

Department of Economics

The MIT Economics Department is committed to preeminence as one of the world's top institutions for economics research and education. The faculty balance substantial commitments to training both undergraduates and doctoral students with active and influential research programs. The department plays a central role as an innovator in economics research and a source of exciting new directions in undergraduate and graduate economics education.

Highlights

MIT faculty continue to advance the leading edge of economic research, garnering widespread accolades and prestigious recognition for their work. The highlight of the AY2018 was the awarding of the American Economic Association's (AEA) John Bates Clark Medal to Parag Pathak, Jane Berkowitz Carlton and Dennis William Carlton Professor of Microeconomics, given each year to the best economist in the nation under age 40. Professor Pathak's groundbreaking work on models of matching markets has not only profoundly influenced economic thought, but has also directly led to improved school choice matching algorithms around the nation. Professor Pathak joins past Clark medalists on the active MIT Economics faculty Daron Acemoglu, Dave Donaldson, Esther Duflo, and Amy Finkelstein.

A selection of the many other honors and awards detailed in this report include: Amy Finkelstein was elected to the National Academy of Sciences; Parag Pathak and Nancy Rose were elected to the American Academy of Arts and Sciences; and Dave Donaldson was elected as a fellow of the Econometric Society. Daron Acemoglu received an honorary doctorate from the École Normale Supérieure Paris-Saclay; David Autor was recognized by Bloomberg as one of the "50 People Who Defined Global Business;" Victor Chernozhukov was awarded the Bessel Prize from the German Humboldt Research Foundation; recent Nobel Prize winner Bengt Holmstrom was awarded the Grand Cross of the Order of the Lion of Finland; Nancy Rose was named the 2018 Distinguished Fellow of the Industrial Organization Society; and Robert Townsend received the Financial Intermediation Research Society (FIRS) Lifetime Achievement Award.

Economics faculty extend their professional impact through leadership at top economics journals and of national and international professional societies. Esther Duflo serves as editor of the *American Economic Review* (AER), the flagship journal for the economics profession; Amy Finkelstein is the inaugural editor of the new AEA journal *AER: Economic Insights*, intended to promote rapid dissemination of shorter papers in economics; and Alexander Wolitzky was invited to serve as foreign editor for the *Review of Economic Studies*, which, with the AER, is one of the top five general interest journals in economics. Drew Fudenberg completed his term as president of the Econometric Society this year; Jonathan Gruber served as president of the American Society of Health Economists; and Robert Townsend was elected president of the Society of the Advancement of Economic Theory. MIT Economics continues to be well-represented in leadership of National Bureau of Economics Research (NBER) programs, headlined by Mitsui Professor of Economics and NBER President James Poterba. David Autor was named co-director of the NBER Labor Studies Program this year, joining MIT colleagues Amy Finkelstein (Public Economics) and Jonathan Gruber (Health Care) as directors of major NBER research programs.

In addition to the pursuit of their individual research agendas, many department faculty members are leading collaborative research initiatives that span a wide range of researchers and research sponsors. Joining the Abdul Latif Jameel Poverty Action Lab (J-PAL) and the School Effectiveness and Inequality Initiative (SEII) are a number of new initiatives that focus on the dramatic changes ongoing in labor markets.

Daron Acemoglu, David Autor, and John Van Reenen co-direct a department initiative on Technology and the Future of Labor and David Autor is co-directing both the J-PAL North America Work of the Future effort and the MIT-wide [Work of the Future](#) task force.

The department's commitment to advancing leading-edge research is paired with a focus on enhancing the quality of economics education at MIT and beyond. At the graduate level, the department is committed to offering the best doctoral education in economics available anywhere. To that end, the department embarked on a graduate curriculum review this past year and will continue that process through the coming academic year. We also instituted an important change in our degree program in 2018, partnering with the MIT Institute for Data, Systems, and Society (IDSS) to create a joint PhD degree in economics and statistics. This will enable students to deepen their exposure to the foundational statistics, theory, and empirical methods at the cutting edge of data science—preparing the most technically sophisticated students to advance the theoretical and empirical research frontiers in the use of big data in economic analyses. The department, largely through its faculty and staff affiliated with J-PAL, continues preparation to launch a new blended master's program in data, economics, and development policy, which combines online instruction through MITx with an opportunity for a selected set of students to complete the degree on campus. This program anticipates its first students on campus in 2020.

