

COLUMBIA | ECONOMICS

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Rethinking Health Care

WHAT ECONOMICS
CAN (AND CAN'T) DO





Bernard Salanié was appointed chair of the Department of Economics in October 2016. (Photo by Jeffrey Schiffman)

The year 2016 was eventful in many ways. Brexit and the ongoing debates in the U.S. on health care and insurance, and those to come on tax reform, remind us (sometimes in the negative) of the importance of sound economics in analyzing crucial policy questions.

With its outstanding faculty and students ranging over the most exciting fields from theory and econometrics to applied economics, Columbia's Department of Economics is generating research and insights that contribute to advancing our knowledge and informing policy debates.

With its privileged location at the heart of one of the greatest metropolises, Columbia University is ideally placed to become a nexus for economic research and teaching. Fifteen years ago, the University recognized that to achieve this it must put more resources into economics. Our goal was, and remains, to bring the Department back to its former eminent position near the top of the academic rankings.

Judging by *US News and World Report*, this effort has achieved quite a lot already: while Columbia Economics was barely in the top 15 then, we are now well within the top 10. Going beyond these rankings, there is no question that the Department is now perceived as one of the best places to study, research, and teach. The quality of our recent hires and of the students we admit to our Ph.D. program testifies to it.

I am particularly happy to announce the arrival of no fewer than five junior faculty this fall. Hassan Afrouzi Khosroshahi works on the role of firms' information in macroeconomics. Michael Carlos Best analyzes microeconomic policies on taxation and on housing. Gregory Cox is an econometric theorist who works on weakly identified models. Matthieu Gomez joins Harrison Hong and José Scheinkman in our rapidly expanding financial economics group; and Jack Willis will add to our expertise in development. We also hired a new lecturer: Wouter Vergote, a Columbia Ph.D., is joining us from Brussels and will strengthen our teaching.

We will have several distinguished long-term visitors this year: Frank Heinemann (Berlin), Gernot Müller (Tübingen) and Laura Veldkamp (NYU); and Ilyana Kuziemko (Princeton) will be our Wesley Clair Mitchell Visiting Research Professor. We very much look forward to benefiting from their knowledge in macroeconomics, experimental economics, political economy, and labor economics.

Two new groups of graduate students have joined us: 30 Ph.D. students and 56 master's students. As always, they are a very international crew, with close to 20 countries represented. This is also the occasion to congratulate those who left, and, in

particular, the 18 newly minted Ph.D.s who found their first jobs in places as prestigious as Princeton, Michigan, and Cornell.

We are not resting on our laurels, and last year a Ph.D. review committee proposed many ways to improve our program. We are starting to implement several of them. Perhaps most importantly, we will be greatly expanding the research support we give to our students. We will also be offering mini courses to help them take advantage of the recent advances in data analysis and in scientific computing software.

Our master's program is entering its third year under the leadership of Steve Olley, ably assisted by Shane Bordeau and, since last year, by Brittney Nathaniel. We positioned it from the beginning as a top-quality program, and we are maintaining very high standards in admission and teaching. Our master's graduates have gone on to Ph.D. programs or research positions in the best schools (Chicago, Princeton, and Columbia) or to great jobs in the private sector (from JP Morgan to Ernst & Young). It is a very promising start, and we plan to build on it in the coming

years. Judging by our enrollments and the number of students in our majors, every new cohort of Columbia undergraduates shows even more enthusiasm for economics. While this is very rewarding to all of us, it underlines the department's need to continue to expand so as to best respond to this growing demand.

This year we will be able to allocate more financial resources to our Program of Economic Research (PER), which also welcomes a new team—but I will defer to its executive director, Yeon-Koo Che.

The department also has new support staff. Jennifer Pinargote replaces Stephanie Cohen as the assistant to the chair. She comes to us by way of Rutgers, where she worked in the Law School. Please join me in welcoming her to the team.

