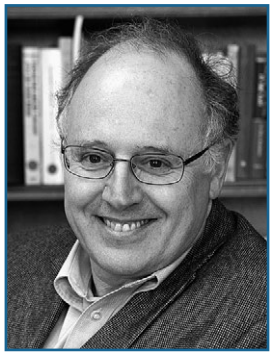
Professor · Medieval Studies

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 and senior editor of the *Supplementum Epigraphicum Graecum*, 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 (e.g., *Ancient China and Its Enemies: The Rise of Nomadic Powers in East Asian History*, 2002) and on Mongol and Manchu history (e.g., *Manchu-Mongol Relations on the Eve of the Qing Conquest*, 2003), and he has edited several books, including *The Cambridge History of Inner Asia* (2009). His most recent works explore the use of proxy data from climatology and other palaeosciences in the study of the history of China and Central Asia, with special reference to early Eurasian nomads, the Mongol empire, and the Qing dynasty.

Myles W. Jackson

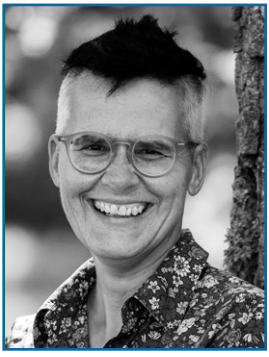
Albers-Schönberg Professor in the History of Science · History of Science

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

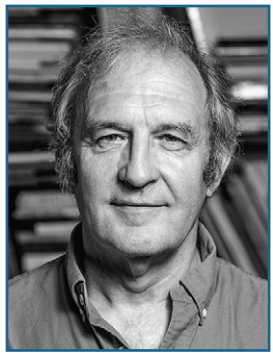
Professor · Islamic Intellectual History

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

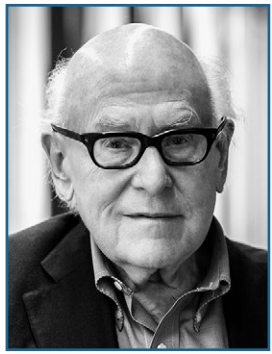
A leading historian of early modern Italy and continental Europe, Francesca Trivellato has made significant and groundbreaking contributions to our understanding of the organization and culture of the marketplace in the pre-industrial world. Trivellato's original and imaginative research has revitalized the study of early economic history, and her influential work on cross-cultural trade intersects the fields of European, Jewish, Mediterranean, and global history, religion, and capitalism.



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

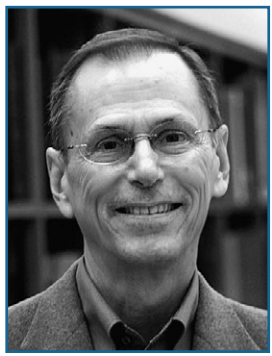
Professor Emeritus · Ancient History

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.

Daniel Abramson

History of Architecture · Boston University · *s*

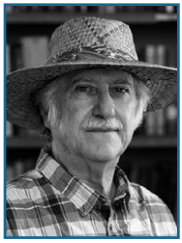
Funding provided by the Ruth Stanton Foundation Fund

Daniel Abramson is interested in the relations between architecture, society, economics, and politics from the eighteenth century to the present. While at IAS, he will be studying the history of American government centers from 1900 to the present.

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.



Robert James Antony

Chinese History · Guangzhou University · *v/f*

Robert James Antony studies China's history from below using the methodologies of history, anthropology, and folk studies. At IAS, he will work on a book exploring the life and times of the female pirate Zheng Yi Sao (Zheng Yi's wife), one of the most remarkable women in Chinese history, about whom little is known.

Zayde Antrim

Islamic History, Gender History · Trinity College · *s*

Patricia Crone Member

Zayde Antrim is a cultural and literary historian of the medieval Middle East who focuses on gender, sexuality, geography, cartography, and cities. While at IAS, she will be working on a book project entitled "Embodiment and Eroticism in Arabic Middle Literature: The 1001 Nights and Beyond."

Alice Baumgartner

History · University of Southern California · *f*

The Andrew W. Mellon Foundation Fellowship for Assistant Professors

Alice Baumgartner is interested in the history of slavery and abolition in North America. While at IAS, she will work on a book about the debt peons, child apprentices, and Indigenous captives from New Mexico to Alaska who invoked the Thirteenth Amendment to end slavery—in all of its forms—in the United States.

Alastair Bellany

Early Modern British History · Rutgers, The State University of New Jersey · *s*

Edwin C. and Elizabeth A. Whitehead Fellow; additional funding provided by the Fund for Historical Studies

While at IAS, Alastair Bellany will be researching the interactions between Little Ice Age climate change and the social, political, and cultural history of the early modern British Isles (ca. 1400–1800).

Brad Bolman

History of Science · The University of Chicago

Funding provided by the Herodotus Fund; Founders' Circle Member, in recognition of Deborah Lunder and Alan Ezekowitz

Brad Bolman studies the history of knowledge about organisms since the nineteenth century. His first book, *The Dog Years: A History of Beagle Science*, asks how beagle dogs became vital experimental organisms. While at IAS, Bolman is working on a transnational history of mycology and fungal science tentatively titled, "The Decomposition Book."

Sonja Brentjes

History of Science · Max Planck Institute for the History of Science

Gerda Henkel Stiftung Member

Sonja Brentjes is interested in the histories of mathematics, mapmaking, scholarly institutions, and cross-cultural exchange in their contexts in Islamicate societies and their neighbors. While at IAS, she will work on copies of ʿAbd al-Rahman al-Sufi's *Book of the Constellations* in their contemporary contexts.

Pınar Bülbül

Anatolian History · Kahramanmaraş Sütçü İmam Üniversitesi · *v*

Pınar Bülbül studies the ancient Anatolian region, including ancient Anatolian cultural history. Generally, she focuses on ancient Anatolian and Mesopotamian laws and their comparison with today's modern laws.

Mariana Candido

History of Africa/Angola · Emory University · *s*

Elizabeth and J. Richardson Dilworth Fellow

Mariana Candido is a specialist in West Central African history during the era of the transatlantic slave trade. At IAS, she will work on a new book on the history of women in what is now Angola from the sixteenth to the nineteenth centuries. It will examine African women's multiple roles, including as political, religious, and economic agents.

Kaijun Chen

History of Technology, Material Culture · Brown University
Starr Foundation East Asian Studies Member

Kaijun Chen is interested in the history of ceramics, technocracy, and global transfer of technology and design. While at IAS, he will be working on a book manuscript that investigates the state's negotiation with local factories and foreign manufacturers in the dozen state-owned porcelain factories in China from the 1970s to 1990s.

Jonathan Davis-Secord

Early Medieval England · The University of New Mexico · *v/f, s*
Funding provided by the Elizabeth and J. Richardson Dilworth Fellowship Fund and the Fund for Historical Studies

Jonathan Davis-Secord studies early medieval England and his publications cover a variety of Old English, Latin, and Middle English works, as well as medieval music. Davis-Secord's current research focuses on asking new questions of old texts through lenses such as trans studies and critical race theory.

Sarah Davis-Secord

Medieval Mediterranean, Global Middle Ages · The University of New Mexico
Funding provided by the Patron's Endowment Fund

Sarah Davis-Secord is a historian of the early medieval Mediterranean, particularly Sicily and the central Mediterranean region. Her interests include Muslim-Christian interactions and the globalization of trade and communication networks. At IAS, she will work on a book about Muslims and Christians in early medieval southern Italy.

Sylvain Destephen

Ancient History · Caen Normandy University · *s*
Funding provided by the Florence Gould Foundation

Sylvain Destephen has studied the Christian prosopography of western Asia Minor and the peripatetic imperial court in the fourth to the fifth centuries. Destephen has also dedicated many publications to the religious, administrative, social, and gender history of the Later Roman Empire (from the third to the seventh centuries), and, more specifically, the Greek-speaking part of it.

Yige Dong

Historical Sociology · University at Buffalo, State University of New York · *f*

Yige Dong's interests include political economy, labor, gender, and comparative-historical methods. While at IAS, Dong will be working on her book-in-progress, "The Fabric of Care: Women's Work and the Politics of Livelihood in Industrial China," which examines the century-long transformation of reproductive labor in China.

f First Term · *s* Second Term · *m* Long-term Member · *v* Visitor · *dvp* Distinguished Visiting Professor
vp Visiting Professor · *ra* Research Associate

Ivan Drpić

Byzantine Studies and Art History · University of Pennsylvania
George William Cottrell, Jr. Member

Ivan Drpić's research focuses on the art and material culture of the Eastern Mediterranean and Southeastern Europe in the Middle Ages. His project at IAS explores devotional wearables and practices of self-formation in Byzantium.

Tamer el-Leithy

Medieval Middle Eastern History · Johns Hopkins University · *f*
William D. Loughlin Member

Tamer el-Leithy is a social and cultural historian of the medieval Middle East, with a focus on religious difference and encounter. At IAS, he will work on a book ("The Deep Grammars of Cultural Change") that explores the various effects of linguistic conversion (Coptic to Arabic) for the Coptic Christians of medieval Egypt, between the eleventh and fourteenth centuries.

Ariel Fein

Byzantine and Islamic Art History
Funding provided by the Herodotus Fund

Ariel Fein studies the medieval visual cultures of Byzantium and the Islamic world. Her research focuses on intercultural artistic connections across the frontier zones of the medieval Mediterranean, with a particular interest in the arts of Norman Sicily and the Arab-Christian communities of medieval Egypt and Ifriqiya.

Matthias Friedrich

Medieval Archaeology and Art History · Universität Wien · *s*
Funding provided by the Herodotus Fund

Matthias Friedrich is an archaeologist interested in the visual and material culture of medieval Europe. At IAS, he will work on his current book project, "Medieval Material Culture and the Senses." It investigates sensory experience and material culture in medieval archaeology from the early Middle Ages to the early Renaissance.

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.

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Durba Ghosh

History · Cornell University · *v*

Durba Ghosh is working on a book that historicizes commemorative statues installed in Britain and India under colonial rule and removed after independence in 1947.

Tamara Golan

History of Art, Medieval and Early Modern · The University of Chicago

The Andrew W. Mellon Foundation Fellowship for Assistant Professors

Tamara Golan specializes in medieval and early modern art of northern Europe. While at IAS, she will be working on her book project, which investigates the role played by legal definitions of evidence and new concepts of artistic expertise in the development of pictorial naturalism in fifteenth- and sixteenth-century Swiss art.

Bryna Goodman

Modern China, Print Culture · University of Oregon · *f*

Bryna Goodman will be completing a book about economics and the imagination of China as a republic. "Expansive Exchanges" examines understandings of finance and financial institutions that emerged amid concerns about sovereignty, risk, economic rationality, and citizenship in the context of European and Japanese colonial ventures in China and dynastic decline at the turn of the twentieth century.

Priyamvada Gopal

Colonial and Postcolonial Studies · University of Cambridge

George F. Kennan Member

Priyamvada Gopal is the author, most recently, of *Insurgent Empire: Anticolonial Resistance and British Dissent*. She is currently working on a manuscript titled "Decolonisation: The Life and Times of an Idea." At IAS, she will be working on chapters relating to land, ecology, and race, and a related paper called "How Not to Decolonise."

Linda Gosner

Mediterranean Archaeology, Ancient History · Texas Tech University

The Andrew W. Mellon Foundation Fellowship for Assistant Professors

Linda Gosner is a Mediterranean archaeologist focused on Iron Age and Roman archaeology and history. While at IAS, she will work on a book project about mining in the Iberian Peninsula following the Roman conquest, which assesses the human, economic, and environmental impacts of this large-scale industry.

Jeffrey Lawrence Gould

Modern History, Latin America · Indiana University · *dvp*

Jeffrey Lawrence Gould's work primarily focuses on Central American social movements, ethnic conflicts, and political violence. He is currently working on a book of case studies of "minor utopias" in Latin America, when workers or peasants gained collective control over their work environments during historical moments of social struggle.

Zsuzsanna Gulácsi

Asian Studies, Silk Road Religions, Visual Culture · Northern Arizona University · *s*

Roger E. Covey Member in East Asian Studies

Zsuzsanna Gulácsi will work on a project concerning Manichaean texts and art from the eighth and tenth centuries that were discovered together with mostly Buddhist artifacts in East Central Asia. Her work aims to propose new identifications and a theory about their preservation at the Mogao Grottos near Dunhuang and the Turfan Oasis.

Sven Günther

Ancient History and Classics · Northeast Normal University · *s*

Funding provided by the Fund for Historical Studies

Sven Günther is an ancient historian who is mainly interested in the socio-economic, legal, and political history of the Greco-Roman world, as well as in reception studies and didactics. He is especially keen to analyze and discover new frameworks. At IAS, he will work on Xenophon's framing of discourses about leadership and dependency.

Cynthia Hahn

Medieval Art · The City University of New York · *v/s*

Cynthia Hahn has published on material from the early Christian to the Gothic, from across Europe to the Holy Land. She is known for her examination of the societal, historical, and artistic issues of relics and reliquaries. Currently she is working on medieval bodily ornamentation intended to promote protection, identity, and status.

Paul Halliday

Legal History · University of Virginia

Funding provided by the Fund for Historical Studies; Friends of the Institute for Advanced Study Member

Paul Halliday is a historian of law in England and across Britain's empire. At IAS, he will work on "The Stuff of Law," concerned with how material forms—writing and knowledge storage practices, courtrooms and other spaces—shaped what law was and how it has worked since the fifteenth century or so.

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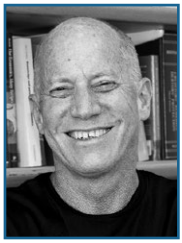

Ron Harris

Legal, Economic, British History · Tel Aviv University · *f*

Funding provided by the Fund for Historical Studies; William F. Doney Member

Ron Harris intends to complete a book at IAS tentatively titled "Empire Ltd.: Law and the Rise of Multinationals in the First Era of Globalization." His project studies the expansion of company law and multinational business corporations in the British Empire in the first era of globalization, roughly 1844–1914.

