ECONOMICS
AT MIT

2021

2022

Table of Contents

From the Department Head

Dear friends,

It is a pleasure to introduce the 2021-2022 MIT Department of Economics brochure. At writing, the new academic year is underway, and we are deeply grateful to have our community safely back on campus for the first time since March 2020. As we enjoy and appreciate the return to in-person education, research, and collaboration, I am proud of all the ways our faculty and students adapted to the most difficult of times, all while maintaining the exemplary research and education that is our hallmark.

We were thrilled to receive the news just before going to press that Josh Angrist has been named a winner of the 2021 Nobel Memorial Prize in Economic Sciences, alongside Guido Imbens of Stanford and David Card of Berkeley, for his development of groundbreaking new methods for harnessing natural experiments to identify causal relationships. Josh is the eighth economist to win the prize while serving as a member of our faculty, and we could not be more pleased to see his work recognized with this tremendous honor.

A small selection of other awards from the past year illustrates the depth and breadth of our faculty's expertise: Institute Professor Daron Acemoglu received the prestigious CME Group-MSRI Prize in Innovative Quantitative Applications, Amy Finkelstein a MERIT Award from the National Institutes of Health, Stephen Morris was elected to the National Academy of Sciences, and James Poterba was named the 2021 American Finance Association Fellow. Esther Duflo was chosen to chair an ambitious new French government initiative designed to revitalize the country's approach to development, and Sara Fisher Ellison, Jonathan Gruber, and Anna Mikusheva were recognized by the Institute and School for their excellence in teaching.

Our students also had an impressive year. New graduates of our PhD program Masao Fukui, Allan Hsiao, and Carolyn Stein were selected to present at the most recent Review of Economic Studies Tour for the top seven job market candidates in economics and finance. Francesca Macchiavello Cauvi and Marla Odell, undergraduates from our newest major in computer science, economics, and data science, received prestigious Schwarzman and Marshall Scholarships, respectively, for their graduate studies.

Many of my colleagues have made valuable contributions to the literature on the economics of COVID-19, providing incisive research and public commentary on topics including the pandemic's implications for macroeconomic policy (Ivan Werning), the acceleration of workplace automation (Daron Acemoglu, David Autor), the importance of global coordination and equity in vaccine accessibility (Esther Duflo, Abhijit Banerjee), equitable allocation of scarce medical resources (Parag Pathak), and the efficacy of public mask mandates (Victor Chernozhukov).

We were delighted to welcome two new Assistant Professors to the department this fall—Ian Ball, a theorist who completed his PhD at Yale, and Christian Wolf, a macroeconomist who received his PhD from Princeton. Our ranks were also rejuvenated by 21 incoming doctoral students and new crop of majors across our three undergraduate programs. The second cohort of students in the residential Master's program in Data, Economics, and Development Policy (DEDP) received their degrees in September 2021, and MIT Economics and the Abdul Latif Jameel Poverty Action Lab (J-PAL) will soon welcome the DEDP class of 2022, with Sara Fisher Ellison as the new faculty director.

The strength of MIT Economics has always been its people—our extraordinary students and faculty and the generous alumni and friends whose support helps make their work possible—and I hope the following pages offer a compelling look at those carrying the department forward as a leader in economics education, research, and public service.

Glenn Ellison
Head, Department of Economics
Gregory K. Palm (1970) Professor of Economics

Photo: Bryce Vickmark

Josh Angrist receives 2021 Nobel Prize

Josh Angrist has been named a winner of the 2021 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, alongside Guido Imbens of Stanford and Berkeley's David Card. Angrist and Imbens received half of the prize, cited for their "methodological contributions to the analysis of causal relationships," and Card was awarded the other half for his work in labor economics. Angrist, along with his co-recipients, is recognized as a leader of the "credibility revolution" that has harnessed natural experiments to determine causation and reshaped empirical practice in economics and

beyond. As Department Head Glenn Ellison told MIT News when the prize was announced, Angrist and his colleagues have "inspired a generation of scholars, not only in economics, but also in education, biostatistics, epidemiology, and political science, to think lucidly and precisely about identifying causal effects in nonlaboratory settings."

Angrist is the eighth faculty member to win the Nobel Prize while at MIT Economics. Eleven alumni of the department have also won the Nobel Memorial Prize in Economic Sciences.

Photo: Lillie Paquette

Visiting Committee

Each department at MIT has a Visiting Committee of distinguished scholars, alumni, and members of the MIT Corporation. Committees meet every two years to hear reports from department heads, faculty, and students, and provide valuable counsel on current activities and future directions. The Economics Visiting Committee is chaired by Roger Altman, Founder and Senior Chairman of Evercore, one of the most active independent investment banks in the United States. Altman served two stints in the U.S. Treasury Department, initially serving President Carter as Assistant Secretary for Domestic Finance and later serving President Clinton as Deputy Secretary. He received an AB from Georgetown University and an MBA from the University of Chicago.

Economics around the Institute

MIT Economics works closely with partners across the Institute, including and particularly MIT Sloan, where several faculty members hold joint appointments with Economics. The ties between Sloan and Economics are strongest in the applied economics and finance fields, with joint formal seminars in applied microeconomics providing opportunities for students and faculty to connect. Doctoral students at Sloan often find that graduate economics courses provide a valuable base for their research, while economics PhD students often discover that the topics studied at Sloan provide ideal applications for their research.

The Economics Department also has strong ties with MIT's Political Science Department through the closely related field of political economy, and with the Department of Urban Studies and Planning. Emeritus professors William Wheaton, whose work focuses on real estate markets, and Frank Levy, who is an

expert on income and wealth distribution in the U.S., have provided important links between the two departments.

The MIT Energy Initiative (MITEI) is another important partner in economics research, providing support for faculty and graduate student projects and facilitating the interdisciplinary interaction for which MIT is known. The MIT Center for Energy and Environmental Policy Research (CEEPR), jointly sponsored by the Initiative, the Economics Department, and MIT Sloan, investigates economic, regulatory, and technological issues related to energy and the environment.

MIT's excellence in engineering, science, and management has created valuable educational and research opportunities for Economics Department faculty and student. The Department in turn contributes its expertise to research and education throughout the Institute.

MIT Economics by the Numbers

317 students enrolled across our graduate and undergraduate programs

8 faculty members awarded the Nobel Prize while serving at MIT Economics

62 faculty papers published last academic year

53 PhD students selected for the Review of Economic Studies Tour

5 Clark Medalists on current faculty

8 faculty serving as journal editors or co-editors

Excellence in Education

The department's commitment to advancing path-breaking research is paired with a focus on developing and delivering courses that are at the vanguard of economic knowledge and draw new generations of students to the discipline. Faculty members Josh Angrist, David Autor, and Nancy Rose are MacVicar Faculty Fellows. The program recognizes MIT's best undergraduate teachers and mentors with a ten-year fellowship in honor of Margaret MacVicar, the Institute's first Dean for Undergraduate Education. In 2021, Anna Mikusheva received an MIT Teaching with Digital Technology Award for her excellence in hybrid and online instruction, and Sara Fisher Ellison received a SHASS Levitan Teaching Award for her outstanding teaching and cultivation of a supportive and engaging learning environment. Current PhD candidates Daniel Clark and Laura Zhang were also recognized this year by SHASS and the Graduate Student Council, respectively, for their instruction and mentorship as graduate teaching assistants.

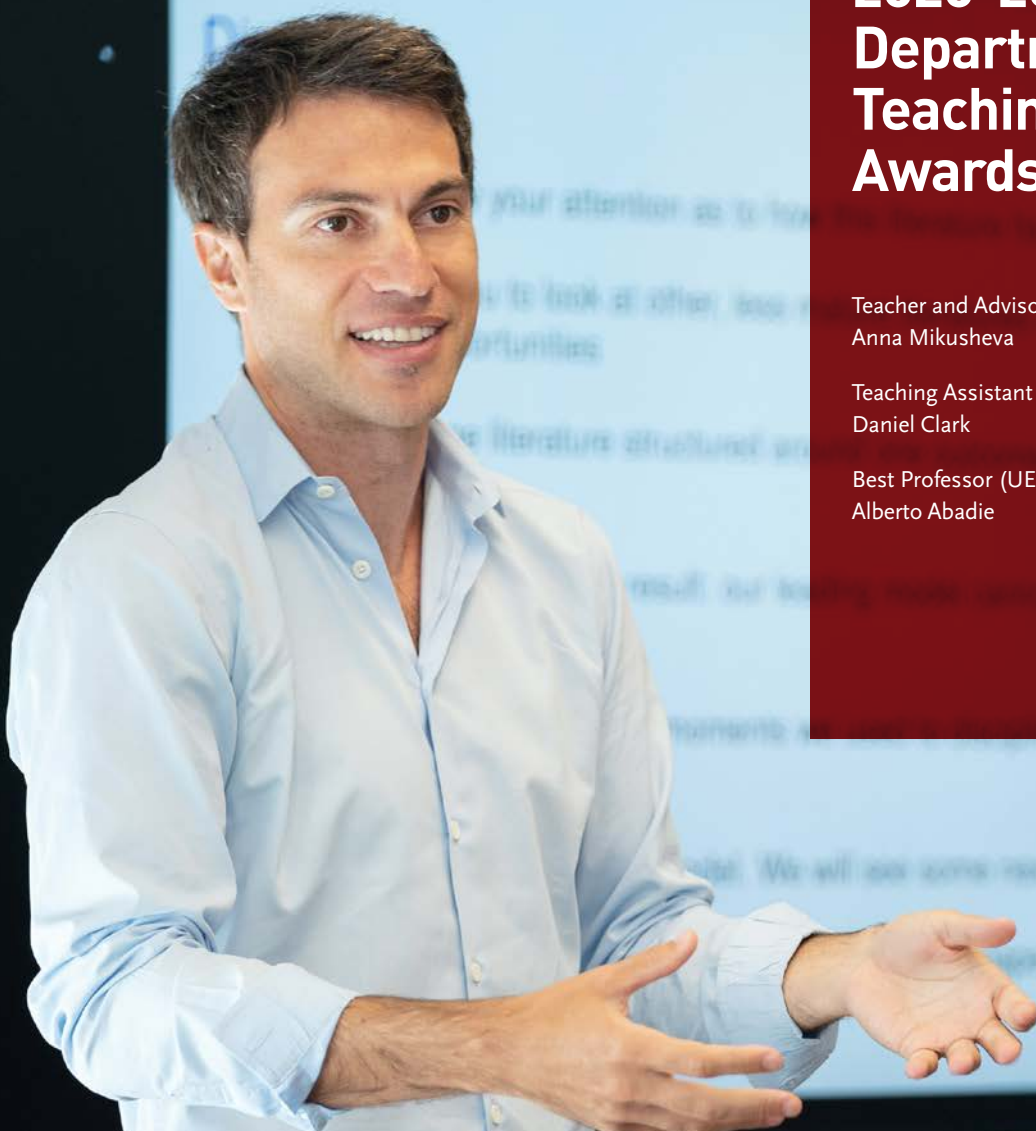Martin Beraja teaches graduate macroeconomics in fall 2021.
Photo: Bryce Vickmark

2020-2021 Departmental Teaching Awards

Teacher and Advisor of the Year (GEA):
Anna Mikusheva

Teaching Assistant of the Year (GEA):
Daniel Clark

Best Professor (UEA):
Alberto Abadie

Undergraduate Program

MIT Economics has a long tradition of outstanding undergraduate training. The unique analytical skills of the MIT student body allow the faculty to offer a rigorous and comprehensive program unlike that of any other U.S. college or university. Senior professors teach introductory undergraduate courses, and faculty at all levels incorporate the latest economic methods and findings into their electives. The excellence of the program allows the department to consistently attract exceptional undergraduates and prepare them for advanced study.

The department offers a traditional economics major (14-1) that explores theoretical and applied topics in microeconomics and macroeconomics, provides training in statistics and econometrics, and offers advanced courses spanning a range of fields. Our major in mathematical economics (14-2) begins with foundational training in microeconomics and macroeconomics before focusing intensively on technical and mathematical subjects. Our newest major, computer science, economics, and data science (6-14), is offered in collaboration with the Department of Electrical Engineering and Computer Science. Students receive extensive training in data science, as well as a firm foundation in economic theory, providing them with tools to understand the complex interactions and equilibrium forces that shape many new businesses.