In this newsletter, you'll read about recent research by some of our faculty and students, and about events sponsored by PER. But much more is going on in the Department! I encourage you to visit our website at econ.columbia.edu for news updates and announcements. Our friends and alumni are always welcome at our events, seminars, and colloquia, and we would love to hear from you at econ-info@columbia.edu.



Bernard Salanié
Chair
Department of Economics

“Columbia Economics is now well within the top 10 in national academic rankings. There is no question that the department is now perceived as one of the best places to study, research, and teach.”

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On the cover: Kate Ho was photographed by Jeffrey Schiffman in the Department of Economics



Program for Economic Research

BOLD NEW PROGRAMS AND INITIATIVES

The last year marked a critical juncture for the Program for Economic Research (PER). In the beginning of the year, PER became fully independent from the Institute for Social and Economic Research and Policy (ISERP) and returned to the status exclusively of a research center serving the Columbia Economics Department and its broad outreach community. In the spring, we welcomed new administrative staff, Sophia Johnson as assistant director, and Stephanie Cohen as program manager. Finally, the Economics Department reconfirmed the mission of PER and pledged an increased financial support for its activities. All

these changes amount to a rebirth, no less, of PER, which I view as an occasion to reinvigorate our energy to fulfill our mission—to support the research of faculty and students and to enrich the intellectual lives of the broader economic community.

The activities of the last year already reflected this renewed spirit and energy. The PER Distinguished Lecture series, born out of the need to inform influential research agenda by prominent scholars in an accessible format, had another successful year. Through the 2016–2017 year, we hosted John Vickers (Oxford), Joshua Angrist (MIT), Douglas Bernheim (Stanford), Johannes Hörner (Yale), David



Aerial view of Columbia University's Morningside Heights campus. The Department of Economics is located within the International Affairs Building, pictured on the opposite page and marked by the white dot below. (Photos by Eileen Barroso)



Yeon-Koo Che, Kelvin J. Lancaster Professor of Economics and Executive Director, Program for Economic Research (PER)

Card (Berkeley), and Xavier Vives (IESE). They addressed a variety of subjects ranging from financial crises, bank regulations, charter school reforms, and behavioral economics to the theory of supervised social learning by recommender systems.

In September 2016, PER hosted a special lecture by Lilja Alfreðsdóttir, Iceland's minister of foreign affairs. In the wake of 2008 Great Recession, the Icelandic economy experienced an unprecedented economic collapse. Minister Alfreðsdóttir told a remarkable story of how the Icelandic government combined extraordinary policy measures and successful cooperation with the IMF to overcome the crisis. In exchanges

RESEARCH

with the audience moderated by our own Jón Steinsson, she also shared valuable lessons that can be learned from the unique experience for the other economies.

In October 2016, Alan Krueger, our Mitchell Professor visiting from Princeton, led the panel discussion on “The Rise and Implications of 1099 Economy.” The panelists, including Susan Houseman (W. E. Upjohn Institute), Robert Solow (MIT), and David Weil (Department of Labor), along with Alan, addressed the rapidly changing nature of the jobs in the U.S. More and more workers are employed as independent contractors and freelancers (receiving 1099 tax forms), often “on-demand” and organized through digital platforms like Uber, TaskRabbit, and others. The panel discussed the forces behind this trend, the implications for workers and for the broader economy, and debated possible public policy responses. The panel was moderated by our colleague Eric Verhoogen and cosponsored by PER and SIPA.

PER sponsored several conferences during the academic year. The NBER/NSF Time Series conference, a conference in honor of Donald Davis, our Ragnar Nurkse Professor of Economics; “Riordanfest,” a conference honoring Michael Riordan, our Laurans and Arlene Mendelson Professor of Economics; our annual Columbia political economy conference; and the Interdisciplinary Workshop on Information Processing and Behavioral Variability were some of the memorable events. The latest was the 21st Annual Meeting of the Society for Institutional and Organizational Economics (SIOE) held in June 2017. The conference, co-organized with a number of other units, featured SIOE’s president-elect W. Bentley MacLeod, our Sami Mnaymneh Professor of Economics. The conference attracted nearly 300 participants in multiple disciplines and featured keynote panel including two Nobel Laureates, Oliver Hart (Harvard University) and Bengt Holmström (MIT).