The department also has built on its investments in transforming undergraduate economics education. The successful collaboration with Course 6 led to the introduction in 2017 of a third undergraduate economics major, 6-14 Computer Science, Economics, and Data Science. Motivation for this was similar to that for the economics and statistics PhD program. Student interest in this new offering has been immediate and strong, with the 36 students in the major in AY18 doubled by the addition of 36 students in the class of 2021 declaring as 6-14 majors. Individual faculty also have made substantial contributions to MIT undergraduate education. Of particular note, Joshua Angrist was involved in the reconsideration of MIT's first-year experience through his service on the Committee on the Undergraduate Program; David Autor was named a MacVicar Faculty Fellow for excellence in undergraduate teaching; and Associate Professor Anna Mishukeva was awarded the Everett Moore Baker Award for Excellence in Undergraduate Teaching in 2018.

The department embraces engagement with the broader MIT community. Educational initiatives include programs such as the Undergraduate Economics Association (UEA) lecture series and our Independent Activities Period (IAP) offerings. An IAP highlight this year was the symposium on the State of the Union, an all-day event featuring panels on topics such as financial market regulation, tax and fiscal policy, and political economy. This event included a wide range of economics faculty, faculty from other departments and universities, and former policy-makers. It was held in Room 26-100 and was widely attended throughout the day.

MIT faculty also strive to improve the access and quality of economics education available to learners well beyond the MIT campus. As noted in earlier reports, department faculty have invested in a set of MITx courses that make MIT-level instruction available to thousands of students online. Economics faculty also recognize that exposure to economics may begin for many students at the high school level, and in courses that are less technically demanding than intro-level classes at MIT. The quality of resources and instruction may be quite uneven across schools for students in these pools. Seizing on the opportunities this provides, Jonathan Gruber has partnered with MITx to develop the online course Advanced Placement Microeconomics.

Personnel

Faculty and Teaching Staff

Nancy Rose assumed the department head position in July 2017, transitioning from Glenn Ellison who spent a sabbatical year at the Paris School of Economics in AY18. David Autor continued service as associate head through June 2018; Jon Gruber replaces Autor for the upcoming academic year. There were 43 Economics faculty members, excluding visitors, in AY18. This number will decrease to 42 for academic year AY2019, reflecting the arrival of one new assistant professor (Tobias Salz in January 2019) and the departure of one untenured and one tenured associate professor at the end of June 2018.

During AY2018, the department promoted Alexander Wolitzky and Isaiah Andrews to the rank of associate professor with tenure. Andrews, after considering offers from Harvard, Princeton, and Yale, chose to accept Harvard, effective July 2018.

Faculty Searches

All search committees are instructed to identify outstanding women and minority candidates for potential faculty appointments. The MIT Economics faculty includes six women: five tenured faculty members (Esther Duflo, Amy Finkelstein, Anna Mikusheva, Nancy Rose, and Heidi Williams) and one senior lecturer (Sara F. Ellison). Unfortunately, with the departure of Isaiah Andrews, the department has lost its only underrepresented minority faculty member.

As part of the regular recruitment process for junior faculty during AY18, the department solicited or received 367 applications. Of those, 154 identified as male, 44 female, and 169 applicants chose not to answer. One applicant identified as American Indian or Alaska Native, 54 as Asian, 101 as white, five as African-American, and 175 chose not to answer. The Economics Department hiring committee, consisting of Professors Daron Acemoglu (chair), Nikhil Agarwal, Drew Fudenberg, Amy Finkelstein, and Ivan Werning, reviewed all applications, paying special attention to women and minority candidates. Of the 367 applicants, 31 (eight men, three women, and 20 chose not to answer) were selected to be interviewed by the faculty in their respective sub-fields at the AEA annual meeting in Philadelphia on January 5-6, 2018. The department invited four candidates from the interview pool and one additional candidate (whom the department had invited for a seminar in February 2016) to the department to present seminars during IAP; these comprised four men and one woman. The faculty voted to extend an offer to Tobias Salz, who received his PhD in Economics

from New York University in 2016 and was an assistant professor at Columbia University for AY18. Professor Salz accepted for a position to begin January 2019.

The department also completed three open-rank searches during AY18. All were voted and approved at the tenured level. A tenured associate professor appointment to the 3M Chair in Environmental Economics was extended to Reed Walker (from University of California, Berkeley), who declined the offer to remain at Berkeley. The outcomes of two other searches are pending. Our search in microtheory, with particular emphasis on the highest area of need in contract theory, culminated in an offer to Professor Stephen Morris (Princeton University). A search in political economy resulted in an associate professor offer to Melissa Dell (Harvard University). Decisions on these outstanding offers are expected in fall 2018.