Whatever their destinations, undergraduate economics majors acquire essential skills for a wide variety of jobs, an excellent foundation in economics, and an opportunity to meet faculty and fellow students in a challenging intellectual environment.

Undergraduate Economics Association

The Undergraduate Economics Association (UEA) is a group of undergraduates interested in economics who meet regularly to support academic endeavors, improve employment opportunities, and expand networks within and beyond MIT. The group held a number of virtual events during the pandemic, including a speaker series with faculty from UC San Diego, Harvard, and MIT. The traditional UEA speaker series recently returned with a lecture by Victor Chernozhukov, Ford International Professor of Economics at MIT, entitled "AI for Economics? An Application to inflation Measurement." The UEA is led by students from across the department's three undergraduate majors.

Undergraduate Research Opportunities Program

MIT's Undergraduate Research Opportunities Program (UROP) gives undergraduates the opportunity to hone their research skills by working closely with faculty members and graduate students on ongoing research projects. UROP students collect and analyze data, write computer programs, check calculations, and gather research materials, bringing modern technical skills to bear on questions of economic importance.

MIT economics student Lauren Rice ('22) has worked with Professor Jonathan Gruber to examine the relationship between prescription drug prices and government interventions to mitigate the challenges posed by high drug costs. The project aims to compare the availability and quality of public drug pricing information and estimate how prescription drug prices vary as a function of cost effectiveness measures across countries. As a UROP, Rice

worked on everything from literature review to data scraping from public sources, analysis of commercial data, and the production of analytical outputs. Rice has worked with Professor Gruber for two years on a number of projects, and says her experiences as a UROP have affirmed her desire to pursue further economics research.

Undergraduate Majors in Economics

Paolo Adajar

Paolo Adajar graduated from MIT in June 2021 with a bachelor's degree in mathematical economics (14-2). While at MIT, Adajar deliberately sought opportunities to explore different economic subfields. Through the Undergraduate Research Opportunities Program (UROP), he worked with Professor Ernie Berndt to analyze anti-trust issues in generic drug production, and with Professor Ben Olken to optimize the allocation of buses to routes in Jakarta. Through economics classes such as Market Design and Behavioral Economics, Adajar learned about the frontiers of economics research. These experiences helped him perform his own research, culminating in a thesis advised by Professor Parag Pathak that analyzed strategic behavior in an educational matching market using economic theory and empirical methods.

Adajar also explored education at MIT in a number of contexts beyond the economics department, studying the history of education, assessment design, and educational policy. These experiences led Adajar to serve as one of four student members of the Committee on the Undergraduate Program, implementing changes to first-year credit limits to support student growth and major exploration. Adajar also served as a Chair of MIT ESP, which organizes educational programs for thousands of students, and Coordinator of MIT Science Bowl, a STEM-based competition for middle and high school students.

Adajar is now pursuing an Economics PhD at MIT. He intends to conduct research at the intersection of market design, education, and behavioral economics.

Francesca Macchiavello Cauvi

Francesca Macchiavello Cauvi graduated from MIT in June 2021 with a major in computer science, economics, and data science (6-14). Macchiavello enjoyed exploring a range of economics courses at MIT and appreciated the small classroom environments that encouraged participation, dialogue, understanding, and the exchange of exciting ideas. Particularly memorable were Market Design (14.19) and Research and Communication in Economics (14.33). In the latter, Macchiavello conducted a project to estimate the impact of a large conditional cash transfer program in El Salvador on recipients' political and economic sentiments towards their country.

Beyond classes, Macchiavello served as the diversity co-chair for MIT's Undergraduate Economics Association, captain of the MIT women's volleyball team, and a mentor for Big Brothers Big Sisters. Macchiavello's MIT experience was enriched by multiple international learning experiences, including working at a startup in Rio de Janeiro, spending a summer working in Barcelona, and teaching Computer Science in Durban, South Africa.

In the 2021-2022 academic year, Macchiavello will complete a master's degree in global affairs at Beijing's Tsinghua University as a Schwarzman Scholar. Afterward, she plans to spend her career working toward more just, equitable, and plentiful access to modern-day resources. Macchiavello aspires to return to Peru and work on expanding energy access in rural areas.

Edwin Song

Edwin Song is a senior (Class of 2022) double majoring in mathematics and in economics (18 and 14-1), with interests in labor economics, public policy, and the economics of science, technology, and innovation. Edwin has taken a range of economics courses, including Research and Communication in Economics (14.33), where he enjoyed the opportunity to write about the labor market spillover effects of federally funded R&D centers. His other highlights include Public Finance and Public Policy (14.41), Market Design (14.19), and Industrial Organization (14.20). Edwin will be applying to economics PhD programs this fall and is planning to pursue a career that involves economic research.

Edwin has participated in UROP opportunities with Professors Jonathan Gruber, Parag Pathak, and David Autor, studying pandemic-era changes in U.S. unemployment insurance, equity in U.S. COVID vaccine distribution, student-to-school matching in Taiwan, and changes in the labor market over the past century. Edwin has also interned at the Federal Reserve Board, where he assisted Board economist Jennifer Dlugosz in studying the phenomenon of banks setting uniform rates across branches. He is co-president of MIT's Undergraduate Economics Association (UEA). At the UEA, Edwin helped introduce initiatives to broaden the reach of economics and make the department more accessible, including a coffee chats program matching upper- and lower-year students and a comprehensive guide to classes and UROPs for the UEA website. Edwin has also written for *The Tech*, where he was an Associate News Editor.

PhD Program

The Department's highly regarded doctoral program enrolls twenty to twenty-four students each year. Students undertake core coursework in microeconomic theory, macroeconomics, and econometrics, and are expected to complete two major and two minor fields in economics. Field options include: advanced economic theory, econometrics, economic development, financial economics, industrial organization, international economics, labor economics, monetary economics, organizational economics, political economy, and public finance. Beyond the classroom, doctoral students work in close collaboration with faculty to develop their research capabilities. This hands-on experience is common in both theoretical projects and empirical fields, where students gain experience with data sets, research strategy, and econometric tools.

The department facilitates a number of workshops and seminars that provide a forum for students to hear the latest research in their fields presented by invited speakers. At informal weekly "field lunches," students who have transitioned to thesis-writing test research ideas with peers and faculty. Presentations range from very early-stage research to nearly complete dissertation projects; the informality of these meetings makes it possible for students to explore topics and gain feedback without the expectation of presenting finished work. Faculty view attendance at these lunches as both a privilege and a sacred departmental responsibility. Many graduates report that field lunches provided an invaluable sounding board for new research topics.

PhD graduates go on to teach in leading economics departments, business schools, and schools of public policy. They work on congressional staffs and government advisory councils, and with organizations such as the World Bank, the International Monetary Fund, the National Economic Council, the Council of Economic Advisers, the Federal Reserve, and the Treasury Department. They also hold influential positions in the market economy, ranging from corporate executives and portfolio managers to economic consultants and chief economists at e-commerce and social media companies.

Incoming first-year PhD students in September 2021

PhD Research

Allan Hsiao

Allan Hsiao's research focuses on challenges facing developing countries, especially as they relate to climate change. His approach combines empirical methods from industrial organization with high-resolution spatial data to study policy-relevant questions in environmental and development economics. In particular, he has studied how international trade policy might substitute for domestic environmental regulation in settings where weak institutions cause domestic regulation to fail. In Indonesia and Malaysia, domestic efforts have been unable to curb land clearing for palm oil plantations, which have driven widespread deforestation with severe carbon consequences. International import tariffs on palm oil circumvent the challenges facing domestic regulation by directly targeting the prices producers receive in world markets. Such policy is only effective, however, when importers coordinate in imposing tariffs and when they can commit to upholding tariffs over the long term. Allan develops an empirical framework for evaluating emission-based trade policy, and he quantifies the importance of coordination and commitment in the context of the palm oil industry. He is currently spending a postdoctoral year as a Saieh Family Fellow in Economics at the Becker Friedman Institute at the University of Chicago, and he will join the Department of Economics at Princeton University as an assistant professor in the 2022-2023 academic year.

Martina Uccioli

Martina Uccioli's research focuses on how labor market institutions influence firms' and workers' outcomes. In a project with fellow graduate student Andrea Manera, she studies how constraints to the adjustment of the labor force affect firms' investment decisions. Exploiting a series of reforms that relaxed limits on the use of temporary contracts across European countries, they find that in rigid labor markets, when restrictions on short term work are lifted, firms shift the focus of their innovation activities. Specifically, they direct investments away from process innovation aimed at reducing labor costs, toward product innovation aimed at increasing the quality and variety of products they sell. In a separate project with Simon Jäger, her thesis advisor, Benjamin Schoefer, and Jörg Heining, Uccioli studies whether the decline in collective bargaining coverage contributed to increased wage inequality in Germany. Causal studies on collective bargaining are difficult, since it is typically the case that either countries have universal coverage, meaning that all firms in a sector are bound by the collective contract, or firms that self-select into collective bargaining are systematically different from firms that do not. German firms normally belong to the latter group, but state governments can decide to extend the provisions of the collective contracts to the entire sector. These "natural experiments" allow Martina and her co-authors to estimate the causal impact of universal coverage of collective bargaining on firms' survival and wage inequality.

Celebrating Graduate Student Excellence in Teaching and Research

The Robert M. Solow Prize was established by alumni and faculty to celebrate graduate students who best reflect Bob Solow's embodiment of a core value of MIT Economics: the interdependence of innovative research and excellence in teaching. This year's prize was awarded to graduating students Allan Hsiao (see left) and Carolyn Stein (joining the faculty at UC Berkeley, jointly appointed between the Haas School of Business and the Department of Economics). Stein works on the economics of science and innovation, and her job market paper (joint with 2020 PhD graduate Ryan Hill) examines how the desire to publish before rivals leads structural biology researchers to make compromises on the quality of their analyses. She has also examined scientific risk-taking and how it is impacted by soft-money appointments. Both Stein and Hsiao also earned high praise for their work as Teaching Assistants for a wide range of undergraduate and graduate courses.

DEDP Master's students celebrate commencement with faculty and staff in spring 2021

Data, Economics, and Development Policy (DEDP) Master's Program

MIT Economics and J-PAL created the MITx MicroMasters program in data, economics, and development policy (DEDP) in 2017. Through online courses and proctored exams, learners from around the world gain a strong foundation in microeconomics, development economics, and data analysis. To date, more than 45,000 learners from over 200 countries and territories have enrolled in at least one course; 614 have completed the series to receive a MicroMasters credential.

Top students earning the DEDP MicroMasters have the opportunity to apply to the residential DEDP Master's program at MIT. Students receive credit for their previous online coursework, enabling them to earn a Master of Applied Science in Data, Economics, and Development Policy in just eight months. The program enrolled its second residential master's cohort in January 2021, safely welcoming thirteen students to a blended virtual and in-person campus experience. Students

received degrees in September 2021, after completing capstone internships in summer 2021.

Sara Fisher Ellison, Senior Lecturer in Economics, was appointed as the new faculty director of the DEDP MicroMasters and Master's programs in June 2021. Ellison will oversee the development of a new US-focused track in both the online MicroMasters and on-campus master's degree programs.

Sally Hudson

Sally Hudson (PhD '16) is a scholar, educator, and state legislator who represents Charlottesville in the Virginia House of Delegates. As an assistant professor at the University of Virginia, Hudson teaches econometrics and studies some of the most pressing domestic economic challenges of the day, from workforce development to student debt. She advises public and non-profit agencies across Virginia and the country and consults for leading philanthropic groups like the Susan Thompson Buffett Foundation.

Hudson's PhD thesis analyzed attempts to replicate experimental findings in labor economics with quasi-experimental methods. She works on projects through MIT's Blueprint Labs, conducting randomized evaluations in collaboration with MIT faculty members Josh Angrist and David Autor and Harvard faculty member Amanda Pallais (PhD '11). She has also worked extensively with J-PAL to promote the use of experiments in evaluating and improving public services.