Emily Hayes

History and Philosophy of Geography, Visual and Material Culture · Oxford Brookes University · *f*

Emily Hayes's forthcoming monograph maps spatiotemporal and cultural relativities of late nineteenth-century and early twentieth-century international geographical practitioners active in the U.K. It locates relativistic modes and materials of geographical institutions and communities alongside the better-known relativities of social anthropology and physics practitioners and popularisers.

Christopher P. Jones

Classical Philology and History · Harvard University · *ra*

Christopher P. Jones is interested in Greek and Latin authors, especially of the period 1–300 C.E., Greek and Roman history of the same period, and Greek epigraphy.

David Young Kim

History of Art · University of Pennsylvania

Funding provided by the Fund for Historical Studies; Felix Gilbert Member

David Young Kim is interested in art theoretical writing in the Renaissance and the mechanics of language as the art historian's tool. While at IAS, he will study the practices of translation and life-writing in art historiography with focus on the biography of Lee Keun Bai, the translator of Giorgio Vasari's *Lives* into Korean.

Nanny Kim

Chinese History · Heidelberg University

Starr Foundation East Asian Studies Member

Nanny Kim's main field is the historical geography of mining and transport in Southwest China. At IAS, Kim will work on a book that explores two incongruous mining histories: reconstructions from local records and representations in the official regulations authorized by the central government of late imperial China.

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vp Visiting Professor · *ra* Research Associate

George A. Kiraz

Ottoman Religious Minorities, Syriac Studies · Beth Mardutho: The Syriac Institute

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-Zaʿfarān (Monastery of the Saffron).

Clara Latham

Musicology · Eugene Lang College of Liberal Arts at The New School

Funding provided by the Martin L. and Sarah F. Leibowitz Endowment; Edward T. Cone Member in Music Studies

While at IAS, Clara Latham will be working on a book about early twentieth-century commercial music technologies in the United States, showing how electronic musical instruments shaped musical labor in this period.

Matthew Leigh

Classics · St Anne's College, University of Oxford · *f*

Funding provided by the Fund for Historical Studies

While at IAS, Matthew Leigh will be working to complete a commentary on the first book of the *Controversiae* of Seneca the Elder. He hopes also to finish articles that reflect his broader interests in the Roman declamatory tradition, Roman law, and the comparative study of slavery.

Yan Liu

History of Medicine, Chinese History · University at Buffalo, State University of New York · *f*

Willis F. Doney Member

Yan Liu is interested in material practices of medicine, religious healing, sensory history, and the circulation of medical knowledge along the Silk Road. While at IAS, he will be working on a book manuscript on a transcultural history of aromatics and the production of olfactory knowledge in China from the seventh to thirteenth century.

Sierra Lomuto

Medieval Literature · Rowan University

The Andrew W. Mellon Foundation Fellowship for Assistant Professors

Sierra Lomuto is interested in the relationship between literary fantasy and racial formation, and how global networks shaped medieval England's literature. While at IAS, she will work on a book about the particular ways medieval European discourse racialized the Mongols, and how it elucidates longer histories of anti-Asian racism.

f First Term · *s* Second Term · *m* Long-term Member · *v* Visitor · *dvp* Distinguished Visiting Professor
vp Visiting Professor · *ra* Research Associate

Julia Lougovaya

History of Science, Papyrology, Classics · University of Heidelberg · *f*
Ralph E. and Doris M. Hansmann Member

Julia Lougovaya specializes in school curricula and basic mathematical education in Greco-Roman antiquity. While at IAS, she will be working on Greek word problems preserved in papyrological evidence.

Yoram Meital

Middle Eastern Studies · Ben-Gurion University of the Negev
Patricia Crone Member

Yoram Meital's field of research is Middle East Studies. He has written on various topics about Arab societies during the modern era. His current research focuses on the history of the Jewish community in Egypt. As the historical consultant to the Jewish community in Cairo, he is involved in the preservation of Egyptian-Jewish heritage.

Adam Mestyan

History, Near Eastern Studies · Duke University · *s*
Funding provided by the Fund for Historical Studies; Patricia Crone Member

Adam Mestyan is a historian of the modern Middle East. While at IAS, Mestyan will be working on a history of postmortem wealth in modern Egypt.

Noah Millstone

Early Modern History · University of Birmingham · *s*
Funding provided by the Gladys Krieble Delmas Foundation and the Fund for Historical Studies

Noah Millstone works on the political, cultural, and religious history of early modern Europe. At IAS, Noah will work on early modern "book talk"—the lively trade in book news, rumor, extracts, and judgments about books—analyzing its mechanics and tracking its evolution from the late Renaissance to the early Enlightenment.

Melissa Moreton

History of the Book, Global Middle Ages · *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.

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vp Visiting Professor · *ra* Research Associate

Kathryn Morgan

Classics · University of California, Los Angeles · *f*
Funding provided by the Hetty Goldman Membership Fund

Kathryn Morgan will be working on her project, "Plato, Thucydides, and the Uses of History," arguing that Plato found in Thucydides's *History of the Peloponnesian War* a model of inductive world-building that challenged his own analysis of ethics and politics, and that this challenge was taken up in a number of Platonic dialogues.

Jane O. Newman

Comparative Literature · University of California, Irvine
The Andrew W. Mellon Foundation Visiting Professor in the Humanities

Jane O. Newman is interested in dialogues between pre- and early modernity and the modern and post-modern present. At IAS, she will complete her book on Erich Auerbach's readings of texts from Hebrew Scripture through Giambattista Vico in conversation with the philosophy and theory of the early twentieth century.

Morgan Ng

History of Art and Architecture · Yale University
The Andrew W. Mellon Foundation Fellowship for Assistant Professors

Morgan Ng is a historian of early modern architecture and art in Italy and its global networks. His research explores interconnections between the built landscape, visual culture, and the technical arts. While at IAS, he will be writing an expanded history of Renaissance architectural drawing.

Joanna Maria Olchawa

Art History, Medieval Studies · Goethe-Universität Frankfurt
Funding provided by the Hetty Goldman Membership Fund; Agnes Gund and Daniel Shapiro Member

Joanna Maria Olchawa's research focuses on the intersections between medieval art and sound history. While at IAS, she will work on her book manuscript that examines European pulpits around 1500 C.E. and explores the sonic dimensions of art.

Jocelyn Olcott

Intellectual History of Economic Thought · Duke University
Hans Kohn Member

Jocelyn Olcott is interested in debates, particularly from the Global South, about how to understand and measure economic strength. At IAS, she will research interventions by activist intellectuals in regions that first experienced the impact of neoliberalism, offering the foundations of the field that would become feminist economics.

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vp Visiting Professor · *ra* Research Associate

Molly Pucci

European History · Trinity College Dublin
George F. Kennan Member; Hans Kohn Member

Molly Pucci is interested in the way experiments in culture, law, and internationalism radicalized the political left in interwar Europe, from the Comintern to the artistic avant-garde. At IAS, she will start a new project on radical leftist and communist activism in law and political trials in interwar Central Europe.

João Jose Reis

History of Brazil, Nineteenth Century, Slavery · Faculdade de Filosofia e Ciências Humanas, Universidade Federal da Bahia · *s*
The Andrew W. Mellon Foundation Visiting Professor in the Humanities

João Jose Reis is interested in the history of slavery in Brazil, particularly urban slavery, collective and individual resistance, and biographies of ex-slaves, among other themes. At IAS, Reis will be working on a book-length biography of a Hausa slave who obtained freedom to become a rich merchant and slaveowner in nineteenth-century Bahia.

Alberto Rigolio

Syriac Studies, Classics, Late Antiquity · Durham University · *f*
Funding provided by the Fund for Historical Studies

Alberto Rigolio works on the cultural and intellectual history of the Eastern Mediterranean world during the Roman and late antique periods. He uses Syriac, alongside Greek and Latin, to argue for a more comprehensive approach to the study of the ancient world. While at IAS, he will carry out research on the origins of Syriac literature.

Sara Ritchey

Medieval History · University of Tennessee · *f*
Friends of the Institute for Advanced Study Member

At IAS, Sara Ritchey is working on "Chansons Créoles: A New Genealogy of the French Middle Ages," a monograph that explores nineteenth-century French philological efforts to transcribe orality as evidence of medievality in francophone peripheries such as Brittany, Acadia, St. Martinville, New Orleans, Guadeloupe, and Martinique.

Nicholas Robbins

History of Art · University College London
Funding provided by the Herodotus Fund

Nicholas Robbins writes about intersecting histories of art, science, and environment in the modern Atlantic world. At IAS, he will complete a book about climate's emergence as a central subject of artistic experiment and scientific representation in nineteenth-century Britain.

Felipe Rojas

Classics, Archaeology, Dance History · Brown University · *f*

Felipe Rojas is interested in the archaeology and history of the eastern Mediterranean between the Iron Age and Late Antiquity, and in the comparative history of archaeology and antiquarianism worldwide. He is currently writing a book about dance and historical consciousness in the Roman East.

Jeremy Simmons

Ancient History, Classics, Indian Ocean · University of Maryland · *s*
AMIAS Member

Jeremy Simmons is a historian of the wider ancient world—what Greco-Roman geographers thought of as the *oikoumene*. While at IAS, he will be working on a book about the consumption of goods traded across the Indian Ocean in antiquity, addressing representative Mediterranean and Indian commodities in their new socio-cultural contexts.

Kara W. Swanson

History of U.S. Science, Technology, and Law · Northeastern University
Friends of the Institute for Advanced Study Member

Kara W. Swanson explores the intersections among science, technology, medicine, and law in the United States. Her book-in-progress combines the history of law, technology, and civil rights movements to examine how United States residents used inventiveness to demonstrate eligibility for full citizenship.

Robert Travers

History · Cornell University
Willis F. Doney Member

Robert Travers studies colonial state-formation in eighteenth century India, especially interactions between British and Persianate forms of political culture. While at IAS, he will research the impeachment trial of the former Governor of Bengal Warren Hastings, considering the implications of the trial for the global history of law.

Jeffrey Ulrich

Classics · Rutgers, the State University of New Jersey · *f*
Funding provided by the Herodotus Fund; Martin L. and Sarah F. Leibowitz Member

Jeffrey Ulrich is interested in the intersection of philosophy, literature, and culture in Latin literature, and has written extensively on the ancient Roman novel and Latin poetry. At the Institute, he will be developing a new project on the influence of technologies of time—specifically, tools for measuring time—on forms of human expression.

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vp Visiting Professor · *ra* Research Associate

Anastasia-Stavroula Valtadorou

Classics · Arsakeio School of Thessaloniki

Stavros Niarchos Foundation Member

Anastasia-Stavroula Valtadorou is interested in ancient Greek drama and, in particular, in Euripides's plays (both surviving and fragmentary). While at IAS, she will be completing her first monograph on the positive representation of eros (erotic love) and marriage in Greek tragedy.

Cécile Vidal

Early Modern European Empires, Atlantic · École des Hautes Études en Sciences Sociales · *s*

Funding provided by the Fund for Historical Studies

Cécile Vidal is a social historian of colonial empires, the slave trade, and slavery in the Atlantic world from the seventeenth to the nineteenth centuries. While at IAS, she will be working on a new research project on suicide, the slave trade, and slavery in the French and British Atlantics in the eighteenth and nineteenth centuries.

Stephen Vider

U.S. History, History of Gender and Sexuality · Cornell University · *s*

Elizabeth and J. Richardson Dilworth Fellow

Stephen Vider's research and public scholarship explores the history of gender, sexuality, home, and family in the United States since World War II. While at IAS, he will work on his second book tracing the history of psychiatric deinstitutionalization, ex-patient activism, and community mental health in New York.

Hui Wang

Chinese Intellectual History and Literature · Tsinghua University, Tsinghua Institute for Advanced Study in Humanities and Social Sciences

The Andrew W. Mellon Foundation Visiting Professor in the Humanities; Elizabeth and J. Richardson Dilworth Fellow

Wang Hui's research interests includes Chinese intellectual history, Chinese literature, and social theory. His recent publications include *The Rise of Modern Chinese Thought* and *China's Twentieth Century.* While at IAS, he will be working on the position of the twentieth century in Chinese history, and the role of twentieth-century China in world history.

Nira Wickramasinghe

Modern South Asian History · Leiden University · *f*

Funding provided by the Fund for Historical Studies and the Hetty Goldman Membership Fund

Nira Wickramasinghe is interested in issues of belonging and everyday life of subalterns under colonialism in Sri Lanka and the Indian Ocean world. At IAS, she will be working on a book tentatively called "Slavery and Forgetting in the Indian Ocean World" that seeks to understand genealogies of loss and retention.

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vp Visiting Professor · *ra* Research Associate

Emily Wilcox

Asian Studies, Dance History · William & Mary · *f*

Funding provided by the Fund for Historical Studies; George F. Kennan Member

Emily Wilcox is completing a book manuscript examining how dance mediated the world to Chinese audiences during the Mao era (1949–76). Based on original research using Chinese-language sources, the book will explore how dance embodied ideas of socialist internationalism, Afro-Asian solidarity, and Tricontinentalism during the Cold War.

Ronit Yoeli-Tlalim

History of Medicine · Goldsmiths, University of London

Willis F. Doney Member

Ronit Yoeli-Tlalim is interested in transmissions of medical knowledge across Eurasia. While at IAS, she will work on the Hebrew Book of Asaf (a.k.a. Sefer Re'fuot, "Book of Medicines"), an important piece in the great puzzle of Eurasian history of medicine and history of science more broadly.