Visitors

The MIT Economics Department was host to six visiting faculty, nine visiting scholars, and five postdoctoral economists for all or part of AY18. The department's annual visitor, Nobel Laureate Jean Tirole (PhD '82), continued his active participation, lecturing in graduate industrial organization courses during a week-long visit each semester, and teaching a well-attended advanced topics course during July. Other visiting faculty members who taught departmental courses in AY18 included: Assistant Professor Gabriel Chodorow-Reich (Harvard), who taught one semester of the undergraduate course 14.33 Economics Research and Communication; Assistant Professor Benjamin Faber (Berkeley), who co-taught 14.771 Development Economics I; Associate Professor Leopoldo Fergusson (Universidad de los Andes), who co-taught 14.773 Political Economy: Institutions and Development; Associate Professor Mitsuru Igami (Yale), who co-taught 14.273 Advanced Topics in Industrial Organization; and Assistant Professor Gautam Rao (Harvard), who co-taught 14.160 Behavioral Economics.

Several scholars visited to work with current MIT faculty members and interact with doctoral students. They included: Assistant Professor Joaquin Blaum (Brown); Associate Professor Rahul Deb (University of Toronto); Assistant Professor Yingni Guo (Northwestern University); Assistant Professor Matti Sarvimaki (Aalto University School of Business [Finland]); Assistant Professor Gonca Senel (Bowdoin College); Associate Professor Xiaoxia Shi (University of Wisconsin-Madison); Professor Utku Unver (Boston College); and Professor Tiemen Woutersen (University of Arizona). Also visiting were Christine Huttin, research professor and scientist at ENDEPUSresearch, Inc., and Tuomas Kosonen, research director in the Labour Institute for Economics Research.

A number of postdoctoral fellows and associates also visited the department. Two taught in the department: Evan Sadler taught 14.15 Networks; Nathaniel Lane co-taught 14.73 World Poverty.

Postdoctoral researchers included Anders Munk-Nielsen, Stephen O'Connell, and Camille Terrier.

Faculty Honors and Awards

Economics faculty have been recognized with a wide range of honors and awards over the past academic year. These include:

Alberto Abadie was awarded a National Science Foundation (NSF) grant to study "A General Synthetic Control Framework of Estimation and Inference."

Daron Acemoglu received an honorary doctorate from École Normale Supérieure Paris-Saclay.

Nikhil Agarwal began a National Science Foundation research grant to study deceased and living donor kidney allocation systems.

David Autor was named a MacVicar Faculty Fellow in 2018 for his excellence and innovative contributions to undergraduate education at MIT, and he was recognized by Bloomberg as "one of 50 people who defined global business in 2017."

Abhijit Banerjee presented the Jean-Jacques Laffont Lecture at the 67th Annual Meeting of the French Economic Association (AFSE). He also presented a Tanner Lecture on Human Values with Esther Duflo at Oxford University.

Ricardo Caballero lectured on international crises at the Nobel Symposium on Money and Banking in 2018.

Victor Chernozhukov won the Friedrich Wilhelm Bessel Research Award from the Alexander von Humboldt Foundation.

Dave Donaldson received the TW Schultz Award from the Agricultural and Applied Economics Association, and was elected a fellow of the Econometric Society.

Esther Duflo also gave the Keynes Lecture for the British Academy.

Amy Finkelstein was elected a member of the National Academy of Sciences and gave the Alfred Marshall Lecture at the European Economic Association Annual Congress.

Drew Fudenberg gave the presidential address to the Econometric Society in January 2018.

Bengt Holmstrom was awarded Commander Grand Cross of the Order of the Lion of Finland.

Simon Jaeger won the Distinguished CESifo Affiliate award during the CESifo Annual Area Conferences.

Ben Olken won the 2017 PEGNet Best Practice Award.

Parag Pathak was awarded the John Bates Clark Medal by the American Economic Association, given to the best economist under the age of 40, and was elected to the American Academy of Arts and Sciences.

Jim Poterba was elected a corresponding fellow of the British Academy.

Nancy Rose was elected to the American Academy of Arts and Sciences and presented the keynote lecture at the International Industrial Organization

Conference upon being named as a Distinguished Fellow of the Industrial Organization Society.

Robert Townsend received the Financial Intermediation Research (FIRS) Lifetime Achievement Award.

Professional Service

Numerous MIT faculty members provide leadership and service to the economics profession and beyond.