Hudson was only in her third year as a UVA faculty member when she heard the call to service in the state legislature. "For a long time, I thought that research was going to be really fulfilling work, and I love teaching," Hudson said. "But I got to a point where I felt like, in our current political climate where there is so little patience or appetite for rigorous evidence, it was time to shift gears and use a different part of my toolkit to be a

more effective advocate for public policy. So much of what economists do is study how different states tackle the same problem and then learn from the results. States are the laboratories of democracy, so they're also the laboratories of an economist."

One of Hudson's first projects as a freshman state legislator was carrying legislation to create a ranked-choice voting pilot program in Virginia. Though, as famously demonstrated by economist Kenneth Arrows' Impossibility Theorem, all voting systems make tradeoffs among desirable properties, a ranked-choice voting system is less likely to dilute the votes of citizens who hold similar preferences but have different rankings of closely competing candidates.

Hudson was born in Iowa and grew up in Arizona and Nebraska. She studied economics and math at Stanford University and earned her PhD in economics at MIT, where she was also a Castle Krob Fellow.

Sandy Darity

William A. ("Sandy") Darity Jr. (PhD '78) is the Samuel DuBois Cook Professor of Public Policy, African and African American Studies, and Economics and the director of the Samuel DuBois Cook Center on Social Equity at Duke

University. He has served as chair of the Department of African and African American Studies and was the founding director of the Research Network on Racial and Ethnic Inequality at Duke. Prior to joining Duke, he was a member of the economics faculty at the University of North Carolina at Chapel Hill.

Darity launched the subfield of stratification economics in a keynote address he gave at the Academy of Economics and Finance's annual meeting in Savannah, Georgia in February 2005. In general, his research has focused on inequality by race, class and ethnicity, schooling and the racial achievement gap, North-South theories of trade and development, skin shade and labor market outcomes, the economics of reparations, the Atlantic slave trade and the Industrial Revolution, the history of economics, and the social and psychological effects of exposure to unemployment.

He was a visiting scholar at the Russell Sage Foundation (2015-2016), a fellow at the Center for Advanced Study in the Behavioral Sciences at Stanford (2011-2012), a fellow at the National Humanities Center (1989-90) and a visiting scholar at the Federal Reserve's Board of Governors (1984). He received the Samuel Z. Westerfield Award in 2012 from the National Economic Association, the organization's highest honor, Politico 50 recognition in 2017, and an award from Global Policy Solutions in 2017. He is a past president of the National Economic Association and the Southern Economic Association. He has also taught at the University of Texas at Austin, Grinnell College, the University of Maryland at College Park, the University of Texas at Austin, Simmons College and Claremont McKenna College.

His most recent book, co-authored with A. Kirsten Mullen, is From Here to Equality: Reparations for Black Americans in the 21st Century (2020). He has published or edited 13 books and published more than 300 articles in professional outlets.

Darity earned his PhD in Economics from MIT in 1978 and a BA from Brown University in 1974.

Melissa Dell

Melissa Dell (PhD '12) is the Andrew E. Furer Professor of Economics at Harvard University.

She is the 2020 recipient of the John Bates Clark Medal, awarded each year to an American economist under the age of forty who is judged to have made the most significant contribution to economic thought and knowledge. In 2018, The Economist named her one of the decade's eight best young economists, and in 2014 she was named by the IMF as the youngest of 25 economists under the age of 45 shaping thought about the global economy.

Her research focuses on economic growth and political economy. Using a combination of state-of-the-art microeconometric techniques and meticulous data collection, she has made path-breaking contributions to the fundamental questions of long-run economic development. In addition to her empirical analysis of the factors leading to the persistence of poverty and prosperity in the long run, she has examined the effects of trade-induced job loss on crime, the impacts of U.S. foreign intervention, and the effects of weather on economic growth (along with Ben Olken). She has also developed deep learning powered methods for curating social science data at scale, released in the open-source package Layout Parser. This work supports many of her current projects, which rely on digitizing historical sources far too large for manual digitization.

Dell is a senior scholar at the Harvard Academy for Area and International Studies and a research associate at the National Bureau of Economic Research. She completed her PhD in Economics at MIT in 2012, after receiving an AB in Economics from Harvard in 2005 and an MPhil in Economics from Oxford in 2007. Before joining the Harvard Economics department in 2014, she was a Junior Fellow at the Harvard Society of Fellows.

Julianne Malveaux

Dr. Julianne Malveaux (PhD '80) is an economist, author, activist, television and radio commentator, entrepreneur, and educator. She earned her PhD in economics from MIT in 1980. Her dissertation was titled "Unemployment Differential by Race and Occupation." Currently, she serves as Dean of the College of Ethnic Studies at California State University at Los Angeles. She was the 15th President of Bennett College for Women in Greensboro, North Carolina, serving from 2007 through 2012. For her distinguished service, she was named President Emerita. In her five years at the college, she was the architect of the first new construction in nearly three decades. Her footprint at Bennett includes curricular advances in global studies, entrepreneurship, leadership, and communications.

Malveaux has written about virtually every aspect of the Black experience and demographic shifts and their impact on the economy. She has written about health, wealth, gender, intersectionality, law, and public policy. Malveaux has been especially concerned about the wealth gap and its connection to our nation's history of racial economic envy (Wilmington, NC 1896, Tulsa, Oklahoma 1921). She is a member of the National African American Reparations Commission (NAARC) and a strong proponent of reparations to close the wealth gap, testifying before Congress about this matter on June 19, 2019 (Juneteenth).

Malveaux has led women's, civil rights, and other organizations. She has taught at several universities and holds honorary degrees from the University of the District of Columbia, Benedict College, Marymount College, and Sojourner Douglas College. She serves on the Boards of the Economic Policy Institute; Save A Girl, Save a World; and the Black Doctoral Network, among others.

C.C. Chen

C.C. Chen was born in Taiwan, attended high school in Japan, and came to MIT as an undergraduate in 1959. He graduated four year later with SB degrees in both Physics and Management. After graduation, he decided to pursue a PhD in Economics, and despite his limited undergraduate background in the field, Professor Charlie Kindleberger admitted him to the MIT program. Chen received his PhD in 1967, and embarked on an extremely successful business career. After two years working as a senior economist for Mobil Oil, he joined his family's shipping company as President. He is currently the Group Chairman of Taiwan-based Wan Hai Lines, one of the world's leading containerized liner shipping companies. The firm currently operates a fleet of over 150 vessels. Through another firm, the Central Trading and Development Group, he has been a pioneer of foreign direct investment in Vietnam. Chen, who is a former member of the Economics Department Visiting Committee, has endowed two named professorships in the Economics department: the Charles P. Kindleberger Professorship in Applied Economics, which was created in 2003, and the Peter A. Diamond Professorship, which was created in 2020. He also endowed, in 1999, the Morris A. Adelman Professorship at the MIT Sloan School. All three professorships honor faculty members who made important contributions to the MIT community and to the field of economics.

Top: Postdoctoral Fellows Nicolaj Søndergaard Mühlbach and Elisa Macchi.

Bottom: Professor Jim Poterba and Professor Devavrat Shah, visiting from MIT EECS.

Photos: Bryce Vickmark.

Screening and Selection: The Case of Mammograms

Whether and when to recommend screening for cancer is a controversial and evolving policy area, with concerns about both over-testing and under-testing. Advocates of earlier screening tout the potential benefits of early detection and treatment; others express concerns about the emotional and financial costs of screening, as well as the risk of "over-diagnosis"—the tendency to detect and treat cancers for which the benefits of treatment are small or nonexistent.

However, most of the existing debates over screening recommendations overlook a key point: those who comply with medical screening guidelines may be healthier than the overall population targeted by those guidelines. In "Screening and Selection: The Case of Mammograms" (*American Economic Review*), Amy Finkelstein and co-authors Liran Einav, Tamar Oostrom (PhD '20), Abigail Ostriker (PhD candidate), and Heidi Williams analyze this challenge in the context of breast cancer screening guidelines.

Because mammograms for people in their 40s catch relatively few cases of breast cancer and produce some cases of unnecessary treatment, the value of mammogram screening for women aged 40-49 has been much debated. Utilizing data from the National Cancer Institute and

Amy Finkelstein

a clinical model of breast cancer disease progression developed by medical researchers, Finkelstein and her co-authors studied women who began getting mammograms at age 40 in response to health screening recommendations. Strikingly, they found that these women had lower rates of cancer—and lower rates of late-stage cancer—than women who did not comply with the guideline to begin screening after age 40.

Their findings suggest that screening recommendations are less beneficial than previously thought, since those who follow them tend to be healthier

than a random individual from the population targeted by the guidance. Their results also underscore the value of recent proposals by clinical researchers to target screening guidance to higher-risk groups rather than (or in addition to) issuing age-based screening recommendations.

How Do We Choose Our Identity? A Revealed Preference Approach Using Food Consumption

In recent years, economists have gained an increasing appreciation for the role social identities play in determining economic outcomes such as human capital acquisition, labor market participation and poverty. In the political sphere, commentators have linked shifts from now lower-status working-class identities to nationalist ones, with outcomes such as Brexit, the election of Donald Trump, and the ascent of Narendra Modi on the back of a surge in Hindu nationalism.

Given this backdrop, it is important to understand whether identities are fungible and, if so, how people come to identify with specific groups. However, measuring identity choices is challenging, with much research relying on self-reported identities that may not reflect economic behavior, or on lab experiments involving small unrepresentative samples. In "How Do We Choose Our Identity? A Revealed Preference Approach Using Food Consumption" (*Journal of Political Economy*), David Atkin and co-authors Eve Colson-Sihra and Moses Shayo address this challenge to uncover choices between ethnic and religious identities in India.

Their approach starts from the observation that consumption choices are both widely documented and are affected by the norms and taboos of groups people identify with. A Hindu from Gujarat has several possible identities. While

David Atkin

they cannot (easily) choose to be Muslim or Tamil, they can choose whether to identify as Gujarati (one of India's many ethno-linguistic groups) or Hindu (one of India's major religions). Given the different norms and taboos across religious and ethnic groups, examining the food they consume helps uncover their identity choice.

Applying this approach, Atkin and his co-authors find that consumption of identity goods (e.g. beef and pork) responds systematically to forces suggested by social identity research: group status and group salience, with the latter proxied by inter-group conflict. Moreover, identity choices respond to the economic cost of following the group's prescribed behaviors.

Incorporating identity into an otherwise-standard demand system allows them to quantify the identity changes that followed India's 1991 economic reforms. Notably, their estimated identity changes recovered from food consumption choices correlate with changes in vote shares for ethnic and religious parties. While social-identity research has focused on status and salience, their results suggest that economic costs also play an important role.

Monetary Policy with Opinionated Markets

Four times a year the Fed releases its "dots" curve, reflecting the FOMC members' predictions for future policy rates. The median Fed prediction often exhibits large differences from the financial market's prediction (measured either from the futures market or from surveys of major market participants). Moreover, these gaps cannot be attributed to the Fed's superior information, as the market expects a different interest rate *after* the Fed announces the rates it plans to set. Rather, the market and the Fed are opinionated and often think the other is making a "mistake."

In "Monetary Policy with Opinionated Markets," Ricardo Caballero and Alp Simsek propose a model in which the market and the Fed have different opinions about future aggregate demand and learn from data, but not from each other. In this context, they show that disagreements about demand, together with learning, translate into disagreements about future interest rates. Moreover, these disagreements shape the optimal monetary policy.

Consider, for example, an optimistic Fed that wants to hike the interest rate to stabilize current output. Since the market does not share the Fed's optimism, it will perceive the interest rate hike as a mistake. The perception of "too high" interest rates will exert downward pressure on asset prices and aggregate demand. Knowing this, the Fed is

forced to set a relatively low interest rate in order to stabilize current output. Even though the Fed is optimistic, it sets an interest rate that is somewhere between the levels implied by its own (more optimistic) belief and the market's (more pessimistic) belief.