Last but not the least, it was a special honor to organize the 9th Arrow Lecture in November 2016. Ken Arrow, the 1972

winner of the Nobel Prize in economics, was a pioneer of modern economic theory, with seminal contributions to social choice, general equilibrium, information economics, and influences on health and environment economics. Ken also had a special connection with our community, having studied for both master’s and doctoral degrees on our campus. The lecture series, published as monographs by Columbia University Press, seeks to instill Ken’s excellence and innovative spirit in economic research. Our 2016 lecturer was John Geanakoplos, James Tobin Professor at Yale University. He presented his unique perspective on the financial crisis of 2007–2009 and the ensuing Great Recession based on his collateral general equilibrium model of credit. Ken discussed the lecture,

“Our mission is to ensure that economics faculty and students have access to the resources necessary to support research activities at the highest possible level and to help disseminate the resulting achievements.”

along with Tano Santos of Columbia Business School; the session was moderated by Joseph Stiglitz, University Professor. With the passing of Ken this February, the event sadly proved to be the last in which Ken shared this special moment with us.

As always, PER is committed to supporting our students at all levels. *Columbia Economic Review*, published by our undergraduate students, put out another exciting issue in the spring. Columbia’s Fed Challenge Team won second place out of 41 teams competing in the annual College Fed Challenge, sponsored by the Federal Reserve Bank of New York. Our graduate students deserve our utmost care and support. Funding is now available for them to collect and process new data set for their dissertations. The last year’s recipient was Sun Kyoung Lee, who used the funds to match individuals in census data in her

study of American urbanization during 1850–1950 (see the related article). PER is also offering support for editing services for dissertations, and a summer Research Assistant fund. Twelve of our graduate students received RA support in the past summer. PER is also hosting mini courses on topics and methodologies that will help inspire and strengthen their research.

We are starting another exciting year with a variety of activities that I hope will be enriching and inspiring. On September 11, Jagdish Bagwati, University Professor, will lead a panel that critically appraises the trade policy shaping up in the Trump administration. On September 14 and 15, PER will cosponsor a Microeconomic Theory Conference, organized by Qingmin Liu and Marina Halac (Columbia

Business School), which will become an inaugural event for our newly instituted *Microeconomic Theory Initiative*. In November, Harrison Hong and José Scheinkman will organize a conference that looks to finance scholarship for answers to our climate challenge. Finally, we will sponsor the 10th Annual Arrow Lecture. To honor Ken’s extraordinary legacy for economics, we shall have a special format this year: a daylong symposium followed by the annual Arrow Lecture. I will duly inform you of the details of these events as well as others as they become available.



Yeon-Koo Che, Kelvin J. Lancaster Professor of Economics and Executive Director, Program for Economic Research (PER)

Harnessing Economics To Solve Health Policy Problems

PROFESSOR KATE HO
EMPLOYING EXPERTISE TO
DESIGN A MODEL THAT WORKS

Most Americans share a common set of values about health care—that everyone should have access to health care, that it is important to contain costs, and that policy should not diminish the quality of care they now receive. They differ, however, in the priorities they set when these values compete with one another. They also differ about what kinds of strategies for problem solving actually work. In the public debates creating frenzy in Washington, battle lines get drawn by forcing analysis of health care into preexisting formulas for broader problem solving, including, especially, arguments about the advantages and disadvantages of federal regulations or market competition. As a consequence, the range of potential solutions under discussion gets artificially constrained.

Professor Kate Ho is employing her expertise in the industrial organization of health care markets, and her understanding of the welfare effects of restricted choice in the U.S. medical care market, to design a model that can help policymakers understand the impact of competition on price, quality, and treatment decisions for health care providers and health insurers. Her goal is to design a framework that gets policymakers thinking about the effects of policy on the structure of the health care market and on outcomes.