Department faculty are on the editorial boards of leading economics journals. In addition to editors Esther Duflo at the *American Economic Review* and Amy Finkelstein at the AEA's new journal *AER: Economic Insights*, Victor Chernozhukov serves as co-editor of the *Econometrics Journal* (Royal Economic Society); Arnaud Costinot as co-editor of the *Journal of International Economics*; Dave Donaldson and Ben Olken as co-editors of the *American Economic Journal: Applied Economics*; and Anna Mikusheva as co-editor of *Econometric Theory*. Three faculty are foreign editors for the *Review of Economic Studies*: Alberto Abadie, Dave Donaldson, and Alexander Wolitzky. Associate editorships and boards of editor positions include: Alberto Abadie (associate editor of *Econometrica* and *AER: Insights*); David Atkin (*Quarterly Journal of Economics (QJE)*), *AER*, and *Journal of International Economics (JIE)*); Arnaud Costinot (*AER* and *Journal of Economic Literature (JEL)*); Dave Donaldson (*JEL*, *JIE*, and *QJE*); Jonathan Gruber (*American Journal of Health Economics*, *American Economic Journal: Economic Policy*, and *Journal of Public Economics*); Ben Olken (*Review of Economics and Statistics* and *Journal of Development Economics*); Parag Pathak (*Journal of Political Economy* and *AER*); and Heidi Williams (*International Journal of Industrial Organization* and the *Review of Economics and Statistics*).

Faculty also contribute to the leadership of economics professional societies and organizations. Drew Fudenberg completed his service as president of the Econometric Society this year; Whitney Newey served on its executive committee. Robert Townsend served as president of the Society for the Advancement of Economic Theory, and Jon Gruber as president of the American Society of Health Economics. David Autor served on the AEA's executive committee; Daron Acemoglu on its honors and awards committee; and Drew Fudenberg on its nominations committee. Esther Duflo was a board member for BREAD, the Bureau for Research and Economic Analysis of Development. Dave Donaldson was co-director of the International Growth Centre. Whitney Newey served on the Section Nominations Committee of the American Academy of Arts and Sciences.

The National Bureau of Economic Research (NBER), the top academic economic research organization in the country, is led by MIT Professor James Poterba. Research program directors at the NBER include David Autor (labor studies), Amy Finkelstein (public economics), and Jonathan Gruber (health care). David Autor also directed the NBER Disability Research Center, and Parag Pathak is director of the NBER Market Design Working Group.

Faculty members also continue the department's tradition of broader public service. Abhijit Banerjee serves as a Trustee for Save the Children. David Autor and James Poterba serve on the Panel of Economic Advisers for the Congressional Budget Office. Autor also serves the Opportunity and Inclusive Growth Initiative for the Federal Reserve Bank of Minneapolis. Esther Duflo served as a member of the President's Global Development Council. Amy Finkelstein serves as a member of the Congressional Budget Office's Panel of Health Advisers. Jon Gruber serves on the Board of Directors of the Health Care Cost Institute. Parag Pathak serves as a member of the Scientific Board at the Institute for Innovation in Public School Choice. James Poterba serves on the board of the Alfred P. Sloan Foundation and chaired its Presidential Search Committee.

Education

Undergraduate Education

Enhancing our undergraduate program remains a focal initiative for the department. In fall 2017, the department launched a new undergraduate major in collaboration with the Department of Electrical Engineering and Computer Science (EECS) called Computer Science, Economics, and Data Science (6-14). This joins the traditional economics major (14-1) and the new mathematical economics major (14-2), introduced in fall 2016. The 6-14 major aims to give students the skills to identify, analyze, and solve real-world challenges in both real and virtual settings. Students will gain foundational knowledge in economic analysis, computing, optimization, and data science, as well as hands-on experience with empirical analysis of economic data. A central motivation for the new major is the rise of contemporary, electronically-mediated platforms for market-level and individual exchange—combining complex human decisions with intensive computation and data processing, all of which operate within an engineered economic environment. The two newest majors provide students with opportunities for deeper grounding in the mathematics, statistics, and econometric skills that are increasingly in demand across a wide span of big data applications and careers. Applications of these skills are as diverse as online markets, crowdsourcing platforms, spectrum auctions, financial platforms, cryptocurrencies, and large-scale matching/allocation systems such as kidney exchanges and public-school choice systems.

Student response has been quite positive. In AY18, 25 students were enrolled in the traditional economics major, 29 as mathematical economic majors, and 36 students as 6-14 majors. Total undergraduate enrollments in Economics were relatively stable in AY18, with the total number of enrolled students in economics courses at 1,707, relative to the previous year's 1,751.

The department has taken a number of actions to refresh the curriculum, expand undergraduate outreach, and support the two new economics majors. In 2016, Economics began an initiative to expand its communications intensive offerings. The first prong of this was to develop CI-H classes, which allow freshmen to gain exposure to economics before they have taken the gateway 14.01/14.02 courses or declared a major. In spring 2018, Professor Heidi Williams's class, 14.46 Innovation Policy and the Economy, became the department's second CI-H offering, joining 14.73 World Poverty, introduced in fall 2016. Twenty students completed 14.46, and feedback was quite

positive. World Poverty has become a popular offering, garnering great reviews from the 51 students completing the course in fall 2017. A second prong was to increase CI-M offerings. The newest CI-M, 14.18 Mathematical Economic Modeling, was offered for the second time in spring 2018, by Alexander Wolitzky. This proof-based writing course and capstone for the mathematical economics major has had a difficult time gaining enrollments, with only three students completing the course this past spring. Economics bracketed the course for AY19 and will be considering next steps.