These disagreements naturally explain the differences between the Fed's and the market's predictions for future interest rates. Since agents learn from the same data, they expect disagreements to decline over time. In particular, for sufficiently distant horizons, each agent expects future interest rates

to largely reflect their current belief. The market thinks the Fed will learn from data and come to the market's belief. Hence, the market thinks the Fed will set future interest rates that are more closely aligned with the market's current belief. Conversely, the Fed thinks the market will learn from data and come to the Fed's belief. Thus, the Fed believes it will be less constrained in the future and will be able to set interest rates reflecting its current belief.

Ricardo Caballero

Statistical Non-Significance in Empirical Economics

Statistical significance, a notion of scientific discovery proposed in the 1920s by R.A. Fisher, greatly impacts government policies, managerial choices, and many other forms of decision-making. It has a large influence, for example, on whether COVID-19 vaccines and other medical treatments are approved or rejected by the FDA, it is routinely used in litigation as a form scientific proof, it partially determines what appears on our web browsers, and it ultimately affects many aspects of our daily lives.

Because of the perceived importance of statistical significance, non-significant results are notoriously hard to publish in professional / scientific journals, and they are routinely disregarded by governmental and corporate decision makers. This state of affairs is in part maintained by the widespread perception that non-significant results are non-informative. After all, lack of statistical significance derives from the absence of extreme or surprising outcomes under a null hypothesis chosen to represent a benchmark scenario where the policy or treatment of interest is completely ineffective. Statistical parlance reflects and helps perpetuate the bias against non-significance by equating it with a *failure* to reject the null.

In "Statistical Non-Significance in Empirical Economics" (*American Economic Review: Insights*), Alberto Abadie argues that this view of statistical inference is greatly misguided. Abadie shows that significance often carries very little information, while non-significance may be highly informative. This is particularly true in empirical contexts that are common in economics, where datasets are large, and there are rarely reasons to have much or any confidence in the factual validity of the null hypothesis. In these settings, the probability of obtaining a non-significant result is small, which makes non-significant results surprising and, therefore, highly informative. In contrast, in the same settings, statistical significance becomes uninformative.

Based on these results, Abadie argues against the use of statistical significance as a marker of scientific discovery and the primary assessment of statistical evidence. Other factors, such as the magnitude and precision of the estimates, the plausibility and novelty of the results, and the quality of the data and research design, should be carefully evaluated alongside discussions of statistical significance.

Alberto Abadie

Has Rising Import Competition Contributed to the Polarization of U.S. Politics?

The ideological divide in American politics is at a historic high. In "Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure" (American Economic Review), David Autor and co-authors David Dorn, Gordon Hanson (PhD '92), and Kaveh Majlesi examine whether the exposure of local labor markets to increased foreign competition from China has contributed to rising political polarization in the U.S. since 2000.

Analyzing multiple measures of political expression and exploiting variation in local trade exposure stemming from China's rising comparative advantage in labor-intensive manufacturing, they find that trade-exposed electoral districts simultaneously exhibit growing ideological polarization in some areas, and pure rightward shifts in others. Specifically, trade-impacted districts saw an increasing market share for the Fox News channel, stronger ideological polarization in campaign contributions, and a relative rise in the likelihood of electing a Republic to Congress. Trade-exposed counties with a majority white population became more likely to elect a GOP conservative, while trade-exposed countries with a majority-minority population became more likely more likely to elect a liberal Democrat. In both sets of countries, these gains came at the expense of moderate Democrats.

Autor and his co-authors ultimately find strong though not definitive evidence of an overall ideological realignment in trade-exposed local labor markets that, notably, commences prior to the divisive 2016 U.S. presidential election. These results broadly support an emerging political economy literature that connects adverse economic shocks to sharp ideological realignments that cleave along racial and ethnic lines and induce discrete shifts in political preferences and economic policy.

David Autor. *Photo: Josh Franzos*

Market Failure in Kidney Exchange

A transplant is a life-saving treatment for patients with kidney failure, but unfortunately, a severe shortage of kidneys means that most patients will never receive a transplant. Some patients are lucky enough to receive donations from living friends, relatives, and rare Good Samaritan donors. Even then, many patients cannot receive a transplant because they are not biologically compatible with their living donor. As a result, many patients with a willing donor remain unmatched.

Kidney exchange offers a solution to this problem. If, for example, two donor-patient pairs are incompatible, a two-way swap can sometimes enable both patients to receive a transplant. The same principle can be applied to larger swaps, as well as national kidney exchange platforms that use algorithms to map more complicated arrangements.

In recent work "Market Failure in Kidney Exchange" (*American Economic Review*), Nikhil Agarwal and co-authors Itai Ashlagi, Eduardo Azevedo, Clayton R. Featherstone, and Ömer Karadu-man found that, despite the growth of these national kidney exchange platforms, the majority of exchanges continued to be performed within hospitals. Many hospitals sign up only a fraction of their patients to national platforms or do not participate in national programs at all.

Nikhil Agarwal

Their research suggests that this market fragmentation, by limiting participation in national platforms, reduces the total number of transplants performed; improving coordination through large national platforms could increase the total number of kidney exchange transplants by 240-500 per year. The authors find that hospital participation may be limited by current platform rules that incentivize keeping easy-to-match patients and donors in-house rather than registering them for a national system that, while creating better outcomes on the whole, presents a greater chance that easily matched patients will remain un-transplanted. Hospitals participating in national platforms also incur unreimbursed costs that can be a significant barrier to participation, particularly for small hospitals.

Redesigning national platforms to prioritize patients at hospitals that register altruistic donors as well as their easiest-to-match patients and donors could encourage hospitals to register those patients, as well as altruistic donors. The cost barrier calls for reimbursement reform at both the federal and individual insurer level. These innovations, along with other approaches being explored, hold the promise of making kidney exchange a more effective tool that can vastly expand the number of life-saving kidney transplants that may be possible.

In Harm's Way?
The Persistence of Coastal Cities

Human settlement has long been drawn to coastal regions, reflecting their natural advantages for agriculture and trade, but these areas are increasingly vulnerable to the effects of environmental change as natural disasters intensify and sea levels rise. Despite these trends, coastal areas continue to attract huge infrastructure and spatial policy investments worldwide. In recent work, *"In Harm's Way? Infrastructure Investments and the Persistence of Coastal Cities"*, Clare Balboni considers whether such large investments in vulnerable coastal regions are justified given changing coastal fortunes.

The paper examines this question using data on road investments in Vietnam. Vietnam, in common with much of developing Asia, is a historically agrarian economy with population and economic activity concentrated in the low elevation fertile flood plains of deltas and coastal harbors. The locus of economic activity has been shifting inland following a series of economic reforms beginning in the late 1980s and the country's coastline is highly vulnerable to rising sea levels, yet infrastructure investments continue to favor coastal and low-lying regions. In this context, the paper estimates the effects of road upgrading from 2000 to 2010, a period of major investment in roads that was strikingly concentrated in coastal areas.

The analysis considers whether such significant coastal investment was justified using a detailed model of the evolution of Vietnam's economy over time. The model captures the dynamic effects of road investments on the distribution of economic activity across space as coastal fortunes change and environmental change proceeds. The estimation combines the model with detailed geo-referenced micro-data on migration, economic activity, transport networks and projected environmental change in Vietnam.

The results suggest that the road investments made in Vietnam from 2000 to 2010 led to large welfare gains, but that these gains are sharply lower once the effects of future environmental change are considered. This reflects the significant share of investments that are lost to inundation or that

Clare Balboni

connect inundated areas. The central finding of the analysis is that much higher gains could have been achieved by alternative allocations of road upgrades of the same total cost but concentrated further inland. The results suggest that the degree of coastal favoritism in road upgrades would have been unwarranted even without the future impacts of sea level rise, but that the gains from more foresighted allocations avoiding the most vulnerable regions are sharply accentuated by climate change. These results make clear that future environmental change fundamentally affects the gains from infrastructure investments made today, and highlights the importance of the placement of these investments reflecting changing economic conditions and climate risks.

The Economics of Partisan Gerrymandering

Legislative districts must be periodically redrawn under many electoral systems, for purposes such as maintaining population equality across districts. This process is often implemented by political actors (such as state legislators), who may engage in *gerrymandering*: designing districts in their own interest, rather than society's. *Partisan gerrymandering* refers to designing districts to maximize the number of seats won by one party, and is a hotly contested issue in contemporary U.S. politics.

Partisan gerrymandering is traditionally understood in terms of *cracking and packing*: to win as many seats as possible, a designer "cracks" her supporters across districts where she wins narrowly, and "packs" her opponents into districts where she loses by huge margins. This traditional view implicitly assumes that the designer can perfectly identify her supporters and opponents: that is, she perfectly predicts how each voter will vote.

In "The Economics of Partisan Gerrymandering," Alex Wolitzky and co-author Anton Kolotilin study partisan gerrymandering under the more realistic assumption that the designer faces uncertainty about both how many votes her parties will win and which voters will vote for her party. They analyze this problem by connecting gerrymandering to recent developments in information economics, noting that

the gerrymandering problem of partitioning voters into districts is similar to the "information design" problem of partitioning possible states of the world into signals in order to persuade an agent to take a particular action.

Kolotilin and Wolitzky's analysis suggests that partisan gerrymandering can take a more complex form, where those voters most opposed to the designer are segregated into homogeneous districts, and more favorable types of voters are matched together in a negatively assortative pattern.

Alex Wolitzky

These results have implications for several practical questions surrounding gerrymandering, such as the question of whether the Voting Rights Act's mandate to create majority-minority districts is more likely to benefit Democrats or Republicans, and the question of how to measure gerrymandering when districts are drawn under imperfect information.

Blueprint Labs

MIT Blueprint Labs

Blueprint Labs is a non-partisan research lab with scholars and staff who bring unique expertise in economics and data science to study pressing challenges in education, healthcare, and the workforce. Over the last decade, Blueprint's growing team of more than 40 faculty, staff, and student affiliates have produced insights that have been published in peer-reviewed academic journals, widely disseminated in popular media, and used by government organizations to inform policymaking. Blueprint Labs is led by MIT Economics Professors Nikhil Agarwal, Joshua Angrist, David Autor, and Parag Pathak.

Blueprint believes policy should create a level playing field for society and that rigorous evidence and data are the best foundations for policy and decision-making. Using market design, research design, and other rigorous methodologies, Blueprint produces evidence that can help decision-makers close student achievement gaps, better target resources to disadvantaged communities, and improve employment opportunities across the income distribution.

Some of the Big Questions Blueprint Researchers are Tackling

How can educators close gaps in student achievement?

Educators have long struggled to close achievement gaps that undercut progress for entire communities. Blueprint Labs researchers are marshaling evidence to assess different approaches to increasing achievement for students from pre-K to college. Research has shown, for example, that universal preschool can improve long-term educational outcomes and that

financial aid increases college enrollment and completion for historically disadvantaged students.

Who should have access to scarce medical resources?

Even in rich countries, medical resources and healthcare services are often in short supply, leaving caregivers and policymakers struggling to find the most equitable way to decide who receives them. Blueprint Labs researchers are developing insights to help reduce inequities in myriad resource-constrained areas, including life-saving organ transplants.

What skills will workers need to succeed?

As the nature of work is transformed by factors like innovation, automation, artificial intelligence, and climate change, Blueprint Labs researchers are developing evidence to help communities and their workforces compete effectively in the 21st-century global economy, analyzing nearly a century of data to understand how artificial intelligence may change the structure of occupations.

Engaging with Policymakers

Through several policy partnerships, Blueprint Labs aims to foster continuous interaction between rigorous research, policy design, implementation,

and evaluation. Education is one of Blueprint's core focus areas. Since its founding in 2011 as the School Effectiveness and Inequality Initiative, the lab has provided ongoing support to the New York City Department of Education, Boston Public Schools, and many other districts across the country. Blueprint regularly runs policy simulations and presents findings on the impact of different student assignment policies on school diversity and student access to quality schools.

Blueprint also engages with health policymakers. At the beginning of the COVID-19 pandemic, a Blueprint team used market design principles to propose novel and more equitable ways of rationing vital scarce medical resources such as ventilators, anti-viral drugs, and vaccines. The interdisciplinary team introduced the concept to healthcare policymakers and these tools are now being used in state policy and various allocation frameworks across the country.