Kate Ho joined Columbia in 2005 after earning a doctorate in business economics at Harvard University. (Photo by Jeffrey Schiffman)





Health Care, Markets, and Competition

Health care is a very substantial part of the economies of all developed nations, not just the United States. Further, markets play a large role in the delivery of health care in many countries, and in the financing of care in countries such as the United States, the Netherlands, and Switzerland. This makes the study of the industrial organization of medical care, or the interactions between firms in the health care market, vitally important for policy. Professor Ho argues that economic research is increasingly positioned to inform these aspects of policy formation. “The growing policy relevance of research on health care markets directly correlates with the increasing availability of rich datasets on health care, advances in economics methodology, and institutional changes that have led to a greater role and prominence for markets in health care,” she notes.

Professor Ho points to the debate encircling the Patient Protection and Affordable Care Act (ACA), which passed in the United States in 2010, as a perfect case in point. “The ACA further increased the policy relevance of questions concerning competition and interactions between medical providers and insurers,” she says. “These reforms were built on the existing structure of the U.S. health care markets and include an attempt to leverage competition in some areas (for example, between insurers competing on Health Insurance Exchanges), while encouraging certain kinds of consolidation in others.” In addition, Professor Ho says the fact that the system moves toward substantial changes in provider incentives raises questions about the interaction between market structure, incentives, and outcomes in this market. “The system is very complicated,” she continues. “There are key policy roles

for competition authorities, regulators, and policy designers in enabling and facilitating competition in health care markets.”

The Welfare Effects of Market Structure Changes

Another important dimension of the health care debate focuses on the welfare effects of changes in the structure of the market. In a paper published by the *Journal of Economics and Management Strategy*, for example, Professor Ho suggests that vertical integration of insurers and hospitals can have a real impact on variables that directly impact welfare. “Integrated health plans offer both advantages and disadvantages compared to their competitors,” says Professor Ho. “They limit their provider networks significantly but may offer high-quality preventive care and broad coverage in exchange for the reduction in consumer choice.” What really matters, in addition to patient choice, are variables such as provider quality, prices, treatment decisions, and insurer premiums. An additional factor is the match between consumers and providers: Are consumers who care about (or need) particular provider characteristics matched to

“My hope is that with new data we can expect to see substantial real world impact of the new evidence generated by economic research.”



providers with those characteristics? Ho says interfirm interactions, which include horizontal competition, may affect firm investments regarding their quality. Vertical interactions are also important, determining the prices paid to providers and the choice set of providers made available to particular consumers.

Professor Ho says an important next step is to consider whether changes in the marketplace might affect hospital investment incentives. “We have to concern ourselves with the broader impact the model is having on hospitals, especially where hospitals are competing to be in a network designed by insurers,” she argues. “Hospitals are now differentially investing in new technologies, and also merging both within and across geographic markets, and this has the potential to substantially affect consumer welfare.”

Policy Impacts

One of the biggest challenges for Professor Ho’s research is that the health care system has many moving parts, especially in the United States. The primary objectives of the Affordable Care Act (ACA) were to expand health insurance coverage and provide incentives

for health care providers to reduce costs. “Obamacare was imperfect, but a huge improvement on the previous system,” says Professor Ho. “However, changes made by firms in response to the legislation could affect quality, prices, and costs through numerous mechanisms.” One important new set of institutions are the Health Insurance Exchanges (HIEs), marketplaces available in every state that help individuals, families, and small businesses shop for and enroll in affordable medical insurance. The exchanges provide a forum where consumers can access health insurance with low search costs, and they are intended to play a role in risk-pooling, and to facilitate competition between health insurers, with the goal of generating reduced prices and increased coverage. Regulatory oversight of coverage offered by plans on the exchanges, and other aspects of their business, is vitally important. “The reality is that any provision that give insurers too much freedom, for example to reduce coverage in some plans but not others, will reintroduce problems with adverse selection,” she adds.