The department has put considerable effort into improving the quality of students' initial contact with the department, most of whom do so through our introductory 14.01 Microeconomics and 14.02 Macroeconomics courses. Professor James Poterba, who teaches one semester of 14.02, has replaced graduate instructor-led sessions for students who cannot attend his lectures with videos of his lectures, available on demand. This maintains consistency in the lecture material across all students enrolled that semester and enables the graduate teaching staff to focus on recitations, small-group study sessions, and one-on-one help. Also, in fall 2017, first-year Assistant Professor Martin Beraja shadowed Ford International Professor Ricardo Caballero in 14.02 and taught one section of 14.02, in preparation to take full responsibility for all of 14.02 in spring 2019, when he will replace Poterba in the rotation for that semester. Finally, the department continues to allow students with advanced high school training to enroll in the highly-regarded 14.03 Applied Microeconomics and Public Policy, in place of 14.01.

Economics continues to encourage faculty innovation in the undergraduate curriculum. In addition to Heidi Williams's 14.46 Innovation Policy and the Economy, there is also a new offering in intermediate macroeconomics. Building on his popular and well-received eight-lecture IAP offering on the financial crisis, Assistant Professor Alp Simsek introduced 14.07 Financial Markets and the Macroeconomy in fall 2017. Thirty-three students completed the course, commending both the instruction and the course content.

The quality of undergraduate instruction was recognized this past year with two important Institute-wide awards (mentioned previously in this report). David Autor, whose innovative 14.03 instruction is consistently acclaimed by students, was named a MacVicar Faculty Fellow, joining Professors Nancy L. Rose (current) and Jonathan Gruber (former) in the MacVicar ranks. Associate Professor Anna Mikusheva received the Everett Moore Baker Memorial Award for Excellence in Undergraduate Teaching, a distinction that recognizes exceptional interest and ability in the instruction of undergraduates, and is the only MIT-wide teaching award in which students both nominate and select the recipients. In addition, the Undergraduate Economics Association (UEA) presented its AY18 faculty teaching award to Bengt Holmstrom and its graduate student teaching award to Postdoctoral Associate Matt Lowe.

The MIT UEA supports outside-the-classroom economics education through its public economics lecture series. In fall 2017, Nobel Laureate Jean Tirole spoke about his new book, *Economics for the Common Good*. This well-attended lecture attracted undergraduate majors, faculty, graduate students, and econ-curious attendees from throughout MIT. The spring public lecture was given by Glen Weyl from Microsoft Research in early May. Weyl discussed insights from his book, *Radical Markets: Uprooting Capitalism and Democracy for a Just Society*. The lecture was well-publicized and well-attended.

Graduate Education

MIT Economics continues to attract the very best students to its doctoral program. For 2018 PhD admissions, the department received 703 applications. Only 25 prospective students were offered admission, and 20 accepted and enrolled. The group of matriculating students includes nine women and eight international students.

Commensurate with the selectivity of the incoming class and the quality of MIT training, the department's graduating PhD students do exceptionally well in placement. In 2018, newly-minted MIT PhDs joined the faculties at Harvard, the University of Chicago, Northwestern, New York University, and Sciences Po, among many other excellent universities. Others accepted positions at leading Internet firms and private sector finance and consulting organizations. Two MIT students again were selected this spring to participate in the Review of Economic Studies tour, which honors the top eight US job market candidates each year with a European speaking tour. No other department matches MIT's historical record for students selected for this prestigious recognition.

The department does not take these outcomes for granted, recognizing that sustaining this record requires quality and depth in the curriculum and a significant investment of time and effort in doctoral advising. This includes commitments at the department level, for example, through support of advanced topics courses and reading groups, as well as weekly student-faculty advising lunches, at which students present research in progress for feedback from faculty and other students in their field. Several faculty members and students were recognized during the past year for their contributions to the graduate program. Juuso Toikka won the Graduate Economic Association's (GEA) Award for Best Professor, and Assistant Professors Nikhil Agarwal and Frank Schilbach were given the Course 14 Best Advisor Award by the GEA. Graduate student Arda Gitmez was honored as an outstanding teaching assistant by the GEA and received a 2018 School of Humanities, Arts, and Social Sciences (SHASS) Levitan Teaching Award.