In addition to these partnerships, Blueprint has organized policy-oriented summits since 2018, featuring perspectives from policy leaders, policymakers, and researchers. These events provide an opportunity for attendees from around the country to engage with new research and innovative policy ideas.

The Abdul Latif Jameel Poverty Action Lab (J-PAL)

The Abdul Latif Jameel Poverty Action Lab (J-PAL) is a global research center based at the Department of Economics working to reduce poverty by ensuring that policy is informed by scientific evidence.

Anchored by a network of more than 250 affiliated professors at universities around the world, J-PAL conducts randomized impact evaluations to answer critical questions in the fight against poverty. J-PAL builds partnerships with governments, NGOs, donors, and others to share this knowledge, scale up effective programs, and advance evidence-informed decision-making.

J-PAL co-founders Abhijit Banerjee and Esther Duflo and longtime affiliate Michael Kremer were awarded the 2019 Nobel Memorial Prize in Economics for this experimental approach to alleviating poverty. Building on the Nobel Prize, J-PAL continues to expand its research, capacity building, and policy engagement work around the world.

Innovative research: Randomized evaluations take a scientific approach to poverty alleviation. This research can answer not only questions like "was a policy or program effective," but also "how effective was it?" "Were there unintended side effects?" "Who benefited most?" "Who was harmed?" "Why did it work or not work, and what lessons can be applied to other contexts?"

Investing in this rigorous research is essential to finding solutions to the world's greatest challenges. J-PAL's affiliated professors have conducted more than 1,000 randomized impact evaluations across a diverse range of topics, from clean water to microfinance to crime prevention.

Capacity building: With a focus on learning and innovation, J-PAL works to build the capacity of researchers who produce evidence, policymakers and donors who use it, and advocates of evidence-informed policy. J-PAL creates high-quality research resources, university-level open online courses, and in-person training programs around the world that help people become better producers and users of scientific evidence.

Policy engagement and scaling: J-PAL's team of policy experts conduct analysis and outreach to help governments, NGOs, donors, and the private sector apply evidence from randomized evaluations to their work. J-PAL develops cross-cutting policy insights and works with partners to create frameworks for scaling up effective programs. This includes providing funding, technical assistance, and embedded staff to help shape programs and policies that deliver results.

J-PAL is led by MIT professors Abhijit Banerjee, Esther Duflo, and Benjamin Olken. Affiliated professors in the MIT Economics Department include David Atkin, David Autor, Amy Finkelstein, Simon Jäger, and Frank Schilbach, as well as MIT Sloan professors Joseph Doyle, Namrata Kala, Christopher Knittel, Christopher Palmer, Antoinette Schoar, and Tavneet Suri.

Launched at MIT in 2003, J-PAL has regional centers at partner universities in Africa, Europe, Latin America and the Caribbean, the Middle East and North Africa, North America, South Asia, and Southeast Asia. Over 400 million people have been reached by programs that were scaled up after being evaluated by J-PAL affiliated researchers.

J-PAL North America

Developing successful public policies to combat poverty, improve learning outcomes, promote health, and address other social issues is a difficult and complex task. Policymakers often lack credible evidence on the efficacy of social programs. J-PAL North America was launched at MIT in 2013 to advance J-PAL's goal of reducing poverty by ensuring that policy is informed by scientific evidence. Drawing on J-PAL's established credibility in conducting randomized evaluations internationally, J-PAL North America brings J-PAL's proven model of generating rigorous evidence to the region. J-PAL affiliated researchers have conducted over 245 ongoing and completed randomized evaluations in North America.

J-PAL North America runs five major initiatives to catalyze policy-relevant research and promote evidence-informed policymaking:

• The U.S. Health Care Delivery Initiative generates rigorous evidence on strategies that make health care delivery in the United States more efficient, effective, and equitable.

• The State and Local Innovation Initiative provides government leaders with funding, technical support, and opportunities to collaborate with preeminent researchers to answer high-priority policy questions.

• The Work of the Future Initiative identifies effective, evidence-based strategies to increase opportunities for workers and reduce the economic barriers and social challenges associated with the changing nature of work. This initiative is co-led by David Autor (MIT) and Matthew Notowidigdo ('03, MA '04, PhD '10) (Northwestern).
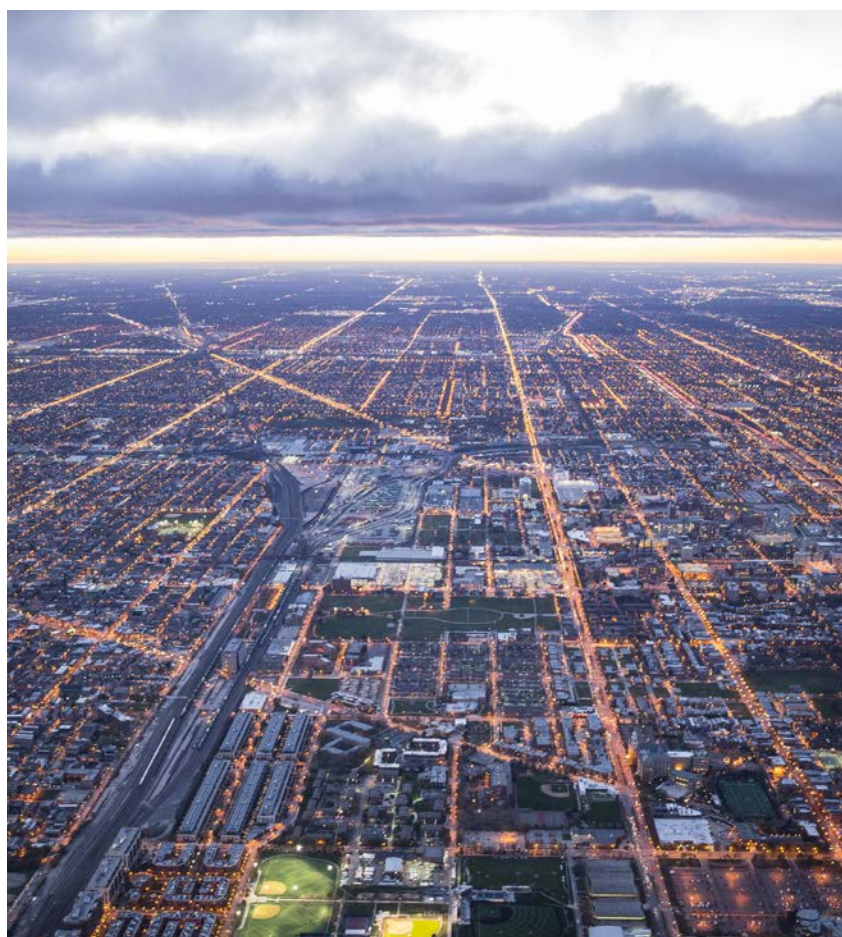
• The Social Policy Research Initiative supports randomized evaluations across a broad range of sectors, including education, crime and violence prevention, environment, homelessness, consumer finance, and government efficiency among others.

• The COVID-19 Recovery and Resilience Initiative aims to help individuals and communities recover in the aftermath of COVID-19 by identifying and implementing effective policy responses to the pandemic.

J-PAL North America staff build the capacity of researchers and policymakers to be better producers and consumers of evidence through in-person trainings, research management support, and research design feedback sessions. Policy staff translate research into policy lessons, help partners apply research insights to local contexts, and support the replication and expansion of successful evaluated programs. In 2020, J-PAL North America launched the Economics Transformation Project (ETP) to broaden support for underrepresented voices in the field of economics at every stage of the education and career pipeline.

J-PAL North America is led by two Co-Scientific Directors. Amy Finkelstein (MIT) is a leading health economist and one of the principal investigators of the Oregon Health Insurance Experiment. Lawrence Katz (PhD '86) (Harvard) served as Chief Economist for the U.S. Department of Labor during the Clinton Administration and is the principal investigator of the long-term evaluation of the Moving to Opportunity housing mobility program.

Fields of Study

Most MIT faculty engage in research that applies economic tools to understand real world problems. Empirical research may identify economic regularities, test theoretical models of behavior, or evaluate the effectiveness of alternative policies. Theoretical research may shed new light on the behavior and interaction of economic agents, establish new conceptual frameworks for studying markets and economic institutions, or lead to new statistical and analytic tools. While much research activity is organized around broad fields of study, MIT faculty are intensely collaborative, often engaging in frontier research that cuts across fields.

Economic Theory

Economic research, whether abstract or applied, and economic policy advice, is rooted in economic theory. Substantial advances in economic science are usually based on new ways of thinking about and modeling economic phenomena. MIT's commitment to economic theory is strong and facilitated by a close collaboration between faculty members and students developing new theoretical insights, those performing empirical research, and those who are interested in framing public policy. Most MIT faculty members who work in economic theory also have serious research and teaching interests in one or more applied fields.

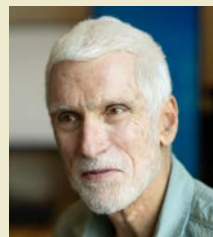MIT theorists carry out research on an extraordinary range of subjects with relevance for both micro and macroeconomics. Glenn Ellison is known for his work on learning in games and theoretical industrial organization. Drew Fudenberg, who helped shape the field of game theory, has recent work on repeated games, decision theory, and evolution and learning. Stephen Morris' work spans topics in pure and applied theory, including global games, robust mechanism design, and macroeconomics. Parag Pathak studies the economics of matching in contexts including medical markets and public-school choice. Drazen Prelec specializes in research and teaching on psychology and economics. Alex Wolitzky does work on repeated games, bargaining, and applications to political economy. Muhamet Yildiz is an expert on games of incomplete information and is known for his work on delays and breakdowns in bargaining. Ian Ball, a recent PhD who

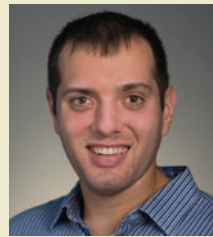Ian Ball

Glenn Ellison

Drew Fudenberg

Stephen Morris

Parag Pathak

Drazen Prelec

Alexander Wolitzky

Muhamet Yildiz

works on information design and the role of information in markets, joined the department in fall 2021.

Beyond this core group, Robert Townsend has made fundamental contributions to contract theory and currently works in mechanism design and general equilibrium modeling, and Michael Winston is a leader in contract theory and antitrust economics; both also teach courses in economic theory. Other MIT theorists include Daron Acemoglu, George-Marios Angeletos, Abhijit Banerjee, Ricardo Caballero, Arnaud Costinot, Robert Gibbons, and Iván Werning. In addition, many MIT Sloan faculty members, including Alessandro Bonatti and Gonzalo Cisternas, have significant interests in economic theory.

The MIT Economics Department is fortunate to have an ongoing visiting faculty arrangement with Nobel Prize winner Jean Tirole, an internationally acclaimed scholar who has worked in game theory, industrial organization, and regulation, is a long-term visiting faculty member. He regularly teaches a popular graduate-level summer course on specialized topics in economic theory.

Economic theory is part of the department's basic undergraduate microeconomics sequence. The coursework is exceptionally rigorous given MIT students' good command of mathematical methods, and MIT's introductory theory course is taught at what would be an intermediate level in

most other programs. This advanced starting point enables students to move on to more sophisticated theory courses during their undergraduate studies. The department offers a wide range of intermediate and advanced undergraduate courses on topics ranging from incentives, advanced game theory, market design, and the economics of networks. Many former students report that these courses provided a firm foundation for their graduate work in economics.

The department's first-year PhD program includes four half-semester core theory courses that, together, provide a comprehensive introduction to modern microeconomic theory. Graduate students who plan to specialize in economic theory select a minimum of two advanced courses on game theory, contract theory, and market design. Other courses cover recent advances within some specialized topics such as bargaining theory, learning, networks, or decision theory.

Macroeconomics

Macroeconomics studies the forces that shape economic activity and welfare at the aggregate level, with topics that include economic growth, business cycles, financial crises, and related policy questions, such as fiscal and monetary policy.