María Bárbara Zepeda Cortés

History of Politics, Eighteenth-Century Spanish Empire · Lehigh University

John Elliot Member

María Bárbara Zepeda Cortés's research centers on reformist movements and the Spanish Enlightenment. At IAS, she will be completing the long-awaited biography of José de Gálvez, an eighteenth-century Spanish statesman, who directed a program of wide-reaching reforms that transformed the lives of peoples around the globe.

School of Mathematics

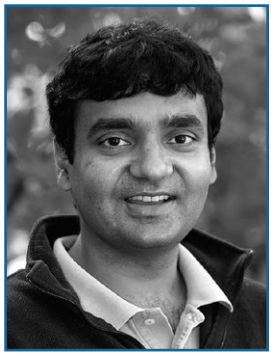
Administrative Officer: Nicole Maldonado

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 2023–24 academic year, the School will host a special program on the *p*-adic arithmetic geometry, organized by Professors Bhargav Bhatt and Jacob Lurie. Confirmed participants include Pierre Colmez, Johan de Jong, Ofer Gabber, Lars Hesselholt, Kiran Kedlaya, Matthew Morrow, Wieslawa Niziol, Peter Scholze, Annette Werner, and Xinwen Zhu.

The last decade has witnessed some remarkable foundational advances in *p*-adic arithmetic geometry (e.g., the creation of perfectoid geometry and the ensuing reorganization of *p*-adic Hodge theory). These advances have already led to breakthroughs in multiple different areas of mathematics (e.g., significant progress in the Langlands program and the resolution of multiple long-standing conjectures in commutative algebra), have uncovered new phenomena that merit further investigation (e.g., the discovery of new structures on algebraic *K*-theory, new period spaces in *p*-adic analytic geometry, and new bounds on torsion in singular cohomology), and have made hitherto inaccesible terrains more habitable (e.g., birational geometry in mixed characteristic). This special year intends to bring together a mix of people interested in various facets of the subject, with an eye towards sharing ideas and questions across fields.

Other programs associated with the School are the Park City Mathematics Institute (PCMI), an innovative program integrating mathematics research and mathematics education, and the Program for Women and Mathematics (WAM), jointly sponsored by the National Science Foundation, Lisa Simonyi, the Institute for Advanced Study, Minerva Research Foundation, and Princeton University, which brings together research mathematicians with women undergraduate and graduate students for an intensive week-long workshop traditionally held on campus.



Bhargav Bhatt

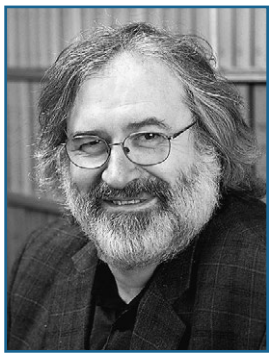
Fernholz Joint Professor

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

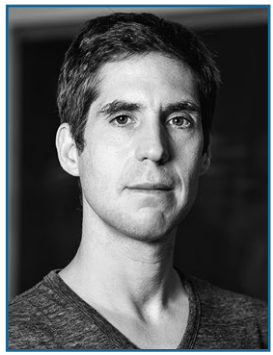
Camillo De Lellis, a geometric analyst, has broad expertise in the calculus of variations, geometric measure theory, and fluid dynamics. Using modern tools and innovative approaches, De Lellis has contributed to central problems in analysis and geometry, resulting in the creation of a transparent proof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



Helmut Hofer

Hermann Weyl Professor

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.



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.

Peter Sarnak

Gopal Prasad Professor

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.

Akshay Venkatesh

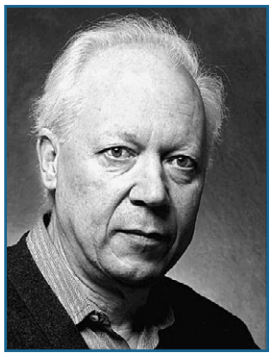
Robert and Luisa Fernholz Professor

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

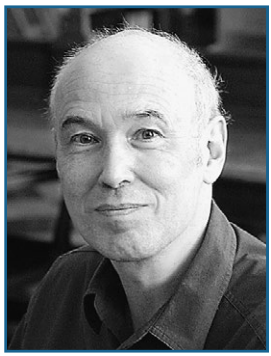
Avi Wigderson is a widely recognized authority in the diverse and evolving field of theoretical computer science. His main research area is computational complexity theory. This field studies the power and limits of efficient computation and is motivated by such fundamental scientific problems as Does 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

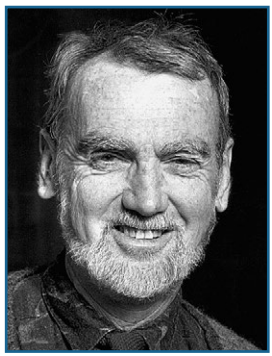
Professor Emeritus

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

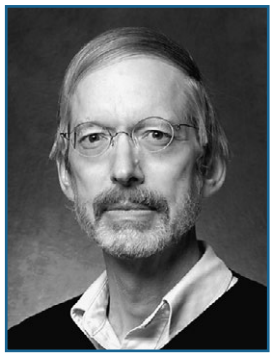
Phillip Griffiths initiated with his collaborators the theory of variation of Hodge structure, which has come to play a central role in many aspects of algebraic geometry and its uses in modern theoretical physics. In addition to algebraic geometry, he has made contributions to differential and integral 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.



Robert P. Langlands

Professor Emeritus

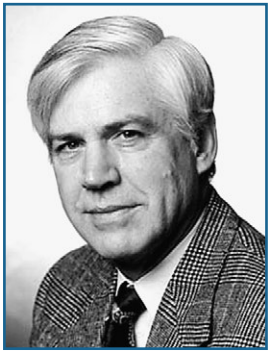
Robert Langlands's profound insights in number theory and representation theory include the formulation of general principles relating automorphic forms and algebraic number theory; the introduction of a general class of L-functions; the construction of a general theory of Eisenstein series; the introduction 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.



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.

Robert Andrews

Theoretical Computer Science · Institute for Advanced Study
Erik Ellentuck Fellow; funding provided by the National Science Foundation

Robert Andrews studies computational complexity theory. He is interested in circuit complexity, pseudorandomness, proof complexity, and the intersection of these areas with algebra.

Grigory Andreychev

Arithmetic Geometry · Institute for Advanced Study
Funding provided by the National Science Foundation

Grigory Andreychev studies K-theory and localizing invariants in algebraic and arithmetic geometry.

Toni Mikael Annala

Algebraic Geometry · Institute for Advanced Study
Funding provided by the National Science Foundation

Most of Toni Mikael Annala's work deals with foundational questions related to intersection theory and algebraic cobordism.

Benjamin Antieau

Algebraic K-theory · Northwestern University · *vnf/s*
Funding provided by the National Science Foundation

Benjamin Antieau is currently studying algorithms in prismatic cohomology and *K*-theory.

Bodan Arsovski

Harmonic Analysis · University College London
Funding provided by the National Science Foundation

Bodan Arsovski is currently interested in non-Archimedean harmonic analysis.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Liam Baker

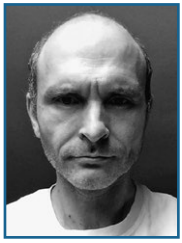
Number Theory and Mathematics Olympiads · Stellenbosch University · *f*
Funding provided by the Ambrose Monell Foundation

Liam Baker is interested in the theory of Drinfeld modular forms and modular forms in general, both in the rank 2 and higher rank cases. He is quite involved in mathematics olympiads in South Africa and Africa at the secondary school level and enjoys creating new problems, some of them solvable!

Rebecca Bellovin

Number Theory · University of Glasgow
Minerva Research Foundation Member

Rebecca Bellovin works on algebraic number theory, and, more specifically, p-adic Hodge theory. A particular interest is the variation of p-adic Hodge theory in non-Archimedean families.



Lev Borisov

Pure Mathematics · Rutgers, The State University of New Jersey · *v*

Lev Borisov is interest in algebraic geometry and will take part in the special year on p-adic arithmetic geometry.

Guido Bosco

Arithmetic Algebraic Geometry · Sorbonne University · *s*

Guido Bosco is interested in arithmetic geometry, especially in p-adic Hodge theory.

Bjoern Bringmann

Partial Differential Equations · Institute for Advanced Study
Funding provided by the National Science Foundation

Bjoern Bringmann's research interests lie at the intersection of partial differential equations and probability theory. More specifically, he has been working on dispersive equations, such as nonlinear wave and Schrödinger equations, with random initial data.

Matija Bucic

Discrete Mathematics, Combinatorics · Institute for Advanced Study and Princeton University · *vri*

Matija Bucic is interested in a number of topics, including but not limited to Ramsey theory, algebraic and probabilistic methods in combinatorics, directed graph theory, extremal set theory, theoretical computer science, and random structures.

Thomas Richard Cass

Probability and Stochastic Analysis · Imperial College London

Erik Ellentuck Fellow

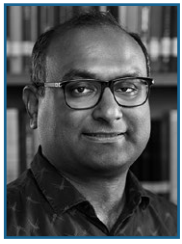
Thomas Richard Cass's research concerns problems in rough analysis, a relatively new branch of mathematics that has emerged as a framework for studying random systems driven by highly oscillatory signals. His recent focus has been on the use of signature transform of rough path theory as a computational tool for analyzing sequential data.

Kestutis Cesnavicius

Arithmetic Geometry · CNRS, Université Paris-Saclay · *vnf*

Funding provided by the National Science Foundation

While at IAS, Kestutis Cesnavicius will research p-adic arithmetic geometry and p-adic cohomology theories.

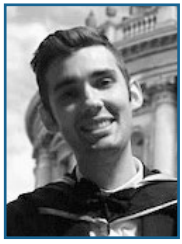


Sourav Chatterjee

Probability Theory · Stanford University

Funding provided by the Charles Simonyi Endowment

Sourav Chatterjee's primary fields of interest are probability theory, mathematical physics, statistics, and machine learning. While at IAS, Chatterjee will conduct research on Yang-Mills theories and problems from statistical mechanics.



Alexis Chevalier

Combinatorics · Institute for Advanced Study · *v*

Alexis Chevalier is interested in model theory and its interactions with other areas of mathematics. While at IAS, Chevalier will research applications of model theory to combinatorics in finite fields and applications of continuous logic to ergodic theory.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Sinho Chewi

Mathematics · Institute for Advanced Study
Eric and Wendy Schmidt for Program in Theoretical Machine Learning

Sinho Chewi is interested in optimal transport, optimization, probability, and statistics.

Pierre Colmez

Mathematics · Université Pierre et Marie Curie · *s*
Funding provided by the Charles Simonyi Endowment

Pierre Colmez works in the *p*-adic Langlands program, using *p*-adic Hodge theory to geometrize *p*-adic Langlands correspondences.

Johan de Jong

Algebraic Geometry · Columbia University · *s*
Erik Ellentuck Fellow

Johan de Jong studies commutative algebra, algebraic geometry, and number theory. He has worked on crystalline Dieudonnee module theory, *p*-divisible groups, rigid analytic spaces, moduli of rational curves on algebraic varieties, Brauer groups, and is currently the maintainer of the Stacks project (https://stacks.math.columbia.edu/).

Mikael de la Salle

Functional Analysis · Institut Camille Jordan
Funding provided by the Charles Simonyi Endowment

Mikael de la Salle is interested in functional analysis, operator algebras, and group theory. While at IAS, he will work on various questions between these subjects, notably harmonic analysis on semisimple groups, and on the connections between operator algebras, theoretical computer science, and quantum information theory.

Stefano Decio

Mathematics · Institute for Advanced Study
Funding provided by the Giorgio and Elena Petronio Fellowship Fund and the National Science Foundation

Stefano Decio is interested in elliptic partial differential equations and harmonic analysis, with a particular focus on quantitative properties of solutions to elliptic equations. For his Ph.D. thesis, he mainly studied problems in nodal geometry. More recently, he has been working on questions related to harmonic measure and free boundary problems.

f First Term · *s* Second Term · *v* Visitor · *dvp* Distinguished Visiting Professor · *vp* Visiting Professor
vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Ulrich Derenthal

Number Theory · Leibniz Universität Hannover

Funding provided by the Charles Simonyi Endowment

Ulrich Derenthal is interested in the existence and distribution of rational and integral points on algebraic varieties (in particular, Manin's conjecture on the asymptotic behavior of the number of rational points of bounded height on Fano varieties), and in the geometry and arithmetic of universal torsors and Cox rings.

Yotam Dikstein

High Dimensional Expanders, Hardness of Approximation, Graph Theory · Institute for Advanced Study

Funding provided by the National Science Foundation

Yotam Dikstein is interested in high-dimensional expanders and similar structures. This includes constructing such objects, discovering new properties they possess, and utilizing them in various areas of theoretical computer science, such as probabilistically checkable proofs, property testing, and codes. Dikstein is also interested in Boolean function analysis in non-standard domains.

Zeev Dvir

Theoretical Computer Science and Mathematics · Princeton University

Zeev Dvir has a broad interest in theoretical computer science and mathematics. Dvir is especially interested in computational complexity, pseudo-randomness, coding theory, and combinatorics.

Dor Elboim

Probability · Institute for Advanced Study

Funding provided by the National Science Foundation

Dor Elboim is interested in probability theory and applications of probability in mathematical physics and combinatorics. He studies models such as diffusion limited aggregation, first and last passage percolation, and the interchange process.

Elden Elmanto

Motivic Cohomology · Harvard University · *s*

Erik Ellentuck Fellow

Elden Elmanto is interested in algebraic geometry and algebraic *K*-theory. Specifically, he is interested in developing methods to study singular algebraic varieties from the point of view of cycles and motivic cohomology. While at IAS, he will investigate the theory of motives for singular schemes.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Alex Eskin

Geometric Group Theory · The University of Chicago · *s*

Alex Eskin is interested in the theory of dynamical systems and its applications to geometry and number theory.