The Robert M. Solow Prize for Graduate Student Excellence in Teaching and Research was co-awarded to graduating students Harry Di Pei and Ludwig Straub.

The department and J-PAL have completed the second year of the online MITx MicroMasters in Data, Economics, and Development Policy (DEDP), and continued work on development of the unique blended MIT master's program in DEDP. The DEDP MicroMasters combines online learning with one semester in residence at an MIT program and is slated to welcome its first students on campus in spring 2020. It equips learners with the practical skills and theoretical knowledge to address challenges that poor citizens face in developing and developed countries. Through a series of five online courses taught by J-PAL-affiliated professors and MIT professors of economics, learners gain a firm foundation in microeconomics, development economics, and probability and statistics—and engage with cutting-edge research in the field. The program launched in the winter of 2017 with more than 9,000 students establishing a MicroMasters profile and taking courses and 726 students paying for proctored exams towards a MicroMasters certificate. To date, over 1,000 students have received class certificates for successfully completing at least one class, including a final exam, and 42 have completed the full credential. In addition, the blended MIT master's program has received a \$400,000 grant from the William and Flora Hewlett Foundation to support candidates from sub-Saharan Africa, which will allow broad representation of students for the on-campus portion of the program.

Research Initiatives

The Abdul Latif Jameel Poverty Action Lab

The Abdul Latif Jameel Poverty Action Lab (J-PAL), directed by Economics faculty members Abhijit Banerjee, Esther Duflo (PhD '99), and Benjamin Olken, seeks to reduce poverty by ensuring that policy is based on scientific evidence. J-PAL aims to set a new standard of rigorous evaluations to identify effective programs across various sectors including agriculture, education, energy and environment, finance, governance, health, and labor markets. J-PAL continues to expand the scope and influence of its research. Since its launch in 2003, J-PAL has grown into a network of 161 affiliated professors from 49 universities with six regional offices worldwide. To date, J-PAL's affiliated research faculty are leading or have completed more than 800 randomized evaluations in 69 countries to find the most effective approaches to critical development issues. Some examples include: bringing people out of extreme poverty; reducing the spread of AIDS; increasing student attendance; reducing industrial pollution; and reducing corruption in government projects. Eleven programs evaluated by J-PAL affiliates and found to be effective have been scaled up—currently reaching 300 million people worldwide. J-PAL works with governments in 11 countries to institutionalize the use of evidence in decision-making.

New grants are allowing J-PAL to increase its efforts to improve research transparency and reproducibility in the field of experimental economics. With this funding, J-PAL is supporting data publication and regression replications, strengthening the credibility of social science research. This builds on J-PAL's joint work with the American Economic Association in the development, promotion, and management of the AEA Experimental Registry, which currently has 1,763 registered projects.

J-PAL North America (J-PAL NA), led by Amy Finkelstein and Harvard professor Lawrence Katz (PhD '85), brings randomized program evaluation methods to policy in North America across a wide variety of areas. Among its major efforts are studies of how the use of health care services affects patient outcomes and costs (through the Health Care Delivery Initiative); a push to develop a better understanding of crime and violence and alternatives to incarceration; and analyses of how technology can allow for the personalization of educational content, with a goal of improving learning outcomes.

Through the State & Local Innovation Initiative, the organization works closely with leaders in government to provide funding, technical support, and collaboration with preeminent researchers in order to answer high-priority policy questions.

This fall, J-PAL NA is launching the evidence-based research initiative Work of the Future to understand 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 and Matt Notowidigdo from Northwestern University (MIT '03, MA '04, PhD '10). Policy staff also work to share policy lessons, conduct trainings, and encourage evaluation with partners at every level of government and with a variety of social organizations. Since its launch five years ago, J-PAL NA has significantly expanded its activities, with a staff of over 45 full-time researchers, policy experts, and administrative professionals.

School Effectiveness and Inequality Initiative

The School Effectiveness and Inequality Initiative (SEII) partners with cities across the country to improve access to high-quality schools for all students. Led by faculty directors Joshua Angrist, David Autor, and Parag Pathak, SEII develops pioneering economic research in service of improving educational outcomes. The initiative works with education policymakers at the state and district level, including in Boston and Massachusetts statewide, New Orleans, Indianapolis, Denver, and New York City. Research has generated cutting-edge methods for student assignment and evaluation of school effectiveness that meet the highest standards of peer review. In addition to scholarship, the SEII mission includes education and training: SEII hosts postdoctoral fellows; provides data access, mentoring, and financial support for many graduate students; and offers research assistantships to talented undergraduates interested in empirical economics. As a core member of the newly-launched MIT Integrated Learning Initiative (MITili), SEII also continues to broaden its impact through interdisciplinary collaboration across the Institute.