Macroeconomics is a diverse field that overlaps intellectually with other core fields, in both questions and methods. Empirical research in macroeconomics draws not only from econometrics but also from empirical work in labor economics and public finance, and from microeconomic theory, game theory, and contract theory. Students who plan to carry out research in macroeconomics and international economics often find that course work in economic theory is invaluable in identifying research topics and in providing analytical tools for potential dissertation research. Conversely, students interested in theoretical work are often motivated by the type of questions that are at the center of macroeconomics. There are important synergies between macroeconomics and other fields, especially international economics, both in international trade and international finance, which are emphasized by our program and represented by our faculty.

The Department offers three undergraduate macroeconomics courses, as well as a year-long graduate macro core and two graduate macro field courses. The undergraduate courses range from the introductory level to advanced seminars in which students assess and participate in current research. The advanced undergraduate macroeconomics course at MIT is comparable to the graduate offerings at many economics departments.

All PhD students complete the graduate macroeconomics core, while advanced field courses cover leading-edge research and prepare students to write dissertations in macroeconomics.

Many faculty members participate actively in macroeconomic research, teaching, advising, student research workshops and seminars. Daron Acemoglu carries out theoretical and empirical research on the determinants of economic growth, the development of political institutions, and the workings of labor markets. Marios Angeletos studies the formation of expectations and the potential of coordination failures within the context of business cycles and financial crises. Martin Beraja works on business cycles, with a focus on empirical identification and estimation using regional data. Rica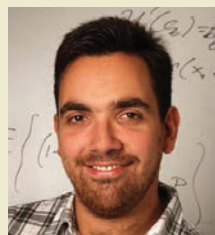rdo Caballero explores issues at the intersection of macroeconomics and finance, recently focusing on asset market crises and global capital flows. Robert Townsend works on the design of financial contracts, institutions and markets and monetary economics. Iván Werning's work spans a range of policy issues in macro and public finance, including monetary, fiscal, and macroprudential stabilization policies, unemployment insurance, and capital taxation. Christian Wolf, who joined the department in 2021, works on new econometric methods to recover the general equilibrium effects of a variety of macroeconomic shocks, otherwise missed in standard econometric procedures that rely on microeconomic data.

In addition to this core group, a number of other faculty members in the department and the MIT Sloan school participate in the broader macro community. Arnaud Costinot is a trade economist studying the welfare gains from trade and optimal trade policy. Stephen Morris is a theorist working on how coordination, uncertainty and policy communication influence the macroeconomy. Jonathan Parker has an empirical focus on household behavior. Kristin Forbes and Roberto Rigobon work on international macro. Many members of the Finance group at Sloan routinely attend macro events and interact with students, including Maryam Farboodi, Daniel Greenwald, Leonid Kogan, Eben Lazarus, Andrew Lo, Deborah Lucas, Lawrence Schmidt, and Antoinette Schoar.

Daron Acemoglu

George-Marios Angeletos

Martin Beraja

Ricardo Caballero

Iván Werning

Christian Wolf

International Economics

International economics studies the flows of goods, capital and people between locations and the implications that these flows have for economic activity and policy. It has a long and distinguished tradition at MIT from the foundational work of Paul Samuelson in international trade to Rudi Dornbusch's influential research in international macroeconomics and Paul Krugman's path-breaking work in economic geography.

Today, international economics is a vibrant field that overlaps with many other areas such as development, labor, macroeconomics, and environmental economics. It is also the center of the Department's research and teaching on other dimensions of spatial and geographical economics – encompassing phenomena such as urbanization and regional inequality, migration, intra-national trade, place-based policy, industrial policy and transportation. David Atkin works on core empirical questions at the intersection of international trade and development. His recent research analyzes the effects of trade liberalization on nutrition, human capital investment, and firm productivity. Arnaud Costinot focuses on theoretical issues in international economics, including the central determinants of trade patterns between nations, the welfare gains from trade, and optimal trade policy. Dave Donaldson's research spans the fields of international trade, economic history, and development. He has made fundamental contributions to the empirical analysis of within-country market integration and comparative advantage.

In addition to this core group, many faculty members in the department share an interest in international economics. In recent work, Daron Acemoglu and David Autor analyze the impact of China's rise as a manufacturing exporter on employment in U.S. labor markets; Clare Balboni studies the consequences of climate change for trade, migration, and infrastructure investments; Abhijit Banerjee is exploring the relationship between trade liberalization and financial frictions; Martin Beraja investigates the implications of regional heterogeneity for the macro economy; Ricardo Caballero focuses on capital flows and global liquidity; Rob Townsend investigates the determinants of trade and capital flows between Thai villages; and Iván Werning studies fiscal and currency unions, sovereign debt, and trade policy. A number of MIT Sloan faculty, including

Kristin Forbes and Roberto Rigobon, interact with Department students and faculty in International Economics.

The department offers one undergraduate and two graduate courses in international economics. The undergraduate course emphasizes how to use formal economic modeling to understand past and current events in the world economy. The two graduate courses cover traditional and modern theories of international trade, economic geography, and finance, incorporating both theory and empirical work. The department also regularly hosts joint seminars with Harvard as well as informal international "tea" gatherings where students can present or discuss preliminary research in international economics and other related areas.

David Atkin

Arnaud Costinot

Dave Donaldson

Development Economics

Abhijit Banerjee

Esther Duflo

Benjamin Olken

Frank Schilbach

Robert Townsend

Underdevelopment is one of the most profound problems in economics, and it may be the problem with the greatest human impact. At MIT the study of development economics has a long tradition, beginning during Paul Rosenstein-Rodan's tenure, continuing through the work of Richard Eckaus, and today represented by an impressive development economics group with expertise that spans both microeconomic and macroeconomic perspectives on development. The transformation of development economics using randomized field experiments began at MIT in the late 1990s. This field-changing development was recognized by the 2019 Nobel Prize.

The current development economics faculty is the strongest in the world. Abhijit Banerjee is both an applied theorist and an empirical economist, with a strong commitment to studying problems in development economics. He is currently working on issues involving credit, networks, education and political economy. Esther Duflo is primarily interested in empirical issues that arise in the study of poverty alleviation, ranging widely across all topics in development, including education, livelihood programs, delivery of public goods, microfinance, and health. Benjamin Olken is an expert on public sector operations in developing countries, focusing on the challenges that governance raises for development policy, how to design effective anti-poverty strategies, and how developing countries can raise the tax revenue to pay for them. All three are pioneers in the use of randomized controlled trials in testing and designing policy, and they co-direct MIT's Abdul Latif Jameel Poverty Action Lab, which helps lead this type

of research worldwide. Frank Schilbach works on behavioral economics and development to investigate how behavioral limitations interact with poverty and potentially contribute to its persistence. Robert Townsend is an economic theorist with substantial interests in financial issues and the role they play in driving development, studying these issues using longitudinal data from Thailand he has collected for almost two decades.

Several faculty members work at the intersection of development economics and related fields. Dave Donaldson and David Atkin work at the intersection of trade and economic development. Dave Donaldson, for example, has used the expansion of railroads in India to estimate the gains from greater economic integration, and David Atkin has explored questions like whether the poorest locations within poor countries benefit more or less from international trade than others and how trade has affected educational attainment. Clare Balboni works at the intersection of environmental economics, development economics, and trade, seeking to

understand, for example, how climate change should affect infrastructure choices and how governments can prevent farmers from using fires to clear land. Daron Acemoglu works on a broad set of issues involving economic growth and the political economy of institutions and development. Joshua Angrist has studied education policy in a number of developing nations.

The Department offers a three-semester graduate course in development economics, as well as three popular undergraduate courses on economic development and the Masters and online MicroMasters in Data, Economics, and Development Policy. The Department also hosts a joint seminar with Harvard that attracts faculty interested in development economics from both institutions.

Many alumni of the department work at international organizations, such as the World Bank and the International Monetary Fund, where they help design and implement economic policies for developing nations.

Econometrics

Econometrics research and teaching at MIT blend the theory and practice of economic data analysis. Econometrics provides fundamental approaches to using data to understand underlying structural and causal relationships and finds application in a wide range of topics in both microeconomics and macroeconomics.

Alberto Abadie's research interests span econometric methodology and applied econometrics, with special emphasis on causal inference and program evaluation methods. His research has contributed fundamental advances to a variety of topics, including treatment effect models, instrumental variable estimation, matching estimators, design-based inference, and synthetic controls.

Josh Angrist, who was honored with the 2021 Nobel Memorial Prize in Economics for his econometric analysis, has made path-breaking econometric contributions in the economics of education and labor economics. His work has formalized and made practically relevant the logical and statistical foundations of causal inference—that is, the science and philosophy of drawing cause and effect relationships from experimental and non-experimental data. Josh's research philosophy is encapsulated in his widely admired book, *Mostly Harmless Econometrics*.

Victor Chernozhukov is a leading econometric theorist. His research work focuses on causal inference with high-dimensional data, applications of machine learning methods, counterfactual and policy analysis, distribution and quantile methods, shape restrictions, partial identification, and extreme value theory.

Emeritus professor Jerry Hausman has contributed many of the cornerstone results of econometrics. He has long-standing interests in specification testing, panel data, estimating the effect of taxes, discrete choice, and demand analysis. His ongoing work includes demand analysis with many prices, quantile regression with measurement error, and panel data with varying coefficients.

Anna Mikusheva is a world authority on time series and weak identification, with recent work concerning conditional inference in GMM and inference with many weak instruments. She has worked on the problems of statistical inference when time series are nearly nonstationary and weak identification in empirical macroeconomic models.

Whitney Newey has contributed fundamental advances to econometric methods for decades. He has worked on semiparametric estimation, nonparametric instrumental variables, empirical likelihood, nonlinear panel data, and constructing standard errors. His recent interests include heterogeneous choice, shape restrictions, and debiased machine learning.
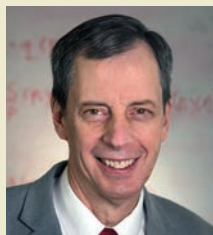

Alberto Abadie

Victor Chernozhukov

Anna Mikusheva

Whitney Newey

Industrial Organization and Regulation

The field of industrial organization and regulation analyzes the strategic behavior of firms, the effect of government policy, and more generally, the structure, behavior, and performance of markets. MIT Economics regularly offers undergraduate courses in industrial organization, e-commerce, health economics, and energy economics. The main PhD field sequence in industrial organization comprises three semester-long courses that develop theoretical and empirical approaches to the classic questions in industrial organization during the first two semesters, and focuses on hands-on experience with structural econometric methods in the third semester. The methods course is strongly recommended for students writing dissertations in industrial organization and is also very popular among graduate students in related fields. Current research papers by local and outside researchers are presented in the Industrial Organization Workshop, which meets jointly with the Harvard Industrial Organization Workshop several times each year. In addition, there is a weekly lunch at which graduate students present their work-in-progress to faculty and fellow graduate students.

The department has a strong and vibrant research presence in industrial organization. Nikhil Agarwal brings skills in economic theory and econometrics to bear on a variety of problems, particularly those involving market design and two-sided markets. His work has made important practical contributions to the design and implementation of both organ donor and school matching programs. Glenn Ellison's research spans a broad range of theoretical and empirical analyses across the field of industrial organization. His

Nikhil Agarwal

Sara Fisher Ellison

Nancy Rose

Tobias Salz

Michael Whinston

recent work includes analyses of the implications of consumer deviations from neoclassical optimizing behavior for firms and markets, the design and performance of various online markets, and the efficacy of affirmative action policies. Sara Fisher Ellison's research is wide-ranging but has focused particularly on the digital economy and the economics of the pharmaceutical industry. She also has an award-winning and popular online course on data analysis. Nancy Rose is an expert in the economics of regulation who studies the effects of regulation and market competition on performance in a range of energy and transportation markets. Her current research targets questions in competition policy, building on previous service at the Antitrust Division of the Department of Justice. Tobias Salz studies the role of intermediaries in markets with imperfect information and costly search by consumers. He has applied his ideas to settings as diverse as ride-hailing platforms, waste collection, and auto loans. Michael Whinston has made significant contributions to contract theory, organizational economics, and industrial organization, with current research including work on health insurance markets and incentive provision in health care. He has also

authored well-known graduate and undergraduate micro theory texts.