Ofer Gabber

Algebra, Algebraic Geometry · Institut des Hautes Études Scientifiques · *s*

While at IAS, Ofer Gabber will follow developments in characteristic *p* and mixed characteristic algebraic geometry and work on his approaches.

Hui Gao

Number Theory · Southern University of Science and Technology · *f*

Infosys Member

Hui Gao is interested in number theory and arithmetic geometry. He currently studies arithmetic and cohomological questions in *p*-adic Hodge theory.

Sally Gilles

Arithmetic Geometry

Funding provided by the National Science Foundation

Sally Gilles works on *p*-adic cohomologies of rigid analytic varieties and, more particularly, on the comparison theorems that exist between them. She is currently interested in the compactly supported versions of these cohomologies and investigating Poincaré duality results.

Federico Glaudo

Partial Differential Equations · Institute for Advanced Study · *v*

Funding provided by the National Science Foundation

Federico Glaudo is interested in analysis in a broad sense: he works on partial differential equations, functional and geometric inequalities, and optimal transport.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

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.

Fernando Granha Jeronimo

Theoretical Computer Science · Institute for Advanced Study · *v*

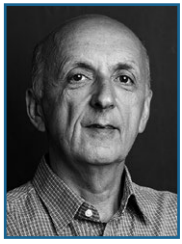
Fernando Granha Jeronimo is broadly interested in theoretical computer science and its connections to mathematics. He has been investigating problems involving coding theory, expansion, optimization, and pseudorandomness.

Rachel Greenfeld

Fourier Analysis, Additive Combinatorics · University of California, Los Angeles

AMIAS Member

Rachel Greenfeld works in harmonic analysis and additive combinatorics and is interested in applications to problems of geometry. At the Institute, she plans to combine Fourier analysis and combinatorial techniques with ergodic theory and number theory tools to study problems of tilings and orthogonal systems of exponentials.



Michel Gros

Arithmetic Geometry · CNRS, Institut de Recherche Mathématique, Université de Rennes 1

Funding provided by the Charles Simonyi Endowment

Michel Gros is interested in developing p-adic Hodge theory and, more specifically, prismatic cohomology and p-adic Simpson correspondence.

Yuzhou Gu

Information Theory, Statistics, Probability · Institute for Advanced Study

Funding provided by the National Science Foundation

Yuzhou Gu is interested in information theory and its applications in statistics, probability, and computer science.

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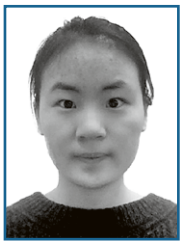
vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Jeremy Hahn

Prismatic Cohomology of Ring Spectra · Massachusetts Institute of Technology · *f*

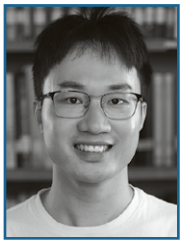
Jeremy Hahn is interested in the prismatic cohomology of ring specta, and in applications of prismatic cohomology to homotopy theory.



Lili He

General Relativity and Nonlinear Wave Equations · Institute for Advanced Study · *v*

Lili He's field of study is general relativity and nonlinear wave equations. Further interests include microlocal analysis and scattering theory.



Tongmu He

Algebraic Geometry, Number Theory · Institute for Advanced Study

Funding provided by the National Science Foundation

Tongmu He is interested in p-adic arithmetic geometry. While at IAS, He will investigate local systems over p-adic varieties through coherent or linear objects, with special focus on the p-adic Simpson correspondence for non-small representations of fundamental groups, as well as Sen theory over p-adic varieties.

Lars Hesselholt

Homotopy Theory and Arithmetic Geometry · Institute for Advanced Study · *f, s*

While at IAS, Lars Hesselholt will work on the use of localizing invariants in the categorification of arithmetic geometry.

Sven Hirsch

Geometric Analysis and Mathematical Relativity · Institute for Advanced Study

Funding provided by the National Science Foundation

Sven Hirsch works on questions arising in geometric analysis and mathematical relativity. In particular, he is interested in scalar curvature, black holes, and geometric flows.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Wei Ho

Number Theory, Algebraic Geometry · University of Michigan and Princeton University · *vp*

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.

Sean Howe

p-adic Automorphic Forms and p-adic Hodge Theory · University of Utah
Friends of the Institute for Advanced Study Member

Sean Howe is interested in *p*-adic geometry, automorphic forms, and combinatorial aspects of algebraic geometry. While at IAS, Howe is working on differential and analytic aspects of perfectoid geometry, as well as applications to the theory of *p*-adic automorphic forms and the *p*-adic Langlands program.

Kalyani Kansal

Number Theory · Institute for Advanced Study
Funding provided by the National Science Foundation

Kalyani Kansal is broadly interested in arithmetic geometry and number theory. While at IAS, her work will focus on *p*-adic Langlands and moduli stacks of Galois representations.

Fanny Kassel

Geometry and Discrete Groups · *vnf/s*
Funding provided by the National Science Foundation

Fanny Kassel is interested in groups, geometry, and dynamics. She works in particular on various geometric and dynamical aspects of discrete subgroups of Lie groups, with emphasis on the higher-rank case.

Kiran S. Kedlaya

Arithmetic Geometry · University of California, San Diego · *f, s*

Kiran S. Kedlaya studies arithmetic geometry, particularly aspects of *p*-adic geometry such as *p*-adic differential equations and *p*-adic Hodge theory. His interests also include computational and algorithmic aspects of arithmetic geometry, particularly with regard to zeta and L-functions.

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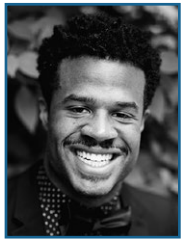
Kimoi Kemboi

Algebraic Geometry · Institute for Advanced Study · *f*

Bob Moses Fund

Kimoi Kemboi's research interest lies at the intersection of derived categories, equivariant geometry, and moduli theory. While at IAS, Kemboi will work on finding new examples of varieties whose derived categories admit a full exceptional collection, and exploring connections to noncommutative resolutions.



D. Dóminique Kemp

Decoupling · Institute for Advanced Study · *v*

D. Dóminique Kemp is interested in problems that simultaneously incorporate elements of geometry (both smooth and rough settings), harmonic analysis, and number theory. Kemp's primary research focus lies in the recently emerged field called decoupling, and his pursuits pertain to both the development of the formal theory as well as applications.

Nathan Klein

Theoretical Computer Science · Institute for Advanced Study

Funding provided by the National Science Foundation

Nathan Klein studies the design and analysis of approximation algorithms for NP-hard problems. He is particularly interested in understanding techniques involving randomized rounding of solutions to linear programs. At IAS, he hopes to continue studying these techniques and to begin to study the field of hardness of approximation.

Pravesh K. Kothari

Theoretical Computer Science · Princeton University · *vp/s*

Pravesh K. Kothari's work focuses on algorithms and complexity for computational problems with statistical inputs. While at IAS, Kothari plans to focus on connections to high-dimensional probability, especially the spectrum of correlated random matrices and coding theory, specifically bounds on locally decodable codes.

Achim Krause

Homotopy Theory · Munster University · *s*

Achim Krause is interested in many things around homotopy theory and higher algebra, in particular algebraic *K*-theory and topological cyclic homology.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Dmitry Kubrak

Arithmetic Geometry · Institut des Hautes Études Scientifiques

Funding provided by the National Science Foundation

While at IAS, Dmitry Kubrak is going to study various cohomologies of higher classifying stacks and log-schemes, as well as the moduli space of finite derived commutative group schemes. He also plans to work on an analogue of the Atiyah-Segal theorem for localizing invariants in algebro-geometric setting.

Shiyue Li

Mathematics

Funding provided by the National Science Foundation

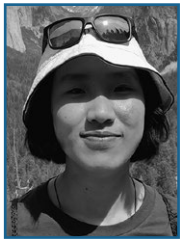
Shiyue Li is interested in algebraic geometry and combinatorics.

Shizhang Li

Mathematics · Morningside Center of Mathematics

Funding provided by the Ky Fan and Yu-Fen Fan Endowment Fund and the National Science Foundation

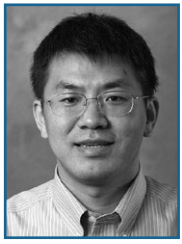
Shizhang Li is interested in arithmetic geometry, especially p-adic geometry.



Siqi Liu

Theoretical Computer Science · Institute for Advanced Study · *v*

Siqi Liu is interested in constructions and applications of high-dimensional expanders. While at IAS, Liu will study the connections of high-dimensional expansion to analytical and topological properties of manifolds and also the applications of expanding partially ordered sets to property testing.



Tong Liu

Algebraic Number Theory, Arithmetic Geometry · Purdue University · *s*

Funding provided by the S. S. Chern Foundation for Mathematical Research Fund

Tong Liu is interested in algebraic number theory. Currently, Liu focuses on p-adic Galois representation, p-adic Hodge theory, and p-adic geometry.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Yang Liu

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

Yang Liu is broadly interested in mathematics and theoretical computer science. His research focuses on the design of efficient algorithms based on graph theory, convex optimization, and high-dimensional geometry.

Linquan Ma

Commutative Algebra and Algebraic Geometry · Purdue University · *f*

Linquan Ma's research is focused on singularities, local cohomology, multiplicities, and the homological conjectures in commutative algebra. While at IAS, Linquan Ma will work on singularities in mixed characteristic.

Michael Robert Magee

Spectral Geometry · Durham University · *vnf*
Funding provided by the National Science Foundation

Michael Robert Magee plans to further study the role of operator algebras and random matrix theory in spectral geometry.

Annalisa Massaccesi

Mathematical Analysis · University of Padova · *vnf/f*
Funding provided by the National Science Foundation

Annalisa Massaccesi is interested in geometric measure theory and its tools. The principal topics of the research carried out at IAS are currents, their geometric structure, their fine properties, their regularity under assumption of minimality, and their employment as a tool to model and study minimal networks.

William A. Massey

Dynamical Queueing Systems · Princeton University

While at IAS, William A. Massey will continue his study on the spectral dynamic analysis of stochastic service networks. Many of these problems characterize the transient analysis of reflected and absorbing random walks within multidimensional integer lattices.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Akhil Mathew

Arithmetic Geometry, Algebraic Topology · The University of Chicago · *f*

Akhil Mathew is interested in studying aspects of prismatic and syntomic cohomology, and, more generally, interactions between homotopy theory and *p*-adic geometry.

Paul Minter

Geometric Analysis · Institute for Advanced Study · *veb*

Paul Minter is interested in problems arising in geometric analysis, geometric measure theory, and, more broadly, the calculus of variations and partial differential equations. While at IAS, a focus of his work will be on regularity questions arising in the study of minimal submanifolds and other geometric phenomena.

Shubhodip Mondal

Algebraic Geometry · Institute for Advanced Study · *s*

Shubhodip Mondal is interested in arithmetic algebraic geometry and its interactions with algebraic topology.

Fabien Morel

Algebraic Geometry and Algebraic Topology · Ludwig Maximilian University of Munich

Funding provided by the Giorgio and Elena Petronio Fellowship Fund

Fabien Morel uses methods of algebraic topology to study the $\mathbb{A}^1$-homotopy type of ($\mathbb{A}^1$-connected) smooth projective k-varieties. For instance, with the cellular chain complex (+ A. Sawant) and its Poincaré duality, one may study the signature of $\mathbb{A}^1$-connected smooth projective k-varieties, or the Whitehead torsion of an $\mathbb{A}^1$-equivalence between these.

Matthew Morrow

K-theory, Arithmetic Geometry · Université Paris-Saclay · *s*

Funding provided by the James D. Wolfensohn Fund

Matthew Morrow is interested in algebraic K-theory and arithmetic geometry. His current work uses p-adic techniques and derived algebraic geometry to develop aspects of motivic cohomology beyond the smooth case.

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Tasos Moulinos

Derived Algebraic Geometry · Université Paul Sabatier

Funding provided by the Giorgio and Elena Petronio Fellowship Fund II

Tasos Moulinos is interested in derived algebraic geometry and algebraic *K*-theory. While at IAS, Moulinos will research cohomological structures that arise from topology, geometry, and arithmetic.

Jean Pierre Mutanguha

Geometric Group Theory · Institute for Advanced Study · *v*

Jean Pierre Mutanguha cannot stop thinking about equivalences between the dynamics of free group automorphisms and the geometry of free-by-cyclic groups. Although the established equivalences are few and far between, Mutanguha suspects there is a lot more waiting to be discovered. On occasion, he finds himself studying 2- and 3-manifolds.

Wieslawa Niziol

Arithmetic Algebraic Geometry · CNRS, École Normale Supérieure de Lyon · *s*

Minerva Research Foundation Member

Wieslawa Niziol is interested in the arithmetic and geometry of *p*-adic analytic varieties. While at IAS, she will study *p*-adic Hodge theory of such varieties and its applications to questions in *p*-adic Langlands program.

Stan Palasek

Partial Differential Equations · Institute for Advanced Study

Funding provided by the National Science Foundation

Stan Palasek is interested in partial differential equations, particularly turbulence and blow-up phenomena in incompressible fluids.

Alexander Petrov

Algebraic Geometry · Institute for Advanced Study

Alexander Petrov is interested in cohomological and homotopical invariants of algebraic varieties.

Benedetto Piccoli

Applied Mathematics · Rutgers University in Camden · *v*

Benedetto Piccoli is interested in mathematical models for multi-agent systems, based on ordinary and partial differential equations. The application domains include vehicular traffic, crowd dynamics, and systems biology. While at IAS, Piccoli will work on adapting fluid dynamic methods to the control of multi-agent systems.

Arpon Raksit

Homotopy Theory and Algebraic Geometry · Institute for Advanced Study

Funding provided by the Bell System Fellowship

In his mathematical research, Arpon Raksit is primarily investigating interactions between homotopy theory and arithmetic geometry, in particular, cohomology theories for commutative rings and commutative ring spectra.