Work of the Future Task Force

MIT's Work of the Future Task Force, launched by MIT President Rafael Reif in February 2018, will study the effects that new developments in technology could have on traditional jobs and the future of the workplace, and will seek to address three broad questions: (1) How are emerging technologies transforming the nature of human work and the skills that enable people to thrive in the digital economy? (2) How can we shape and catalyze technological innovation to complement and augment human potential? (3) How can civic institutions—existing and new—act to ensure that the gains from technology innovation contribute to equality of opportunity, social inclusion, and shared prosperity? The task force is co-directed by faculty members David Autor and David Mindell (Aeronautics and Astronautics), with Elisabeth Reynolds serving as executive director.

Technology and the Future of Labor Initiative

Professors Daron Acemoglu, David Autor, and John Van Reenen launched an MIT initiative on Technology and the Future of Labor housed in the Economics Department. This initiative will catalyze and support frontier theoretical and empirical research on the microeconomic and macroeconomic implications of changing technologies and expanding global integration for labor market operation, earnings and employment stability, skill and training demands, and worker productivity. Supported by Accenture, LLC, IBM Global Universities Program, the Schmidt Sciences Foundation, and the Smith Richardson Foundation, the research initiative will advance economic understanding and aid policy formation to maximize the opportunities—and minimize the adverse consequences—presented by the advance of automation and globalization. The initiative currently provides financial support for five dissertation students in the PhD program.

Selected Publications

Faculty members have carried out research on a broad array of frontier topics in economics, and attracted notice within the academic sphere and, in many cases, from the national and international press. A selection of publications (below) illustrates the scope of the department's research activities.

Daron Acemoglu published “Asymmetric Growth and Institutions in an Interdependent World” (with James A. Robinson and Thierry Verdier), *Journal of Political Economy*; “Reevaluating de Tocqueville: Social Mobility and Stability of Democracy” (with Georgy Egorov and Konstantin Sonin), *Quarterly Journal of Economics*; “Low-Skill and High-Skill Automation” (with Pascual Restrepo), *Journal of Human Capital*.

Nikhil Agarwal and Parag Pathak published “The Welfare Effects of Coordinated Assignment: Evidence from the NYC HS Match” (with Atila Abdulkadiroglu), *American Economic Review*; “Latent Indices in Assortative Matching Models” (with W. Diamond), *Quantitative Economics*.

Marios Angeletos co-authored “Forward Guidance without Common Knowledge” (with Chen Lian), forthcoming in the *American Economic Review*.

Josh Angrist and Parag Pathak published “Research design meets market design: Using centralized assignment for impact evaluation” (with Atila Abdulkadiroglu and Yusuke Narita), *Econometrica*; “In a small moment: Class size and moral hazard in the Italian Mezzogiorno” (with Erich Battistin and Daniela Vuri), *American Economic Journal: Applied Economics*.

David Atkin published “Retail Globalization and Household Welfare: Evidence from Mexico” (with Ben Faber and Marco Gonzalez-Navarro), *Journal of Political Economy*.

David Autor published “Is Automation Labor-Displacing? Productivity Growth, Employment, and the Labor Share” (with Anna M. Salomons), *Brookings Papers on Economic Activity*.

Abhijit Banerjee and Ben Olken published “Tangible Information and Citizen Empowerment: Identification Cards and Food Subsidy Programs in Indonesia” (with Rema Hanna, Jordan Kyle, and Sudarno Sumarto), *Journal of Political Economy*.

Ricardo Caballero published “The Safe Assets Shortage Conundrum” (with Emmanuel Farhi and Pierre- Olivier Gourinchas), *Journal of Economic Perspectives*.

Victor Chernozhukov co-edited *Handbook of Quantile Regression* (with Roger Koenker). Chernozhukov, Esther Duflo, and Whitney Newey published “Double/Debiased Machine Learning for Treatment and Causal Parameters” (with Denis Chetverikov, Mert Demirer, Christian Hansen, and James Robins), *Econometrics Journal*.

Arnaud Costinot published “The US Gains from Trade: Valuation Using the Demand for Foreign Factor Services” (with Andres Rodriguez-Clare), *Journal of Economic Perspectives*.

Esther Duflo published “Cognitive science in the field: A preschool intervention durably enhances intuitive but not formal mathematics” (with Moira R. Dillon, Harini Kannan, Joshua T. Dean, and Elizabeth S. Spelke) in *Science*.

Glenn Ellison and Sara Fisher Ellison published “Search Obfuscation in a Technologically Changing Retail Environment: Some Thoughts on Implications and Policy” in J. Lerner and S. Stern (editors) *Innovation Policy and the Economy*.