In addition to these core faculty, a number of associated faculty enrich the experience of students working in industrial organization. Nobel laureate Jean Tirole, who has a longstanding visiting arrangement with MIT Economics, often guest lectures in the department's graduate industrial organization courses. MIT Sloan faculty members Christopher Knittel and Jing Li teach department courses on energy markets and environmental sustainability. Mert Demirer, who recently joined the Sloan faculty, studies productivity and bargaining. All three are frequent and active contributors to the industrial organization workshop and field lunch. We are also fortunate to have several active emeritus professors in industrial organization and related fields, including emeritus professor Paul Joskow, who returned to the department after a decade as President of the Alfred P. Sloan Foundation, Sloan faculty member Robert Pindyck, and Sloan Applied Economics emeritus faculty members Richard Schmalensee and Ernst Berndt.

Labor Economics

Labor economics studies the forces that determine wages and employment. The MIT undergraduate labor economics course provides an overview of supply and demand in the labor market, human capital, and the distribution of income and wages. This course emphasizes the power of microeconomic reasoning and robust econometric tools to answer central economic questions. Graduate students in labor economics take a two-semester course on frontier empirical and theoretical labor economics, as well as more advanced courses on labor topics and on the econometric methods that are of special interest to labor economists.

A distinguished group of MIT faculty specializes in labor economics. Daron Acemoglu has addressed core theoretical labor questions, including the effects of training, the design of optimal unemployment insurance, and the links between skill, technology, and the wage structure. Nobel laureate Joshua Angrist, a leader of the credibility revolution that has reshaped empirical practice over the last two decades, focuses his current research on econometric methods for program and policy evaluation and the effects of schools on human capital and earnings. David Autor's research has focused on the labor market consequences of rising import competition from China, the impact of technological change on

income distribution and the demand for skills, and the role of the Social Security Disability Insurance program in masking chronically high unemployment among less-educated workers. Simon Jäger focuses on understanding the role of firms, institutional arrangements, and labor market frictions in shaping wages and employment. Parag Pathak, who was awarded the John Bates Clark Medal in 2018, uses economic theory to design school choice mechanisms, developing sophisticated econometric strategies that leverage the quasi-experimental variation embedded in modern school assignment schemes for policy evaluation.

Many other colleagues are interested in labor topics and interact regularly with the core labor team. Public finance economists Amy Finkelstein and Jonathan Gruber study the impact of health insurance, disability programs, and other government policies on labor markets, while development economists Abhijit Banerjee, Esther Duflo, and Frank Schilbach study labor markets in developing countries. Econometricians Alberto Abadie, Victor Chernozhukov, Anna Mikusheva, and Whitney Newey teach and advise labor students, keeping them on the econometric frontier.

Joshua Angrist

David Autor

Simon Jäger

Environmental Economics

Clare Balboni

Environmental economics investigates the interaction between economic forces and the environment. This includes study of how economic incentives and policies affect the environment, as well as the impact of environmental degradation and climate change on health, well-being, and productivity. The department regularly offers both undergraduate and graduate courses in environmental economics. Along with MIT Sloan, the department also co-hosts a seminar series in environmental and energy economics, and a weekly tea for graduate students interested in environmental and energy research.

Clare Balboni's primary research interest is environmental economics. Her innovative work on global warming has brought a broad perspective to the topic. This includes adapting empirical techniques from the field of international trade to provide insight into the potential effects of sea level rise on infrastructure investments in Vietnam, and exploring the political economy of Indonesian forest fires. The field of environmental economics overlaps with several others. Ben Olken's work in development economics includes work on deforestation and the impact of climate shocks on developing economies. Paul Joskow's vast body of work on electricity generation includes

Public Economics

Amy Finkelstein

Jonathan Gruber

Jim Poterba

work on conservation, nuclear, and renewable energy as well as studies of environmental regulations. Joskow organized MIT's 2019-2020 series of climate symposia.

The economics department also benefits from a broad MIT environmental community. MIT Sloan faculty with interests in environmental economics include Namrata Kala, Chris Knittel, Jing Li, Jacquelyn Pless, and emeritus professors Jake Jacoby and Richard Schmalensee. The Center for Energy and Environmental Policy Research supports research in energy and environmental economics. Affiliates in our department include Clare Balboni, Paul Joskow, Nancy Rose, and Jim Poterba. The MIT Energy Initiative brings together social scientists and engineers.

Public economics explores the economic effects of government tax and expenditure policies, as well as the optimal design of these policies. The field studies questions such as the impact of income taxation on the behavior of individuals and firms, the rationale for and impact of social insurance programs such as Social Security, Medicare, Medicaid, unemployment insurance, and food stamps, as well as the effects of direct government spending programs in areas such as education, defense, infrastructure, and healthcare.

Undergraduate offerings include an introductory course in public economics as well as a course in environmental economics. Graduate students enroll in a two-semester public economics sequence that covers core material on taxation and social insurance programs.

Seven faculty members have substantial research programs in public economics. Amy Finkelstein works on market failures in insurance markets and government intervention in health care markets. Jonathan Gruber studies a range of government-provided social insurance

programs, also with a focus on health issues. Simon Jäger analyzes the labor market consequences of social insurance programs. Jim Poterba specializes in the economics of tax policy, with a focus on policies that affect retirement security. Benjamin Olken studies taxation and welfare systems in developing countries. Iván Werning works on optimal tax and social insurance design, including the taxation of high-income households, capital and estate taxation, and unemployment insurance. Two emeritus professors are also actively engaged; Peter Diamond continues a research program on public pensions, and William Wheaton studies housing markets and state and local taxation.

Organizational Economics

Robert Gibbons

Organizational economics (OE) studies the design and performance of organizations. These organizations include not just firms but also schools, hospitals, government agencies, and more; and there is substantial heterogeneity in the productivity of these organizations even when they operate in apparently similar environments.

This heterogeneity is evident from large-scale datasets in all countries and industries. As a result, there may be opportunities to improve economic welfare and growth by understanding the drivers of performance in organizations. For example, the intense recent interest in the performance of the healthcare sector focuses on (a) how healthcare organizations should be organized and (b) how low performers can improve. Other fields of economics— including development, education, IO, labor, macro, political economy, and trade—have also begun to explore organizational issues, including the sources and consequences of this performance heterogeneity.

The discussion above illustrates the "within firms" part of OE. Classic topics include: employment in organizations (such as pay for performance, skill development, job assignment); structures and processes in organizations (decentralization, resource allocation, transfer pricing); and decision-making in organizations (power, politics, influence).

In addition, there is also a "between firms" part of OE. One of the classic questions is the "make or buy" problem of vertical integration: where should the boundary of the firm be? Other "between" topics include lateral integration (conglomerates, related diversification), contracts between firms (whether court- or self-enforced), and "hybrid" organizational forms (such as alliances and joint ventures).

Within-firm topics are also studied in labor economics (employment) and corporate finance (resource allocation, transfer pricing), and between-firm topics are also studied in industrial organization (vertical integration) and law and economics (contracts between firms). Similarly, many of these topics are studied by other social sciences (social psychology, economic sociology, and political economy) and by some management fields (corporate strategy, marketing, and operations).

In recent years, the doctoral courses in OE (14.282-4) have been taught by Robert Gibbons, Michael Whinston, and others. In 2021-22, Gibbons will co-teach the fall course (282) with Charles Angelucci (MIT Sloan). Whinston and Juan Ortner (visiting from BU) will then teach the first half of the spring (283: advanced topics in OE) and Angelucci the second half (284: OE meets political economy), and Ortner will teach the undergrad course (14.26) in the spring.

Many other Economics Department faculty have interests that intersect with OE including: Daron Acemoglu, David Atkin, David Autor, Abhijit Banerjee, Arnaud Costinot, Dave Donaldson, Esther Duflo, Glenn Ellison, Amy Finkelstein, Drew Fudenberg, Jon Gruber, Simon Jäger, Stephen Morris, Ben Olken, Parag Pathak, Drazen Prelec, Nancy Rose, Rob Townsend, and Alex Wolitzky.

Political Economy

Political economy is the subfield of economics that studies the interplay of political factors, political institutions, and economic incentives. It focuses both on the determination of a broad range of policies and the implications of political factors on economic outcomes. Daron Acemoglu studies the theoretical and empirical links between institutions and economic growth and development as well as the dynamics of political institutions, the interplay between conflict and cooperation, and the role of state capacity. Abhijit Banerjee works on issues at the intersection of political economy and economic development. Benjamin Olken studies the role of political leaders in affecting policy outcomes and economic growth and the implications of corruption in developing economies. Daron Acemoglu, Abhijit Banerjee, and Benjamin Olken offer a graduate course on the political economy of institutions and development. The department also offers a second graduate course on theoretical and empirical approaches to political economy. Other faculty working on political economy issues include Esther Duflo, who has worked on the effect of village-level political institutions on women's representation, Alex Wolitzky, who has examined conflict, repression, coercion and foundations of societal cooperation, and Stephen Morris, who has written on the theory of policy-making and political inefficiencies. Simon Johnson, a member of the MIT Sloan faculty, works on the links between political institutions and economic development. Graduate students interested in political economy can also enroll in a number of other courses that are offered by the Political Science Department.

Health Economics

Healthcare is a rapidly growing sector of the economy, and health economics is a rapidly growing area of research interest. The continued growth in health care costs, and the availability of high-quality data, have prompted a large number of students to carry out research in health economics. This work takes on special interest in the era of COVID-19. Their work is supported by a large faculty group with strong interests in health economics. Nikhil Agarwal works on matching in medical markets both for medical students and human organs. Abhijit Banerjee, Esther Duflo, and Frank Schilbach conduct field experiments to understand the impact of health interventions in developing nations. Amy Finkelstein studies the economics of healthcare delivery, the effects of health insurance on health, the willingness of individuals to pay for health insurance, and the efficacy of interventions to contain expenditure by healthcare "super-utlilizers", among other topics. Jonathan Gruber studies public policy towards health insurance in a variety of contexts, such as tax subsidies to employer sponsored insurance, expansions of Medicaid, and the use of choice-based exchanges to promote insurance coverage. Parag Pathak is developing models of matching resources to needs during the COVID epidemic. The Economics Department offers an undergraduate course in health economics.

Financial Economics

The program in financial economics draws on faculty members and resources in both the Economics Department and the Finance Group at MIT Sloan. Several MIT economics faculty have substantial interests in finance. This tradition dates back at least to Paul Samuelson's work on the pricing of warrants and options in the 1960s, and his supervision of Robert Merton's PhD thesis. Merton was the 1997 Nobel laureate and is a current faculty member in the Sloan finance group. It continues to this day with five economics faculty serving as affiliated faculty members in the Sloan finance group: Daron Acemoglu, Bengt Holmström, Parag Pathak, Jim Poterba, and Iván Werning.

The finance group in the Sloan School is widely regarded as one of the premier departments in the world. In addition to 14 senior faculty covering all aspects of modern finance, six talented and energetic junior faculty and a constant flow of eminent visiting scholars bring new perspectives to the area. The rich interaction between the two groups

Hui Chen

Maryam Farboodi

Daniel Greenwald

Leonid Kogan

Jonathan Parker

Lawrence Schmidt

Antoinette Schoar

David Thesmar

leads to a large set of undergraduate and graduate courses and a vibrant research community in financial economics.