Vinicius Gripp Barros Ramos

Symplectic Geometry · Instituto de Matemática Pura e Aplicada · *vnf/f*

Funding provided by the National Science Foundation

Vinicius Gripp Barros Ramos is interested in symplectic topology and contact dynamics. His work focuses on understanding the interactions between symplectic embeddings, integrable systems, and billiard dynamics.

Emanuel Reinecke

Arithmetic Geometry · Institute for Advanced Study

Funding provided by the National Science Foundation

Emanuel Reinecke is interested in arithmetic and algebraic geometry. His recent work has focused on invariants arising from p-adic Hodge theory and homotopical methods.

Victor Reis

Theoretical Computer Science · Institute for Advanced Study

Funding provided by the National Science Foundation

Victor Reis is interested in designing algorithms for problems in combinatorial optimization, convex geometry, and discrepancy theory.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Semon Kirillovich Rezchikov

Sympletic Geometry · Institute for Advanced Study and Princeton University · *vri*

Funding provided by the Oswald Veblen Fund

Semon Kirillovich Rezchikov's research has focused on foundational aspects of the invariants built from pseudoholomorphic curves. Rezchikov has also recently been working on complexifying symplectic geometry, which turns out to be connected to a quaternionic version of pseudoholomorphic curve theory and to the mysterious subject of 3D mirror symmetry.

Yasha (Yakov) Savelyev

Geometry and Topology · University of Colima · *s*

Yasha (Yakov) Savelyev is interested in interactions of symplectic geometry, particularly gauge-theoretic ideas like Floer-Fukaya theory, aspects of dynamical systems, and algebraic topology. At IAS, he plans to work on a conjecture related to elliptic curve Gromov-Witten invariants of locally conformally symplectic manifolds.

Or Shalom

Ergodic Theory and Additive Combinatorics · Institute for Advanced Study

Funding provided by the National Science Foundation

Or Shalom's research area is ergodic theory and additive combinatorics. More specifically, Shalom is interested in studying the Host-Kra-Ziegler factors of dynamical systems and how they connect with the inverse problem for the Gowers norms. Recently, Shalom has also become interested in studying the structure of the multiple correlation sequences.

Mariya Shcherbina

Theory of Random Matrices, Probability Theory · Ukrainian National Academy of Sciences

Robbert Dijkgraaf Member

Mariya Shcherbina's field of interest includes various questions of random matrix theory with a focus on the problems of universality of local eigenvalue statistics. At IAS, she is going to study problems of this type for non-Hermitian random matrices such as deformed Ginibre ensemble.

Artane Jeremie Siad

Arithmetic Statistics · Princeton University · *v*

Artane Jeremie Siad is interested in arithmetic statistics and related areas. While at IAS, he hopes to understand the distribution of class groups in thin families of global fields.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Craig Sutton

Differential Geometry · Dartmouth College

Funding provided by the Charles Simonyi Endowment

Craig Sutton is a differential geometer with interests in spectral geometry and group actions. For instance, he is currently interested in properties of eigenfunctions (e.g., nodal domains, nodal sets, and multiplicity) in the presence of symmetry and the spectral geometry of (locally homogeneous) three-manifolds.

Lenny Taelman

Arithmetic Geometry · Universiteit Leiden · *f*

Funding provided by the Charles Simonyi Endowment

Lenny Taelman is currently thinking about applying techniques from homotopy theory to deformation problems of interest to arithmetic geometers.

Shira Tanny

Symplectic Geometry · Institute for Advanced Study

Shira Tanny works mainly in symplectic geometry and Hamiltonian dynamics. She is especially interested in applications of Floer-type theories and pseudoholomorphic curves to dynamical questions.

Bulent Tosun

Symplectic and Contact Topology · University of Alabama

Funding provided by the Charles Simonyi Endowment

Bulent Tosun is interested in geometry and topology of low-dimensional manifolds and contact and symplectic geometry. Currently, his research focuses on understanding various notions of convexity in symplectic and complex geometry. While at IAS, he hopes to explore connections with symplectic/contact homology.

Burt Totaro

Algebraic Geometry · University of California, Los Angeles

Funding provided by the Charles Simonyi Endowment

Burt Totaro does research in algebraic geometry, making connections with homotopy theory and number theory. At IAS, he will explore birational geometry, algebraic cycles, and *p*-adic cohomology. He plans to promote cross-fertilization between classical and emerging flavors of algebraic geometry.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Anastasiia Tsvietkova

Low-dimensional Topology · Rutgers, The State University of New Jersey · *v/f*

Anastasiia Tsvietkov works in geometry and topology of 3-manifolds with finite volume, computational topology, and knot theory. While at IAS, she will continue to tackle open questions concerning algorithmic complexity in low-dimensional topology, as well as open conjectures about interplay between intrinsic geometry and topology of 3-manifolds.

Karen Uhlenbeck

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

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.

Sahana Vasudevan

Geometry · Institute for Advanced Study

Friends of the Institute for Advanced Study Member

Sahana Vasudevan is interested in metric geometry, symplectic geometry, and Teichmüller theory.

Maryna Viazovska

Number Theory · École Polytechnique Fédérale de Lausanne · *f*

Maryna Viazovska works on the geometry of spheres. She is best known for her solution of the sphere packing problem—finding the arrangement of spheres that can take up the largest portion of a volume —in eight dimensions.

Davide Vittone

Mathematical Analysis · University of Padova · *v/f*

Davide Vittone's research interests concern questions that are typical of geometric measure theory (area, volume, minimal submanifolds, currents, fine properties of functions, etc.) and that are especially set in the framework of sub-Riemannian geometry.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Joe Waldron

Birational Geometry · Michigan State University · *s*
Infosys Member

Joe Waldron's research concerns birational geometry in mixed and positive characteristic, in particular the log minimal model program. During the special year on *p*-adic arithmetic geometry, he will be investigating applications of the recent developments in *p*-adic Hodge theory and related topics to birational geometry.

Miguel Walsh

Analytic Number Theory · *vnf*
Funding provided by the National Science Foundation

Miguel Walsh's current research interests include examining the local behavior of multiplicative functions and developing a modern framework for the polynomial method.

Xiao (Griffin) Wang

Representation Theory, Algebraic Geometry · The University of Chicago
Funding provided by the National Science Foundation

Xiao (Griffin) Wang is interested in geometrization of trace formulae, particularly through Hitchin-type fibrations. At IAS, Wang mainly plans to explore on two fronts: one is generalization to relative trace formulae; the other is the possible connection with beyond endoscopy program.

Michael I. Weinstein

Mathematics of Wave Phenomena, Partial Differential Equations, Analysis · Columbia University
Funding provided by the Charles Simonyi Endowment

Michael I. Weinstein is broadly interested in the mathematics of wave phenomena in classical and quantum physics. Two of his recent research directions concern waves in topological 2-dimensional materials, and the dynamics of a deforming bubble in a fluid.

Annette Werner

Algebraic Geometry · *f*

Annette Werner works in non-Archimedean arithmetic geometry. During her stay at IAS, she will think about problems in non-abelian *p*-adic Hodge theory.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Yueqiao Wu

Algebraic Geometry · University of Michigan
Funding provided by the National Science Foundation

Yueqiao Wu is interested in the interactions between non-Archimedean geometry, algebraic geometry, and complex geometry, with a focus on *K*-stability.

Daxin Xu

Arithmetic Geometry · Morningside Center for Mathematics · *f*
Funding provided by the Charles Simonyi Endowment

Daxin Xu is interested in arithmetic geometry.

Lei Yang

Homogeneous Dynamics · Sichuan University
Shiing-Shen Chern Member

Lei Yang's research interests are homogeneous dynamics and their applications to number theory. His recent research focuses on effective equidistribution of unipotent orbits in homogeneous spaces and its connections to number theory, incidence geometry (e.g., the Kakeya conjecture), and harmonic analysis (e.g., decoupling inequalities).

Allen Yuan

Homotopy Theory, Algebraic K-theory · Massachusetts Institute of Technology
Funding provided by the Ambrose Monell Foundation

Allen Yuan is interested in homotopy theory and its interactions with adjacent fields of mathematics. While at IAS, Allen Yuan will explore connections between chromatic homotopy theory and *p*-adic arithmetic geometry.

Bogdan Zavyalov

Number Theory and Algebraic Geometry · Institute for Advanced Study
Funding provided by the Charles Simonyi Endowment

Bogdan Zavyalov is interested in *p*-adic Hodge theory.

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vri Veblen Research Instructor · *vnf* von Neumann Fellow · *veb* Veblen Fellow

Mingjia Zhang

Langlands Program, p-adic Hodge Theory · Institute for Advanced Study and Princeton University · *vri*

Funding provided by the Oswald Veblen Fund

Mingjia Zhang is interested in the Langlands program and *p*-adic Hodge theory. Zhang has been studying the geometry and cohomology of Shimura varieties, as well as the relation to their local analogues.

Siqing Zhang

Algebraic Geometry · Institute for Advanced Study

Funding provided by the National Science Foundation

Siqing Zhang is interested in many algebraic geometry problems related to various versions of the non-abelian Hodge theories in different characteristics. He is also interested in the topology of morphisms in algebraic geometry.

Xin Zhou

Differential Geometry · Cornell University · *vnf/s*

Xin Zhou is interested in variational theory and its applications in geometry. While at IAS, Zhou will continue research in the min-max theory for minimal hypersurfaces and prescribing mean curvature hypersurfaces.

Xinwen Zhu

p-adic Arithmetic Geometry · Stanford University · *f*

Xinwen Zhu is interested in arithmetic algebraic geometry, number theory, and representation theory.

Karen EDGE Fellowship

In a partnership with IAS, the Karen EDGE Fellowship works to support and enhance the research programs and collaborations of mid-career mathematicians, as well as promote greater diversity and inclusion in mathematics. The fellowship was created with the generous support of Abel Prize winner Karen Uhlenbeck, in conjunction with the EDGE Foundation.

KAREN EDGE FELLOWS

Malena Español

Emille Lawrence

Henok Mawi

Manuel Rivera

f First Term · *s* Second Term · *v* Visitor · *dvp* Distinguished Visiting Professor · *vp* Visiting Professor
vri Veblen Research Instructor · *vnf* von Neumann Fellow

School of Natural Sciences

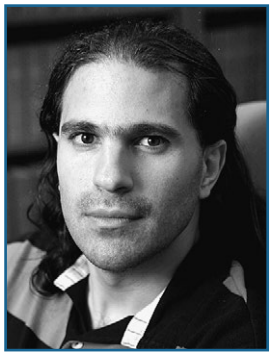
Administrative Officer: Michelle Sage

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. This collaborative and pioneering approach to the sciences, which extends to the Institute's School of Mathematics, Princeton University, Rockefeller University, and the larger scientific community, has transformed research in these fields and presents opportunities for powerful and important discoveries.

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, and in some cases focusing on understanding disease processes.

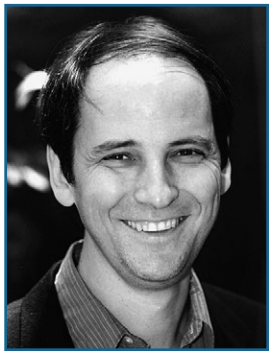
The School also sponsors Prospects in Theoretical Physics (PiTP), a two-week residential summer program traditionally held at the Institute for promising graduate students and postdoctoral scholars, who attend lectures and sessions on the latest advances and open questions in the field of theoretical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



Nima Arkani-Hamed

Professor · Particle Physics

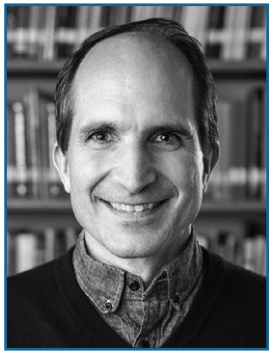
One of the leading particle physics phenomenologists of his generation, Nima Arkani-Hamed is concerned with the relation between theory and experiment. His research has shown how the extreme weakness of gravity, relative to other forces of nature, might be explained by the existence of extra dimensions 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.



Stanislas Leibler

Professor · 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.



Juan Maldacena

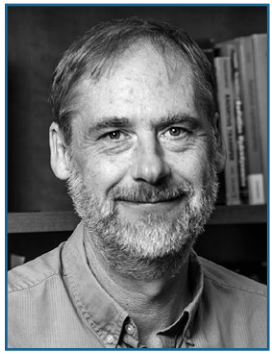
Carl P. Feinberg Professor · Theoretical Physics

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

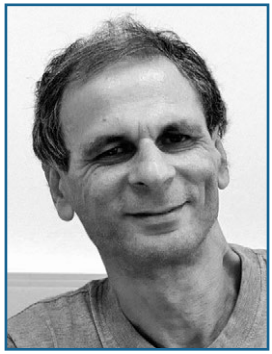
Nathan Seiberg's research focuses on various aspects of string theory, quantum field theory, and particle physics. He has made deep contributions to the understanding of the dynamics of quantum field theories, especially two-dimensional conformal field theories and supersymmetric quantum field theories. 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

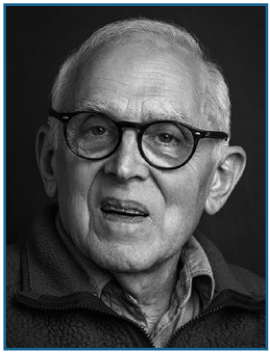
C.V. Starr Professor · Theoretical Neuroscience

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

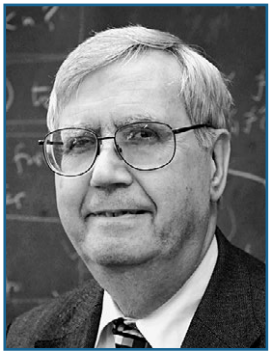
Matias Zaldarriaga has made many influential and creative contributions to our understanding of the early universe, particle astrophysics, and cosmology as a probe of fundamental physics. Much of his work centers on understanding the clues about the earliest moments of our universe encoded in the Cosmic Microwave Background, 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

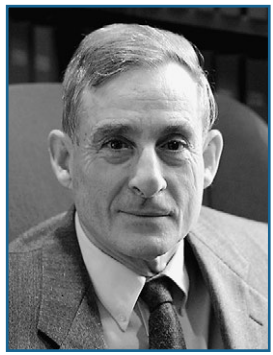
In a series of remarkable, difficult calculations, Stephen Adler demonstrated that abstract ideas about the symmetries of fundamental interactions could be made to yield concrete predictions. The successful verification of these predictions was a vital step toward the modern Standard Model of particle 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 particle unification model based on boson-fermion balance without full supersymmetry, and a novel proposal for the "dark energy" that drives the accelerated expansion of the universe.