Though she has no plans to enter the political debates in Washington,

Professor Ho is interested in engaging government officials in a productive conversation about change. She believes that policymakers need a model or framework for how the system works and the interactions between its different parts to help them predict the effects of possible policy changes. What happens when policymakers alter one part of the structure has great consequences in other areas. “My research is important because it spells out in theory and empirical terms the different potential effects of different policy levers, and on what dimensions they are likely to be important,” Professor Ho says. “My hope is that with new data we can expect to see substantial real world impact of the new evidence generated by economic research.”

Professor Kate Ho is a tenured associate professor and teaches courses in industrial organization.

STUDENTS

Sun Kyoung Lee

UNDERSTANDING URBAN TRANSPORTATION INFRASTRUCTURE THROUGH DIGITAL TECHNOLOGY

Sun Kyoung Lee, a fifth-year Ph.D. student, is using digital technology to investigate how the provision of urban transportation infrastructure affects the growth of cities and property values. “The data show intense interactions and connections between urban transportation infrastructure and the evolution of spatial development in the city as transportation infrastructure is developed,” says Lee.

“Urban transportation infrastructure built cities, of course, but also shaped the degree of specialization we see in places like New York City, where the economic life of the city deepened in every way.”

Lee is exploiting a unique historical setting in the introduction of the mass-public transit infrastructure in New York City to create novel datasets that have not existed in machine-readable form. “These new datasets provide a very high level of geographic resolution and enable the study of spatial economic interactions at a similarly high level of resolution within the city,” says Lee, a recipient of the National Science Foundation’s (NSF) 2017 Doctoral Dissertation Research in Economics Award. “Urban transportation infrastructure both improved living conditions and supported cities’ global specialization. Land production location became specialized and locations ideal for residential purposes, similarly specified,” she adds.

“The most exciting insight so far is that we see a higher degree of economies of agglomeration. With urban transportation infrastructure firms are manufacturing goods and products across cities with a higher return to scale. The garment district is a great example of this,” says Lee, who is



Sun Kyoung Lee is a fifth-year Ph.D. student in the Department of Economics (Photo by Jeffrey Schifman)



Figure 1, 1929 Commissioner's Plan (left): This map shows the proposed additional rapid transit lines. Lee plans to use such information of routes not taken as her estimation strategy to estimate the impact of urban transit infrastructure. Figure 2, New York City's Zoning Map of 1916 (middle): New York City adopted the nation's first comprehensive land-use regulation ("zoning") in 1916. Lee has digitized and collected these planning maps, and georeferenced these archival maps to perform spatial analyses using GIS software. Figure 3, New York City's Real Estate Transaction Record Example (right): This is a sample image of real estate transaction records of New York City. Lee systematically digitized and created machine-readable database by systematically parsing relevant information.

an advisee of Professor Donald R. Davis. "New York City's transportation networks have dictated our centers of population growth, guided our industries and businesses, and shaped our city. The city can focus on what they are really good at, what they do," she adds.

Digitization Technology

Lee's research constructs an integrated spatial framework that explicitly models the impact of transit shocks on location choices of households and firms globally. "Right now I am focused on both digitizing and creating novel datasets of the late nineteenth- and twentieth-century New York, but the findings have wide implication in many fields where spatial linkages are present," notes Lee, who works across the fields of trade, economic geography, and urban economics. She is using GIS technology, machine learning, and digitizing census records to better understand increasing returns to scale that follow urban transportation infrastructure. "This technology helps to measure, fairly accurately, the impact of urban transit infrastructure and

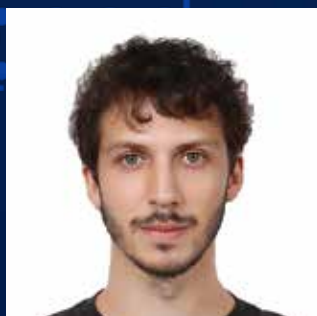
developing an identification strategy that allows the estimated impacts of causal interpretation."