Undergraduate economics majors can enroll in MIT Sloan's introductory finance course for master's students, and there are five doctoral courses in financial economics, all jointly offered between Economics and Sloan. The financial economics sequence begins with Asset Pricing (taught by Leonid Kogan and Lawrence Schmidt) in the fall, which covers the basic principles of portfolio choice, asset pricing, options, the economics of uncertainty, and information and efficient markets. The sequence goes on with Corporate Finance (taught by David Thesmar and Antoinette Schoar) in the spring. The course exposes students to the basic theoretical and empirical contributions and the key methodological tools in modern corporate finance. Students can also choose to enroll in one or more of three advanced courses. Advanced Asset Pricing (14.441), taught by Daniel Greenwald, Eben Lazarus and Debbie Lucas focuses on the solution, evaluation, and estimation of theories of asset prices and financial markets and the macro- and micro-economic foundations; Advanced Corporate Finance (14.442), taught by Antoinette Schoar, Maryam Farboodi, and

Christopher Palmer builds on the first corporate finance course; and Current Topics in Finance (14.448, taught by a rotating set of faculty) covers advanced research in a variety of areas within finance. In addition, Ricardo Caballero teaches the canonical macroeconomic models of financial frictions and crises (14.454). To develop the collaboration between the Economics and Finance departments further, the MIT Sloan School provides a year of financing for two economics PhD students every year.

The economics and finance faculty nurture a collegial atmosphere for graduate study, with many informal seminars and workshops. Each Tuesday, junior faculty from both departments hold a joint Economics-Finance Reading Group focused on macro-finance. Each Wednesday, the faculty and students gather for a finance research seminar where they listen to invited outside speakers or students. Each Thursday, PhD students with interests in finance, from both departments, present their work in front of their peers and faculty. All these meetings provide a great opportunity for students to learn about current frontier research and make MIT a world center for research in financial economics.

Members of MIT Economics faculty in fall 2021. *Photo: Bryce Vickmark*

Faculty

Alberto Abadie
PhD, MIT
Professor of Economics

K. Daron Acemoglu
PhD, London School of Economics
Institute Professor

Nikhil Agarwal
PhD, Harvard
Associate Professor of Economics

George-Marios Angeletos
PhD, Harvard
Professor of Economics

Joshua Angrist
PhD, Princeton;
MacVicar Faculty Fellow
Ford Professor of Economics

David Atkin
PhD, Princeton
Professor of Economics

David Autor
PhD, Harvard;
MacVicar Faculty Fellow
Ford Professor of Economics

Clare Balboni
PhD, London School of Economics
3M Career Development Assistant
Professor of Environmental Economics

Ian Ball
PhD, Yale University
Assistant Professor of Economics

Abhijit Banerjee
PhD, Harvard
Ford International Professor of
Economics

Martin Beraja
PhD, University of Chicago
Pentti Kouri Career Development
Assistant Professor of Economics

Ricardo Caballero
PhD, MIT
Ford International Professor of
Economics

Victor Chernozhukov
PhD, Stanford
Ford International Professor of
Economics

Arnaud Costinot
PhD, Princeton
Professor of Economics
Associate Department Head

Dave Donaldson
PhD, London School of Economics
Professor of Economics

Esther Duflo
PhD, MIT
Abdul Latif Jameel Professor of Poverty
Alleviation and Development Economics

Glenn Ellison
PhD, MIT
Gregory K. Palm (1970) Professor of
Economics
Department Head

Sara Fisher Ellison
PhD, MIT
Senior Lecturer in Economics

Amy Finkelstein
PhD, MIT
John & Jennie S. MacDonald Professor of
Economics

Drew Fudenberg
PhD, MIT
Paul A. Samuelson Professor of
Economics

Robert Gibbons
PhD, Stanford
Sloan Distinguished Professor of
Management and Economics

Jonathan Gruber
PhD, Harvard
Ford Professor of Economics

Simon Jäger
PhD, Harvard
Silverman (1968) Family Career
Development Assistant Professor of
Economics

Anna Mikusheva
PhD, Harvard
Associate Professor of Economics

Stephen Morris
PhD, Yale
Peter A. Diamond Professor of
Economics

Whitney Newey
PhD, MIT
Ford Professor of Economics

Benjamin Olken
PhD, Harvard
Jane Berkowitz Carlton and Dennis
William Carlton Professor of Economics

Parag Pathak
PhD, Harvard
Class of 1922 Professor of Economics

James M. Poterba
D. Phil., Oxford
Mitsui Professor of Economics

Drazen Prelec
PhD, Harvard
Digital Equipment Corporation Leaders
for Global Operations Professor of
Management
Professor of Marketing and Management
Science, Brain and Cognitive Sciences,
and Economics

Nancy L. Rose
PhD, MIT
MacVicar Faculty Fellow,
Charles P. Kindleberger Professor of
Applied Economics

Tobias Salz
PhD, New York University
Castle Krob Career Development
Assistant Professor of Economics

Frank Schilbach
PhD, Harvard
Gary Loveman Career Development
Associate Professor of Economics

Robert Townsend
PhD, Minnesota
Elizabeth and James Killian (1926)
Professor of Economics

Iván Werning
PhD, Chicago
Robert M. Solow Professor of Economics

Michael D. Whinston
PhD, MIT
Sloan Fellows Professor of Management
Professor of Economics

Christian Wolf
PhD, Princeton University
Assistant Professor of Economics

Alexander Wolitzky
PhD, MIT
Professor of Economics

Muhamet Yildiz
PhD, Stanford
Professor of Economics

Affiliated Faculty

Jean Tirole
PhD, MIT
Visiting Professor of Economics

Associated Teaching Faculty

Suzanne Berger, PhD, Harvard;
Institute Professor
MIT Department of Political Science.

Hui Chen, PhD, University of
Chicago, Graduate School of Business;
Associate Professor of Finance,
MIT Sloan School of Management.

Daniel Greenwald, PhD,
New York University;
Judy C. Lewent (1972) and
Mark Shapiro Career Development
Assistant Professor of Finance,
MIT Sloan School of Management.

Valerie Karplus, PhD MIT;
Assistant Professor of Global
Economics and Management,
MIT Sloan School of Management.

Christopher Knittel, PhD,
University of California, Berkeley;
George P. Shultz Professor
of Applied Economics,
MIT Sloan School of Management.

Leonid Kogan, PhD, MIT;
Nippon Telegraph and Telephone
Professor of Management,
MIT Sloan School of Management.

Eben Lazarus, PhD, Harvard;
Assistant Professor of Finance,
MIT Sloan School of Management.

Andrey Malenko, PhD,
Stanford Graduate School of Business;
Jon D. Gruber Career Development
Associate Professor of Finance,
MIT Sloan School of Management.

Anne McCants, PhD,
University of California, Berkeley;
MacVicar Faculty Fellow,
Professor of History,
MIT Department of History.

Christopher Palmer, PhD, MIT;
Albert and Jeanne Clear
Career Development
Assistant Professor of Finance,
MIT Sloan School of Management.

Jonathan Parker, PhD, MIT;
Robert C. Merton (1970)
Professor of Finance,
MIT Sloan School of Management.

Lawrence Schmidt, PhD,
University of California, San Diego;
Victor J. Menezes (1972) Career
Development
Assistant Professor of Finance,
MIT Sloan School of Management.

Antoinette Schoar, PhD, Chicago;
Michael M. Koerner (1949) Professor
of Finance and Entrepreneurship,
MIT Sloan School of Management.

Devavrat Shah, PhD, Stanford;
Professor, MIT Department of Electrical
Engineering and Computer Science.
Director, Statistics and Data
Science Center.

David Thesmar, PhD,
Paris School of Economics;
Franco Modigliani Professor of Financial
Economics,
MIT Sloan School of Management.

Adrien Verdelhan, PhD, Chicago;
Associate Professor of Finance,
MIT Sloan School of Management.

Jiang Wang, PhD, University of
Pennsylvania, Wharton School;
Mizuho Financial Group
Professor of Finance,
MIT Sloan School of Management.

Professors Emeriti

Olivier J. Blanchard
PhD, MIT
Robert M. Solow Professor of
Economics, Emeritus

Peter A. Diamond
PhD, MIT
Institute Professor and Professor of
Economics, Emeritus

Richard S. Eckaus
PhD, MIT
Ford International Professor of
Economics, Emeritus

Stanley Fischer
PhD, MIT
Professor of Economics, Emeritus

Jeffrey E. Harris
MD, PhD, Pennsylvania
Professor of Economics, Emeritus

Jerry A. Hausman
D. Phil., Oxford
John and Jennie S. MacDonald Professor
of Economics, Emeritus

Bengt R. Holmström
PhD, Stanford
Paul A. Samuelson Professor of
Economics, Emeritus

Paul L. Joskow
PhD, Yale
Elizabeth and James Killian Professor of
Economics and Management, Emeritus

Michael J. Piore
PhD, Harvard
David W. Skinner Professor of Political
Economy, Emeritus

Richard L. Schmalensee
PhD, MIT
Howard W. Johnson Professor of
Economics and Management, Emeritus
Dean Emeritus

Robert M. Solow
PhD, Harvard
Institute Professor and Professor of
Economics, Emeritus

Peter Temin
PhD, MIT
Elisha Gray II Professor of Economics,
Emeritus

William C. Wheaton
PhD, Pennsylvania
Professor of Economics and Urban
Studies, Emeritus

Visiting Committee

The members of the MIT Economics Department Visiting Committee as of fall 2021 are listed below.

Chair

Mr. Roger C. Altman
Founder and Senior Chairman
Evercore

Members

Mr. Frank Ahimaz
'95 AA

Mr. Armen A. Avanessians
'82 EE
Managing Director
Goldman Sachs & Company

Dr. Ben S. Bernanke
EC '79
Distinguished Fellow in Residence
The Brookings Institution

Mr. Denis A. Bovin
'69 MG
Senior Advisor
Evercore

Mr. John K. Castle
'63 EC
Chairman and Chief Executive Officer
Castle Harlan, Inc.

Dr. Morris Chang
'52 ME, ME '53, '55
Founder and Chairman, Retired
Taiwan Semiconductor Manufacturing
Company, Ltd.

Professor Susan M. Collins
EC '84
Provost and Executive Vice President for
Academic Affairs
Edward M. Gramlich Collegiate Professor
of Public Policy
Professor of Economics
University of Michigan

Professor Janice Eberly
EC '91
James R. and Helen D. Russell Professor
of Finance
Northwestern University

Dr. Mohamed A. El-Erian
Chief Economic Advisor
Allianz Group
President of Queens' College
University of Cambridge

Ms. Orit Gadiesh
Chairperson
Bain & Company, Inc.

Dr. Bennett W. Golub
'78 MG, SM '82, MG '84
Chief Risk Officer
BlackRock, Inc

Dr. Peter B. Henry
EC '97
Dean Emeritus
William R. Berkley Professor of
Economics and Finance
Leonard N. Stern School of Business,
New York University

Ms. Maria S. Jelescu
'02 EC, '02 GM
Chief Executive Officer
Ardinall Investment Management

Ms. Abigail P. Johnson
Chief Executive Officer
Fidelity Investments

Mr. Alan M. Leventhal
Chairman and Chief Executive Officer
Beacon Capital Partners

Ms. Judy C. Lewent
GM '72
Executive Vice President & CFO, Retired
Merck & Co., Inc.

Dr. Shan Li
EC '94
Chief Executive Officer
Silk Road Finance Corporation

Mr. Kurt A. Locher
'89 EE, SM '89
Chief Operating Officer and Partner
One William Street Capital Management

Professor Brigitte Madrian
EC '93
Dean and Marriott Distinguished
Professor
Department of Finance
George W. Romney Institute of Public
Service and Ethics
Marriott School of Business, Brigham
Young University

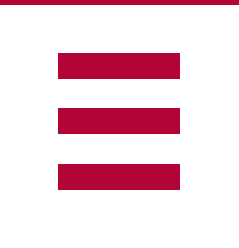**Ms. Sarah Melvin**
'18 PH, '18 PO
Strategy Consultant
Accenture

Dr. Carl Shapiro
Professor of the Graduate School
Walter A. Haas School of Business
Department of Economics
University of California, Berkeley

Mr. Alexander H. Shing
'03 EC
Chief Executive Officer
Cottonwood Management, LLC

Mr. Jeffrey L. Silverman
'68 MG
Chairman, Co-Founder, and Managing
Director
Agman Partners

Ms. Theresa M. Stone
GM '76
Executive Vice President and Treasurer,
Retired
Massachusetts Institute of Technology

Dr. Hal R. Varian
'69 EC
Chief Economist
Google, Inc.

MIT Economics

great ideas
change the world