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 in the University of Cambridge, England, 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.

Arnold J. Levine

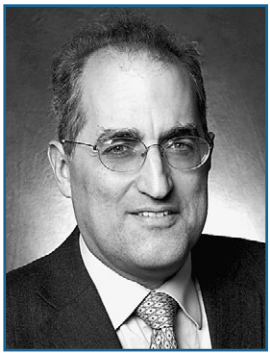
Professor Emeritus · Biology

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

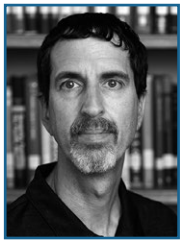
Scott Tremaine has made seminal contributions to understanding the formation and evolution of planetary systems, comets, black holes, star clusters, galaxies, and galaxy systems. He predicted the Kuiper belt of comets beyond Neptune and, with Peter Goldreich, the existence of shepherd satellites and 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.



Ofer Aharony

Theoretical High-energy Physics · Weizmann Institute of Science · *dvp*

Ofer Aharony is interested in quantum field theory, string theory, and quantum gravity, and, in particular, the relations between all of these topics. At IAS, Aharony plans to understand these relations better, working towards a string theory dual description of the strong nuclear interactions (QCD).

Chris Akers

Theoretical Physics · Institute for Advanced Study

Funding provided by the National Science Foundation, the Sivian Fund, and the Corning Glass Works Foundation Fellowship

Chris Akers is interested in quantum gravity, black holes, quantum information theory, and quantum computing. At IAS, Akers will work on connections between these fields and how they can help us understand the emergence of spacetime.

Uddipan Banik

Theoretical Astrophysics · Institute for Advanced Study and Princeton University

Uddipan Banik is interested in galactic dynamics, galaxy formation and evolution, dark matter, kinetic theory, and structure formation. While at IAS, Banik will conduct research on the relaxation of collisionless and weakly collisional systems (e.g., galaxies), dark matter halos (cold and self-interacting), and collisionless plasma.

Sirio Belga Fedeli

Systems Biology · Institute for Advanced Study

Funding provided by the Simons Foundation; the Charles L. Brown Member in Biology

Sirio Belga Fedeli's research focuses on the mathematics of principles that govern cellular processes. Belga Fedeli's interests include collective behavior and dynamics of ecological systems.

Adam Burrows

Astrophysics · Princeton University

Adam Burrows's current research fields include supernovae, exoplanet theory, brown dwarfs and very-low-mass stars, planet evolution, molecular spectroscopy, planetary atmospheres, numerical astrophysics, nuclear astrophysics, neutron stars, black holes, neutrino astrophysics, and X-ray, gamma-ray, and gravitational-wave astronomy.

Tankut Can

Physics, Neuroscience, Machine Learning · Institute for Advanced Study
Starr Foundation Member in Biology

Tankut Can is a theoretical physicist interested in cognition. His background is in condensed matter, with an emphasis on random matrix theory and statistical physics. His current research applies these tools to study problems in machine learning and neuroscience.

Chi-Ming Chang

Theoretical Physics · Tsinghua University

Chi-Ming Chang is interested in quantum gravity, string theory, and quantum field theory. While at IAS, Chang plans to explore the connection between black holes and quantum field theories. He expects to work on the microstates of AdS5 black holes from N=4 super-Yang-Mills theory via holography.

Stephen Chen

Cosmology · Institute for Advanced Study
Funding provided by the National Science Foundation

Stephen Chen is interested in the large-scale structure of the universe and studies its evolution and use to constrain fundamental physics, with an emphasis on perturbative methods. A particular, recent interest has involved using these techniques in the arena of cross-correlations, which he plans to further develop at the Institute.

Sihao Cheng

Astrophysics · Institute for Advanced Study and Perimeter Institute for Theoretical Physics
Martin A. and Helen Chooljian Member; funding provided by the Fund for Natural Sciences

Sihao Cheng is interested in using statistical analysis to understand our universe, including topics in cosmology, stellar physics, and extrasolar planets. He is working on developing analytical tools inspired by neural networks and studying their connection to and applications in physics.

Horng Sheng Chia

Black Holes, Gravitational Waves · Institute for Advanced Study
Funding provided by the Ambrose Monell Foundation and the Sivian Fund

Horng Sheng Chia is interested in black hole physics, gravitational-wave data analysis, and astroparticle physics. His current research focuses on analyzing the gravitational-wave signals from astrophysical sources in the LIGO-Virgo data. He is also interested in using these data to search for physics beyond the Standard Model.

Rebecca Rimai Diesing

Astrophysics · Institute for Advanced Study and Columbia University

Infosys Member; funding provided by the Sivian Fund

Rebecca Rimai Diesing is interested in the acceleration and astrophysical impact of cosmic rays. She is currently using a detailed model of cosmic ray acceleration to better understand the evolutions and environments of extreme astrophysical phenomena, such as supernova remnants, novae, and winds launched by active galactic nuclei.

Subo Dong

Astrophysics · The Kavli Institute for Astronomy and Astrophysics at Peking University · *v/f*

Subo Dong is interested in searching for extrasolar planets and stellar-mass black holes with microlensing, studying the distribution and dynamical evolution of extrasolar planets, and understanding how supernovae explode.

Bruce Draine

Physics, Interstellar and Intergalactic Medium · Princeton University

Bruce Draine is interested in theoretical astrophysics and has studied a range of topics including the theory of interstellar shock waves and the structure of photodissociation regions. His current research focus, however, is interstellar dust.

Daniil Evtushinsky

Experimental Condensed Matter Physics · École Polytechnique Fédérale de Lausanne · *f*

Daniil Evtushinsky studies (un)conventional superconductivity, angle-resolved photoelectron spectroscopy, electron spectral function, and electron transport.

Callum W. Fairbairn

Theoretical Astrophysics · Institute for Advanced Study

Funding provided by the W. M. Keck Foundation Fund, the Adler Family Fund, and the Sivian Fund

Callum W. Fairbairn's research concerns the nonlinear dynamics of distorted astrophysical discs, protoplanetary gas-dust dynamics, planet formation processes, planet-disc interactions, disc instabilities, and debris discs.

Charles Gammie

Theoretical Astrophysics · University of Illinois at Urbana-Champaign
IBM Einstein Fellow

Charles Gammie is interested in black holes, black hole accretion, planet formation, star formation, astrophysical plasmas, and computational techniques. While at IAS, Gammie will work on problems in the theory of accretion.

Chris Hamilton

Astrophysics · Institute for Advanced Study
John N. Bahcall Fellow

Chris Hamilton's research concerns the dynamics of galaxies, globular clusters, binary stars, and planetary systems; compact object mergers (LIGO/Virgo gravitational-wave progenitors); and the kinetic theory of stellar systems and plasmas.

Holmfridur Sigridar Hannesdottir

Theoretical Physics · Institute for Advanced Study
Funding provided by the U.S. Department of Energy; William D. Loughlin Member

Holmfridur Sigridar Hannesdottir is interested in exploring the theoretical foundations of quantum field theory. Her work focuses on how physical principles are imprinted in the analytic structure and infrared divergences of scattering amplitudes.

Nathan Haouzi

Mathematical Physics · Institute for Advanced Study
Funding provided by the National Science Foundation and the Sivian Fund

Nathan Haouzi studies string theory and quantum field theory in various dimensions. Haouzi is particularly interested in the underlying mathematical structures that explain or motivate physical dualities. Some of his recent work explores new aspects of the BPS/CFT correspondence and its relation to the representation theory of quantum groups.

Aidan Herderschee

Theoretical Physics · Institute for Advanced Study
Funding provided by the Simons Foundation

Aidan Herderschee's research focuses on scattering amplitudes in quantum field theory, gravity, and string theory. For example, Herderschee studies the classical limit of gravity amplitudes, specifically in relevance to the analysis of gravitational waves emitted by inspiraling black holes.

Hsiang-Chih Hwang

Astronomy · Institute for Advanced Study

Friends of the Institute for Advanced Study Member

Hsiang-Chih Hwang's research focuses on binary stars and binary quasars. He uses large astronomical surveys to understand the formation and evolution of binary stars in the Milky Way, including main-sequence stars, white dwarfs, and close and wide binaries. He is also developing a new astrometric method to search for sub-kpc binary quasars.

Nissan Itzhaki

Theoretical Physics · Tel Aviv University

Nissan Itzhaki studies string theory, black holes, and cosmology.

Ahsan Z. Khan

Theoretical Physics · Institute for Advanced Study

Funding provided by the National Science Foundation, the Bershadsky Fund, and the Sivian Fund

Ahsan Z. Khan studies quantum field theories of a topological, or a mixed topological-holomorphic nature. He is investigating the connections between these quantum field theories and various subjects in mathematical physics, ranging from quantum groups and integrability to BPS states and higher category theory.

Nickolas Kokron

Cosmology · Institute for Advanced Study and Princeton University

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.

Jorrit Kruthoff

Theoretical Physics · Institute for Advanced Study

Funding provided by the National Science Foundation and the Sivian Fund; Founders' Circle Member, in recognition of Edward and Kiyomi Baird

Jorrit Kruthoff's research focuses on non-perturbative aspects of quantum gravity and holography. He uses low-dimensional models of gravity to shed light on various aspects of black holes, such as their interior and their microstates.

Jonah Kudler-Flam

Theoretical Physics · Institute for Advanced Study

Funding provided by the National Science Foundation; Marvin L. Goldberger Member

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

Nicolas Lenner

Biophysics, Ecology, Evolution · Institute for Advanced Study

Funding provided by the Simons Foundation; supported by the Eric and Wendy Schmidt Membership in Biology

Nicolas Lenner's scientific background is in physics of dynamical biological systems, ranging from molecular dynamics to developmental processes of whole organisms. Lenner now applies this dynamical systems perspective to problems in ecology and evolution.

Qianshu Lu

Theoretical Particle Physics · Institute for Advanced Study and New York University

Funding provided by the National Science Foundation

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.

Cecilia Lunardini

Neutrinos, Nuclear Astrophysics · Arizona State University · *s*

Cecilia Lunardini is interested in multi-messenger astronomy, especially in supernova neutrinos and high-energy extragalactic neutrinos. While at IAS, she will study the effect of the evolution of supernova candidates on the neutrino bursts emitted when they finally collapse, and investigate tidal disruption events as neutrino emitters.

Lia Medeiros

Institute for Advanced Study · *v*

Lia Medeiros is interested in using extreme astrophysical objects and phenomena to test fundamental theories of physics. Currently, she works on several aspects of the Event Horizon Telescope. Her work primarily focuses on theoretical simulations, but she will sometimes delve into data analysis as well.

Mikhail Medvedev

Theoretical Astrophysics · The University of Kansas

Mikhail Medvedev is interested in various aspects of theoretical and plasma astrophysics and cosmology. Recent interests include environments of neutron stars and black holes (e.g., their magnetospheres and accretion), QED plasmas in super-strong fields, quantum evaporation of flavor-mixed particles, and the nature of dark matter.

Sebastian Mizera

Theoretical Physics · Institute for Advanced Study · *m*

Funding provided by the U.S. Department of Energy and the Sivian Fund; Roger Dashen Member

Sebastian Mizera's work focuses on aspects of scattering amplitudes in quantum field theory and string theory, as well as their relation to geometry and topology.

Gianluigi Mongillo

Systems Biology · Sorbonne Université · *s*

Supported by the Eric and Wendy Schmidt Membership in Biology

Gianluigi Mongillo is a theoretical physicist interested in the quantitative understanding of the structure and dynamics of biological neuronal networks. His current research focuses on (1) the impact of the spatial organization of synaptic afferents on a single neuron's integrative properties, and (2) the relationship between synaptic properties and memory storage.

Gregory Moore

Physical Mathematics · Rutgers, The State University of New Jersey · *dvp/s*

Gregory Moore is interested in mathematics and physics, and the applications of mathematics to the physics of quantum field theory and string theory, and vice versa.

Sameer Murthy

Theoretical Physics · King's College London

J. Robert Oppenheimer Visiting Professor

Sameer Murthy's research lies in the fields of string theory, quantum field theory, and quantum gravity, and their interactions with mathematics. He is particularly interested in quantum aspects of black holes and holography, and their relation to modular and automorphic forms.

Tomohiro Ono

Astrophysics and Computational Science · Institute for Advanced Study
Funding provided by the National Science Foundation

Tomohiro Ono's research focuses on planet formation and numerical algorithms for astrophysical magnetohydrodynamic simulations. While at IAS, he will work on the improvement and optimization of the Athena++ code.

Gerardo Ortiz

Theoretical Physics · Indiana University · *s*

Gerardo Ortiz's interests center on the physics of emergence in condensed matter systems. He is also engaged in the exploration of the ultimate limits and principles of quantum physics, including foundational, software, and hardware aspects of quantum information science.

Eve Ostriker

Theoretical Astrophysics · Princeton University

Eve Ostriker's research is in theoretical and computational astrophysics, with interests in the initiation and control of star formation; the dynamics, thermodynamics, and chemistry of the magnetized, turbulent interstellar medium (ISM), including radiation and cosmic ray interactions; and the structure and evolution of spiral galaxies.