Future Challenges

Lee just returned from the National Bureau of Economic Research (NBER) Summer Institute workshop on the Development of the American Economy, where she presented her job market paper, "Rise of the Metropolis: Evidence from New York City." Lee shares the challenges and joy of working with historical records. "When I go to archives, I feel as if I am an Indiana Jones searching for the right data. As much as giving new lives to paper-locked archival records can be rewarding, it requires a great deal of patience. For example, when I needed to document historical neighborhood boundary changes in New York, I first ordered historical maps in microfilms, digitized the maps, georeferenced different pieces of maps using Photoshop and created GIS-software compatible files. Some maps that are more than a century old are like cartoons, and dealing with such sources can be challenging and expensive. I had

to find many ways to make it happen while keeping the costs as low as possible. Sometimes the nature of this work can be challenging; however, I am enjoying the process," Lee said.

Lee became intrigued with cities after a family trip when she was nine years old to Seoul, the capital city of the Republic of Korea. She is also interested in documenting the pattern of internal migration within cities as the mass-transit infrastructure expanded from the late nineteenth century to the first half of the twentieth century. "This combination of rapid growth of metropolis and adoption of transport innovations was not only unprecedented, but it also had unparalleled impacts on defining the economies of agglomeration and the world's economy structure," Lee said. "There is a wonderful opportunity to digitize and construct data bases across time and space, but it is expensive. It involves data transcription, programming, adding spatial dimensions to the existing data, human intellect, and powerful computation."



Evan Friedman is a fourth-year Ph.D. student in the Department of Economics

Evan Friedman Wins 2017 NSF Dissertation Award

SUPPORT WILL ENABLE THE EXPLORATION OF EMPIRICAL GAME THEORY

The award for the 2017–2018 Doctoral Dissertation Research in Economics went to Evan Friedman for his project, titled “Attention and Beliefs in Games: An Experiment.”

The data set generated by the experiment, together with the theoretical BBE (biased beliefs equilibrium) framework, will be suited to answer questions of broader interest, such as: Can behavioral biases predict actions in the aggregate? Can actions predict biases in the aggregate? Are individual biases consistent across games and across time? The results have the potential to make a significant contribution to empirical game theory, and provide a better understanding of how people, organizations, and nations interacting strategically. Better understanding can then translate into

better policy-making, more carefully targeted, and more effective in its results.

The Doctoral Dissertation Research in Economics program supports research designed to improve the understanding of the processes and institutions of the U.S. economy and of the world system of which it is a part. This program also strengthens both empirical and theoretical economic analysis as well as the methods for rigorous research on economic behavior. It supports research in almost every area of economics, including econometrics, economics history, environmental economics, finance, industrial organization, international economics, labor economics, macroeconomics, mathematical economics, and public finance.

Janet Lu and Jonathan Zytznick also received the award in 2016–2017.



Pictured from left to right:
Ph.D. students Jiayin Hu and
Scott Weiner. (Photo by Jeffrey
Schifman)

Association of Graduate Economics Students

BUILDING A SENSE OF COMMUNITY

AGES, the Association of Graduate Economics Students at Columbia University, is working hard to make graduate life easier for all students in the program. From math camp to preparing for second-year fields, AGES offers tips and advice for incoming Ph.D. students in the Department of Economics.

To help incoming students transition to graduate life, the student-run body published a Student Guide with information to help first-year students navigate the Ph.D. program. With the support of AGES, each first-year student is partnered with an upper-year student who acts as a mentor, helping the first-year adapt to life at Columbia. In addition, as students begin the specialization process in year two, AGES works with professors who teach second-year field courses and

students who are doing research in the various fields to arrange sessions in which they can find out more about each field, discuss the kinds of cutting-edge work in those fields, and make an informed choice about the fields they will select in your second year. For upper-year students, the guide also provides useful information about faculty advisers, fellowships, teaching, and how to obtain external funding for research.