Amy Finkelstein published “Myth and Measurement – The Case of Medical Bankruptcies” (with Carlos Dobkin, Ray Kluender, and Matthew Notowidigdo), *New England Journal of Medicine*; “The Economic Consequences of Hospital Admissions” (with Carlos Dobkin, Ray Kluender, and Matthew Notowidigdo), *American Economic Review*; “The Uninsured Do Not Use the Emergency Department More – They Use Other Care Less” (with Rouhua Annetta Zhou, Katherine Baicker, and Sarah Taubman), *Health Affairs*.

Drew Fudenberg published “Rationalizable Partition-Confirmed Equilibrium with Heterogeneous Beliefs” (with Yuichiro Kamada), *Games and Economic Behavior*; “Active learning with a misspecified prior” (with Gleb Romanyuk and Philipp Strack), *Theoretical Economics*; “I’m just a soul whose intentions are good: The role of communication in noisy repeated games” (with Antonio Alonso Arechar, Anna Dreber Almenberg, and David G. Rand), *Games and Economic Behavior*.

Jonathan Gruber authored “Evaluating Measures of Hospital Quality: Evidence from Ambulance Referral Patterns” (with Joseph Doyle and John Graves), which is forthcoming, *Review of Economics and Statistics*.

Simon Jaeger’s “Learning about Job Search: A Field Experiment with Job Seekers in Germany” (with Steffen Altmann, Armin Falk, and Florian Zimmermann) was accepted by the *Journal of Public Economics*.

Whitney Newey and Jerry A. Hausman published “Nonparametric Welfare Analysis,” *Annual Review of Economics*. Newey published “Alternative Asymptotics and the Partially Linear Model with Many Regressors” (with Matias D. Cattaneo and Michael Jansson) in *Econometric Theory*.

Ben Olken published “Citywide effects of high-occupancy vehicle restrictions: Evidence from ‘three-in-one’ in Jakarta” (with Rema Hanna and Gabriel Kreindler) in *Science*.

Parag Pathak published “Free to Choose: Can School Choice Reduce Student Achievement?” (with Atila Abdulkadiroglu and Christopher R. Walters), *American Economic Journal*.

James Poterba published “Do Required Minimum Distribution Rules Matter? The Effect of the 2009 Holiday on Retirement Plan Distributions” (with Jeffrey R. Brown and David P. Richardson), *Journal of Public Economics*.

Nancy Rose published “Mergers that Harm Sellers” (with C. Scott Hemphill), *Yale Law Journal*.

Frank Schilbach authored “Alcohol and Self-Control: A Field Experiment in India,” which was accepted at the *American Economic Review*.

Alp Simsek published “Investment Hangover and the Great Recession” (with Matthew Rognlie and Andrei Shleifer), *American Economic Journal: Macroeconomics*.

Robert Townsend published “Risk and Return in Village Economies” (with Krislert Samphantharak), *American Economic Journal: Microeconomics*; “Economic Development, Flow of Funds, and the Equilibrium Interaction of Financial Frictions” (with Benjamin Moll and Victor Zhorin), *Proceedings of the National Academy of Sciences*.

Ivan Werning published “Fiscal Unions” (with Emmanuel Farhi), *American Economic Review*, and “Saving and Dissaving with Hyperbolic Discounting,” *Econometrica*.

Heidi Williams published “How Do Patents Affect Research Investments?” *Annual Reviews of Economics*.

Alex Wolitzky published “Bounding Payoffs in Repeated Games with Private Monitoring: n-Player Games” (with Takuo Sugaya), *Journal of Economic Theory*; “Bounding Equilibrium Payoffs in Repeated Games with Private Monitoring” (with Takuo Sugaya), *Theoretical Economics*.

Muhamet Yildiz published “Interim Correlated Rationalizability in Infinite Games” (with Jonathan Weinstein), *Journal of Mathematical Economics*.

Future Plans and Development Initiatives

The department continues to build on its record as a leading research and teaching institution with the highest caliber senior and junior faculty, graduate students, and undergraduates. A new generation of faculty, many of whom came to MIT as assistant professors and have built their careers here, is taking on growing responsibility for department leadership. The faculty is committed to expanding the presence of economics in the undergraduate experience at MIT and supporting new initiatives in cross-disciplinary offerings.

The Economics Department relies on gifts from alumni and other supporters to advance its research and educational mission. Top priorities include securing additional funds for graduate student support, endowing professorships, and raising funds that can be used for faculty research support. The faculty and staff will continue to work with development team members to strengthen the department’s financial base.

Nancy L. Rose
Department Head and
Charles P. Kindleberger Professor of Applied Economics