Karl H. Palmquist

Systems Biology and Ecosystem Dynamics · Institute for Advanced Study
Funding provided by the Simons Foundation and the Martin A. and Helen Chooljian Membership in Biology

Karl H. Palmquist is interested in biological complexity and how systems organize in space and time. He has developed experimental and theoretical approaches to study biological development and is extending his thinking to the emergence of complex phenomena in soil ecosystems to address fundamental questions of sustainable agriculture.

Matteo Parisi

High Energy Physics, Combinatorics · Institute for Advanced Study and Harvard University
Funding provided by the U.S. Department of Energy

Matteo Parisi's research lies at the intersection of high-energy physics and combinatorics. His work focuses on novel combinatorial aspects of scattering amplitudes in quantum field theories, in relation to the (positive) Grassmannian, amplituhedra, tropical geometry, and cluster algebras.

Abhinav Prem

Theoretical Physics · Institute for Advanced Study

Funding provided by the U.S. Department of Energy and the Sivian Fund

Abhinav Prem primarily works on topological states of matter, including symmetry-protected and fractonic phases, and on the dynamics of strongly interacting quantum systems, both in and out of equilibrium.

Silviu Pufu

Theoretical Physics · Princeton University

Silviu Pufu's research involves aspects of quantum field theory, string theory, and gravity. He is particularly interested in the dynamics of gauge theories in various dimensions, in the consistency conditions obeyed by quantum theories, and in various aspects of the gauge/gravity duality.

Eliot Quataert

Theoretical Astrophysics · Princeton University · *f*

Eliot Quataert is an astrophysics theorist with interests in a wide variety of problems, including compact objects (black holes, neutron stars, white dwarfs), plasma astrophysics, stellar physics, and galaxy formation. Quataert's research utilizes both analytic calculations and numerical simulations.

Carolyn Raithel

Astrophysics · Institute for Advanced Study and Princeton University

John N. Bahcall Fellow; funding provided by Schmidt Futures

Carolyn Raithel is interested in using astrophysical observations of neutron stars to study the properties and interactions of matter at extreme densities. Her current research focuses on the gravitational waves emitted during neutron star mergers, using a mix of analytic theory and numerical simulations.

Gabriela Sato-Polito

Cosmology · Institute for Advanced Study

Friends of the Institute for Advanced Study Member

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.

f First Term · *s* Second Term · *m* Long-term Member · *v* Visitor
dvp Distinguished Visiting Professor · *jvp* Junior Visiting Professor · *ra* Research Associate

Sahand Seifnashri

Theoretical Physics · Institute for Advanced Study

Funding provided by the U.S. Department of Energy, the Sivian Fund, and the Paul Dirac Fund

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.

Wilbur Shirley

Theoretical Physics · Institute for Advanced Study

Funding provided by the Simons Foundation

Wilbur Shirley works at the intersection of condensed matter physics and quantum information. He is interested in topological, fractonic, and critical states of matter.

Frederik Simons

Geophysics · Princeton University

Frederik Simons's research encompasses various aspects of solid-earth geophysics. More specifically, Simons studies the physical properties of the terrestrial lithosphere, focusing on the elastic and thermo-mechanical properties of the continents, by seismic tomography and the (cross-)spectral analysis of gravity and topography.

Nikita A. Sopenko

Mathematical Physics · Institute for Advanced Study

Funding provided by the National Science Foundation and the Ambrose Monell Foundation

Nikita A. Sopenko works on mathematical aspects of condensed matter physics and quantum field theory. In particular, he is interested in the classification of topological phases of matter.

Rashid Sunyaev

Astrophysics · Max-Planck-Institut für Astrophysik · *dvp*

Rashid Sunyaev is active in physical cosmology and high-energy astrophysics. He predicted the acoustic peaks in the power spectrum of CMB angular fluctuations and estimated the positions of the last scattering surface and black-body photosphere of the Universe. He is a co-author of the Sunyaev-Zeldovich effect leading to the shadows in the brightness of CMB in the direction of clusters of galaxies.

Herman Verlinde

Theoretical Physics · Princeton University

Herman Verlinde investigates quantum aspects of gravity, black holes, and cosmology. He is particularly interested in how quantum information is stored and processed by black holes and in the quantum mechanical description of cosmological spacetimes with positive cosmological constant.

Digvijay Wadekar

Gravitational Waves, Dark Matter, Cosmology · Institute for Advanced Study

Funding provided by the National Science Foundation

Digvijay Wadekar currently works on data analysis of gravitational waves. He is also interested in analytic and machine learning applications to galaxy and SZ-CMB surveys, and in probing non-standard dark matter using dwarf galaxies.

Aron Wall

Theoretical Physics · University of Cambridge · *s*

Aron Wall is currently interested in studying holography, black hole thermodynamics, defining a bulk theory of quantum gravity using the T^2 deformation, and off-shell string theory.

George Nathaniel Wong

Astrophysics · Institute for Advanced Study and Princeton University

George Nathaniel Wong uses numerical methods and analytic modeling to study high-energy astrophysical phenomena and especially accretion onto supermassive black holes. He is interested in predicting observational signatures of the connection between black holes and relativistic jets as might be observed by next-generation experiments.

Tomer Yavetz

Astrophysics · Institute for Advanced Study

Bezos Member; funding provided by the Fund for Natural Sciences

Tomer Yavetz is interested in applying the tools of theoretical dynamics in order to understand a variety of phenomena, ranging from the orbits of Earth satellites to the nature of dark matter. His main focus is on studying the distribution and substructure of dark matter in the Milky Way.

f First Term · *s* Second Term · *m* Long-term Member · *v* Visitor
dvp Distinguished Visiting Professor · *jvp* Junior Visiting Professor · *ra* Research Associate

Lizhong Zhang

Astrophysics · Institute for Advanced Study

Funding provided by NASA and by Schmidt Futures

Lizhong Zhang uses numerical methods to study and model accretion onto compact objects. He is particularly interested in high-energy astronomical systems where radiation plays a dominant role in driving the dynamics, such as super-Eddington accretion onto strongly magnetized neutron stars.

Weishun Zhong

Statistical Physics, Neuroscience, AI · Institute for Advanced Study

Starr Foundation Member in Biology

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.

Muni Zhou

Plasma Physics · Institute for Advanced Study and Princeton University

Funding provided by Schmidt Futures

Muni Zhou uses a combination of analytic theory and numerical experiments to study plasma physics problems such as magnetogenesis, plasma dynamos, and kinetic turbulence.

f First Term · *s* Second Term · *m* Long-term Member · *v* Visitor
dvp Distinguished Visiting Professor · *jvp* Junior Visiting Professor · *ra* Research Associate

School of Social Science

Administrative Officer: Miriam Harris

Founded in 1973, the School of Social Science is dedicated to analyzing contemporary societies and social change. It harbors a pluralistic and critical approach to social research, and encourages multidisciplinary and international perspectives. Operating under the guiding principles of informality and collegiality, and with a shared understanding that the social sciences should neither be narrowly defined nor bound by disciplines, the School brings together scholars with various perspectives, methods, and topics, providing space for intellectual debate and mutual enrichment. Scholars are drawn from a wide range of fields, including but not limited to political theory, political economy, geography, law, sociology, anthropology, history, philosophy, and literature, to examine historical and contemporary problems.

Each year, the School designates a theme, which is neither exclusive nor excluding. The theme for the 2023–24 academic year is "Platform," led by Alondra Nelson, Harold F. Linder Professor at the Institute for Advanced Study; Lisa Nakamura, the Gwendolyn Calvert Baker Collegiate Professor at the University of Michigan; and Christian Sandvig, the H. Marshall McLuhan Collegiate Professor of Digital Media at the University of Michigan.

A platform aspires to operate across devices and experiences, de-emphasizing form in favor of content. A platform can be a foundation for political ideology, a web-based application for discourse, a system yielding multifaceted biomedical and communicative ends, and more.

From a social science perspective, a platform can be understood as an infrastructure for action, an architecture or affordance that enables and constrains social, economic, and political possibilities, and conditions how we represent and experience the world. The Platform theme aims to incite scholarly thinking across platforms of different kinds, and in different mediums—including analog, electronic, and virtual—to explore the norms and practices that organize, permeate, and stem from them. What historical, technological, theoretical, and policy perspectives and methodologies are key for understanding platforms and how they operate in academia, government, and industry, as well as in the physical world and in the realm of social relations?

The theme will explore ways to account for the expansion, rise, and influence of "the platform" in global society. In what ways do platforms—such as biomedical technologies—structure, reorganize, and consolidate science, knowledge, and markets? How does the dominance of private platforms produce forms of inequality—including along vectors of race, gender, class, nation, and region—and compel reimaginings of public infrastructure? How do today's platforms differ from the social infrastructures and architectures of the past?

Platforms have become default archives for both personal and institutional artifacts like data, text, sound, and images. Whose history is being preserved and whose is lost? How does exclusion from a platform—such as the deplatforming of controversial nations or figures, and particular forms of speech—highlight its power?

Wendy Brown

UPS Foundation Professor

Wendy Brown is a political theorist who investigates the subterranean powers shaping contemporary Euro-Atlantic 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 "Who is the Demos Now?"

Didier Fassin

James D. Wolfensohn Professor

An anthropologist and a 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 the social science. He currently works on the control of borders and the policing of migrations. Recipient of the Nomis Distinguished Scientist Award, he is involved in a global program on crises, examining, in particular, the cases of migrants and refugees. He is also Professor at the Collège de France, where he holds the chair on Moral Questions and Social Issues.

Alondra Nelson

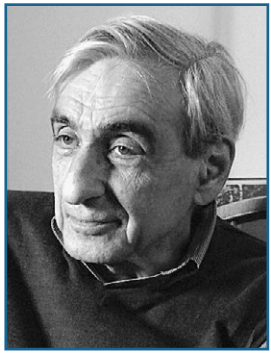
Harold F. Linder Professor

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. 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. From 2021–23, she was deputy assistant to President Joe Biden and acting director and principal deputy director for science and society at the White House Office of Science and Technology Policy. She is currently at work on books about science and technology policy in the Obama and Biden administrations.

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

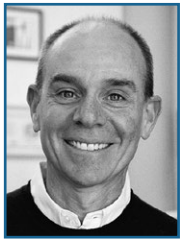
Professor Emeritus

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 having 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.

Marc Aidinoff

History, Science and Technology Studies · *ra*

Marc Aidinoff studies the intersection of public policy, technology, and liberalism in the United States. At IAS, he will be working on a book about the computerization of the U.S. welfare state since 1974.



Pablo J. Boczkowski

Communication Studies · Northwestern University

Pablo Boczkowski was a psychotherapist in his hometown of Buenos Aires before moving to the United States in the mid-1990s to pursue graduate education in science and technology studies. After a quarter century devoted to studying the interactions between material culture, communication, and politics, he will take advantage of his time at IAS to return to his roots by focusing on "Digital Freud: Technology, Work and Inequality in Clinical Practice."

David S. Byers

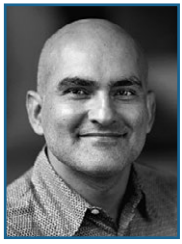
Social Work · Bryn Mawr College · *v/s*

David S. Byers studies applied ethics among mental health and social service workers in cases of stigmatized and contested care. This year, he is developing a series of articles on social work in the West Bank, Palestine, since 1994, and a book on the history of queer- and trans-affirmative mental health care in the U.S. since the 1960s.

Lindsey D. Cameron

Management, Organizational Theory, Labor · University of Pennsylvania

Lindsey D. Cameron is interested in algorithmic management, the gig economy, and the future of work. As an ethnographer, she worked as an Uber driver. While at IAS, she will be working on several projects in this area, including a multi-national comparative ethnography book project on gig work tentatively titled, "The Good Bad Gig: How Digital Platforms and Algorithmic Management Reconfigure Work."



Zahid R. Chaudhary

Media Studies, Psychoanalysis, Marxism · Princeton University

Zahid R. Chaudhary has written on photography, film, and critical theory. While at IAS, he will be finishing a book about the psycho-politics of contemporary "post-truth" culture.

Anne-Claire Defossez

Sociology · Institute for Advanced Study · *v*

Anne-Claire Defossez will devote this year to further exploring the relation between the concepts of solidarity and civil disobedience, starting from the research she conducted on the French-Italian border and the book she just finished with Didier Fassin on exile, solidarity, and repression.

Penelope Lisa Deutscher

Philosophy, Gender and Sexuality Studies · Northwestern University

While at IAS, Penelope Deutscher will be completing a book manuscript, "Revocability: After Roe." She is developing a post-Foucauldian vocabulary for the reproductive rights that are made and undermined by heterogeneous forms of power. She specializes in the intersections of twentieth-century French philosophy and theories of gender and sexuality.

Jennifer Duprey

Humanities and Political Philosophy · Rutgers University in Newark · *v*

While at IAS, Jennifer Duprey will be working on a comparative study of Maria-Mercè Marçal's book of poems titled *The Body's Reason*, and Gillian Rose's philosophical memoir, *Love's Work*. In different yet complementary ways, their work questions the medical and cultural understanding of illness and its relation with society, reason, and gender.

Daniela V. Gabor

Political Economy of State, Money, and Climate · University of the West of England

Roger W. Ferguson, Jr., and Annette L. Nazareth Member

Daniela Gabor is interested in the macrofinancial politics of decarbonisation, money, and time. At IAS, she will work on the comparative de-risking technologies of statecraft in the global North and South.

Kriti Kapila

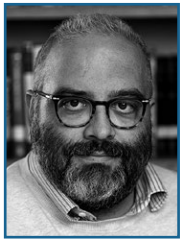
Social Anthropology · King's College London

Kriti Kapila is a social anthropologist specializing in the anthropology of the state and the law. She has written on property, dispossession, and sovereignty in India in relation to indigenous title, museum objects, and data ownership under biometrics (Aadhaar). At IAS, she will be working on digital state-making in India.

Ann H. Kelly

Anthropology, Global Health · King's College London

Drawing together ethnographic and policy work at the intersections of infectious disease control and emergency R&D, Ann H. Kelly will examine how health inequities might be leveled through situated processes of user-led product design, manufacturing, regulation, and supply, proposing a more just model for "Global Health on the Make."



Shamus Khan

Sociology, American Studies · Princeton University

Friends of the Institute for Advanced Study Member

While at IAS, Shamus Khan will be writing a book following different members of the Astor family, from the 1780s through the early 2000s. He is interested in using the lives of elite New Yorkers to trace the character of American inequality over time.

Shiloh R. Krupar

Geography, War, Bio/Enviro-humanities, Race · Georgetown University

Shiloh R. Krupar studies the spatial administration of inequality, vulnerability, toxicity, and uneven life conditions, which she considers to be geographical political and embodied relationships. While at IAS, Krupar will research heat information systems that facilitate targeted health interventions and climate securitization.

Javier Lezaun

Anthropology, Science and Technology Studies · Oxford University · *v*

Javier Lezaun is an anthropologist of scientific practices, interested in how new techniques alter the relationship between humans and the natural world. While at IAS, he will be completing a book on practices of mosquito control, and researching a new project on emerging economies of carbon sequestration.

Darryl Li

Anthropology, Law · The University of Chicago

Darryl Li is an anthropologist and legal scholar thinking (mostly) about questions of war, law, migration, empire, and racialization in the currents between the Middle East, South Asia, and the Balkans. While at IAS, he will be working on a book on captivity in the forever war.

Juan Llamas-Rodriguez

Media Studies · University of Pennsylvania

While at IAS, Juan Llamas-Rodriguez will analyze digital platforms that purport to enable global North citizens to experience "what it is like" to undertake a migration journey. His project reveals how these platforms set up an unequal communicative exchange and, in doing so, transform the "migrant story" into a neocolonial commodity.

Ifrah Magan

Social Work · New York University · *v*

Ifrah Magan is a community-engaged social work scholar and practitioner, working on issues impacting Black, Muslim, and displaced populations. While at IAS, she will be completing a study examining the critical role refugee-led organizations play in shaping the health and mental health equity outcomes of refugee populations.

Geoff Mann

Political Economy · Simon Fraser University

Geoff Mann is interested in the political life of economic ideas, and lately, about climate change in particular. At IAS, he will be working on a project concerning uncertainty: how we think about it, how that is changing, and the political limits and possibilities these developments afford.

Nadia Marzouki

Political Science · CNRS, Sciences Po, Paris

Funding provided by the Florence Gould Foundation Fund

Nadia Marzouki works on religion, law, and democracy. At IAS, she will work on a book on "divine disobedience" and the re-imagination of morality. The book looks at how faith-based activism in Italy, Tunisia, France, and the U.S. proposes alternative ideals of political solidarity that reshape transatlantic and trans-Mediterranean borders.

Lisa Nakamura

Digital Media Theory, Ethnic Studies · University of Michigan · *vp*

While at IAS, Lisa Nakamura will complete her book manuscript "Women of Color and the Internet" and start work on a co-authored manuscript with Grace Hong and Wendy Chun about Asian American digital culture, U.S. empire, and the informatics of internment. She is interested in the 2000s, social media history, and critical refugee studies.

David B. Nieborg

Communications and Media Studies · University of Toronto

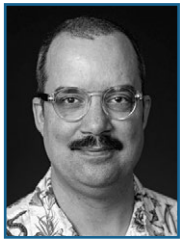
David B. Nieborg's research examines the political economy of the media and communication industries, with a particular focus on platform companies. At IAS, he will be working on a book that provides a framework to locate and analyze institutional platform power.

Natacha Nsabimana

Anthropology · The University of Chicago

Wolfensohn Family Member

Natacha Nsabimana is a cultural anthropologist. At IAS, Nsabimana will be working on a book manuscript examining the ways in which the 1994 genocide against the Tutsi in Rwanda occupies the spatial memory of the country's landscape, and the kinds of individual and national narratives such memories allow and disavow.



Christian Sandvig

Information and Media · University of Michigan · *vp*

Christian Sandvig is interested in the societal implications of algorithmic computer systems that filter and curate culture. While at IAS, he will work on a book project about the ethics and consequences of algorithmic filtering and machine learning used within online platforms.

Julia Ticona

Sociology, Communication and Media Studies · University of Pennsylvania

Julia Ticona researches social inequalities, digital technologies, work, and culture. At IAS, she will be working on a book about care work, platforms, and the internet.

Antonio Y. Vázquez-Arroyo

Political Theory · Rutgers University in Newark

Antonio Y. Vázquez-Arroyo is interested in the dialectical legacy of critical theory, and European and transatlantic political thought. While at IAS, he will be studying the making of transatlantic political thought in relation to colonialism and the historical sedimentations in the making, placement, and misplacement of political ideas.

Moira G. Weigel

Communications and Media Studies · Northeastern University

Originally trained in modern languages, including German, French, Spanish, and Mandarin Chinese, Moira Weigel now studies digital media in a global context. At IAS, she will be working on a book about transnational e-commerce marketplaces and the third-party entrepreneurs, experts, and hustlers who make them.

Gary Wilder

Intellectual History, Political Theory · The Graduate Center, The City University of New York

Gary Wilder's research focuses on African and Caribbean colonialism, European imperialism, Marxism, and Black radical critical thought. While at the Institute, he will be working on a book about the distinctive intellectual and political orientation of C.L.R. James.

Hannah Wohl

Sociology · University of California, Santa Barbara

AMIAS Member

Hannah Wohl is interested in judgment, valuation, and creativity in cultural markets. At IAS, she will be working on a book project based on her ethnography of the pornography and adult content creation industry, analyzing how industry members negotiate acceptable culture as they produce pornography across digital platforms.

Funlayo E. Wood

Africana Religion and Philosophy · African and Diasporic Religious Studies and Pacifica Graduate Institute · *v*

Funlayo E. Wood studies Africana religions, specializing in the Ifa-Orisa tradition. While at IAS she will continue work on a project examining Africana religions' intersections with digital technology and on her manuscript in progress, "Obi: Death, Divination, and the Divine Feminine," which highlights the kola nut as medicine, divine being, and divinatory tool.

Malte Ziewitz

Science and Technology Studies · Cornell University

Malte Ziewitz is an ethnographer and sociologist of science, technology, and computation. While at IAS, he will be working on a manuscript about the "Algorithmic Underground" and ask how ordinary people cope with, understand, and challenge automated systems.

Director's Visitors

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

Yonatan Binyam

History of Religion · *ra*

Yonatan Binyam studies the relationship between religion and identity, especially the history of anti-Semitism and race as shaped by Christian ideologies. Currently, he is analyzing these phenomena as they occurred during late antiquity.

Curtis Callan

Theoretical Physics, Biology · Princeton University

Curtis Callan is a theoretical physicist with broad interests in quantum field theory and statistical physics. He is currently working on problems in biology, with a focus on gene regulation: how it works mechanistically, how it manages to achieve rather precise results in the face of noise, and how it evolved (and evolves).

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 the late antiquity period.

Katharina Heyden

History, Theology · *s*

Katharina Heyden researches the entangled and ambivalent histories and hermeneutics of Judaism, Christianity, and Islam and their respective 'pagans' in antiquity and the Middle Ages. At IAS, she will work on specific cases of "religious co-production" and complete a book on hospitality as a cultural practice and a theological concept.

Lorenza Pescia De Lellis

Italian Studies, History of Romance Philology · Institute for Advanced Study

One main focus of Lorenza Pescia De Lellis's current research is the influence of translation in multilingual society. Other topics she is working on include the history of Romance philology, linguistic analysis of discourses about women in Italian and Swiss Italian newspapers, as well as the Italian language and sexism.

Jillian Stinchcomb

Religious Studies, Biblical Studies, Jewish Studies · ra

Jillian Stinchcomb's work is in the fields of religious studies, Jewish studies, and biblical studies. She studies the literary dynamics of biblical figures, especially as they intersect with issues of gender and power. While at the Institute, Stinchcomb will be working on the project "Interactive Histories, Co-produced Communities."

Edmond Shlomo Zuckier

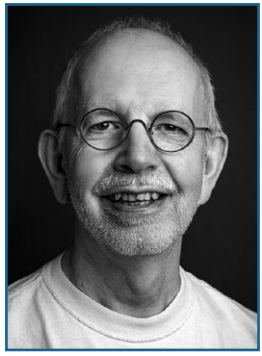
Rabbinic Literature, Philosophy of Religion · ra

Edmond Shlomo Zuckier is a scholar of rabbinic literature and philosophy of religion. His prior work has focused on concepts of sacrifice, atonement, and Halakhah (Jewish law). At IAS, Zuckier's research will focus on conceptions of divine will that emerged in antiquity and the medieval period across Judaism, Christianity, and Islam.

Legacy Programs

PROGRAM IN INTERDISCIPLINARY STUDIES (2002–2023)

The Program in Interdisciplinary Studies 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-discipline 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

Until 2023, Piet Hut was head of the Program in Interdisciplinary Studies at IAS. 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." Hut's main research background is in computational astrophysics, with asteroid "17031 Piethut" named in his honor. He is one of the co-founders of the Earth-Life Science Institute at the Tokyo Institute of Technology. His current book projects include a Typology of Novelty, a study of origins, starting with the origin of the biosphere as the archetype for the origin of a self-organizing complex system, in collaboration with Eric Smith, and a comparative study of European science and philosophy with empirical studies of the mind in other cultures, in collaboration with Alexander Englert.

Alexander Englert

Philosophy · ra

Alexander Englert works primarily in the history of philosophy, with a focus on German Idealism. His research explores questions related to the structure of self-consciousness and how ideals influence the formation of worldviews. He also has branching interests in the philosophy of religion broadly construed. The "broadly construed" refers to certain Buddhist thinkers and the religious thought of Kurt Gödel as they pertain to conceptions of self and world.

ra Research Associate

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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Roger W. Ferguson, Jr.
E. Robert Fernholz
Peter R. Kann
Spiro J. Latsis
Martin L. Leibowitz
David K.P. Li
Martin Rees
Eric E. Schmidt
Ronaldo H. Schmitz
Harold T. Shapiro
James H. Simons
Michel L. Vaillaud
Shelby White
Marina v.N. Whitman
Brian F. Wruble

Administration

David Nirenberg
Director and Leon Levy Professor

Alexandra Day
Associate Director
Assistant Secretary
Interim Chief Development Officer

Janine M. Purcaro
Associate Director
Assistant Treasurer
Chief Operating Officer

Michael Ciccone
Chief Facilities Officer

Jeff Gatto
Chief Investment Officer

Mary Mazza
Chief Fiscal Officer

Yann Blanchet
Interim Chef

Jennifer Richardson
Chief Human Resources Officer/
Title IX Coordinator

Pamela Hughes
Senior Director of Philanthropic Engagement

Susan Olson
Director of Events

Lee Sandberg
Communications and Public Relations Manager

Library Administration

Emma Moore
Librarian, Mathematics and Natural Sciences

Marcia Tucker
Librarian, Historical Studies and Social Science (also Coordinator of Information Access for Computing, Telecommunications, and Networking Administration)

Caitlin Rizzo
Archivist

School Administration

Miriam Harris
Administrative Officer
School of Social Science

Nicole Maldonado
Administrative Officer
School of Mathematics

Michelle Sage
Administrative Officer
School of Natural Sciences

Janet Yoon
Administrative Officer
School of Historical Studies

Programs

Wei Ho
Director
Women and Mathematics

Michelle Huguenin
Program Manager
Women and Mathematics

Rafe Mazzeo
Director
Park City Mathematics Institute

Computing, Telecommunications, and Networking Administration

Jeffrey Berliner
Chief Information Officer

Brian Epstein
Chief Information Security Officer
Information Technology Manager
Network and Security

Kevin Kelly
Information Technology Manager
School of Mathematics Computing

Dario Mastroianni
Information Technology Manager
Media Technology Services

Christopher McCafferty
Information Technology Manager
Software Engineering

Jonathan Peele
Information Technology Manager
Information Technology Group

James Stephens
Information Technology Manager
School of Natural Sciences Computing

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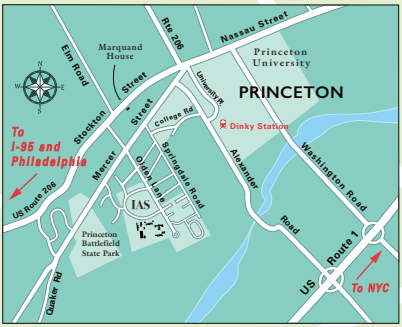

1 Fuld Hall
- **a** Reception
- **b** Mathematics–Natural Sciences Library (second floor)
- **c** Common Room
- **d** Director's Office

2 Building A
3 Building B
4 Rubenstein Commons
5 Bloomberg Hall
- **e** Lecture Hall
- **f** The Simons Center for Systems Biology

6 Wolfensohn Hall
7 Simonyi Hall
- **g** Lecture Hall

8 Historical Studies–Social Science Library
- **h** The Shelby White and Leon Levy Archives Center
- **i** White-Levy Room
- **j** Archives Storage

9 West Building
- **k** Lecture Hall (first floor)
- **l** Seminar Room (second floor)

10 Birch Garden

11 Marilyn and James Simons Hall
- **m** Dining Hall (first floor)
- **n** Dilworth Room (first floor)

12 Building D
13 ECP Building (225 S. Olden Lane)
- **o** Crossroads Nursery School
- **p** Fitness Center
- **q** Business Office

14 310 S. Olden Lane
15 320 S. Olden Lane
16 Olden Farm (97 Olden Lane)
17 Modular Office Space

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