The program in economics at Columbia provides rigorous training and encourages students to do original and innovative work. This tradition is kept alive by a research-oriented faculty and strong student body building a sense of community. For example, faculty student weekly workshops play a key role by providing a forum for free exchange

of ideas, and an opportunity to discuss current issues and research in the field.

Throughout the year AGES organizes many social events, including happy hours and the Econ-PoliSci mixer—a joint social event to foster interaction between Ph.D. students in both departments. In 2016 AGES launched the Student Research Breakfast (SRB). This event aims at providing an informal and relaxed environment for students to present their research and exchange ideas with fellow students and serves as a complement to more formal colloquiums. In its first year, thirteen SRBs were held, with an average attendance of around fifteen.

Every Columbia economics graduate student is a member of AGES. For more information, visit ages.econ.columbia.edu

STUDENTS

Pictured below, right: Alan Lin (Photo credit: Eitan Neugut)



Class of 2017 (Photo credit: Bruce Gilbert)

MA Program Celebrates The Class of 2017

PROGRAM ENTERS ITS THIRD YEAR

The Master of Arts (M.A.) Program in Economics recognized graduates of the class of 2017 at its annual end of program reception at Faculty House in July. Among this year's graduates, Linqi Zhang and Zhongxuan Han were awarded the Graduate School of Arts and Sciences' Kathryn and Shelby Cullom Davis Fellowship. The award carries a one-time stipend check of \$5,000.

Speaking on behalf of the program, Shane Bordeaux, assistant director of the M.A. Program, says the program is designed for students who wish to improve their knowledge of economic theory and its applications.

"The admissions process is highly competitive," according to Bordeaux. "Students who make it through our very rigorous program are really exceptional economists when they leave here," he notes.

This fall, the program enters its third year, with an anticipated class size of around 60 students. In addition, the program will shift to a three-semester format—fall, spring, and fall. "This change from the initial 11-month format will allow students greater flexibility in preparing for pursuits after the program, such as giving them time to pursue internships in the summer between the first year and the second fall semester," says Bordeaux.

Columbia Economics Review

ALAN LIN NAMED EDITOR-IN-CHIEF

Alan Lin is the new editor-in-chief of the *Columbia Economics Review* (CER), a journal led, organized, and operated by undergraduate students at Columbia across multiple disciplines.

Founded in 2009 as the first undergraduate economics journal in the United States, CER aims to promote discourse and research at the intersection of economics, business, politics, and society by publishing a rigorous selection

of student essays, opinions, and research papers in a print journal released each semester. CER is sponsored by the Program for Economic Research (PER) and the Institute for Social and Economic Research Policy (ISERP).

Lin is a senior at Columbia College studying economics-mathematics with a concentration in statistics. He is particularly interested in monetary policies and the Federal Reserve.



Seven Things You Probably Didn't Know About Columbia Economics

BY JOSEPH M. ROSALES

1

The Columbia Economics Department has faculty in 17 fields of economics.

2

The Economics Department hosted the 21st Annual Conference of the Society for Institutional & Organizational Economics (SIOE) on campus this summer.

3

The Economics Department is home to more than 900 declared economics majors and concentrators.

4

Richard Clarida, C. Lowell Harriss Professor of Economics and International Affairs, won the U.S. Treasury Medal for Distinguished Service in 2017.

5

Eight Nobel Laureates have taught as professors of economics at Columbia.

6

Economics professor Alessandra Casella is the director of the Columbia Experimental Laboratory in the Social Sciences (CELSS), an interdisciplinary venue for researchers in economics, political science, the School of International and Public Affairs (SIPA), and the Business School.

7

Columbia has one of the top ten best graduate economics programs, according to *U.S. News* rankings (2017).

Joseph completed his B.A. in economics and political science in May 2017.



Joseph M. Rosales (Photo by Jeffrey Schiffman)



Research Support

FUNDING FOR RESEARCH SUPPORT FOR GRADUATE STUDENTS


The Program for Economic Research (PER) has launched three new initiatives to support the research activities of graduate students in the Department of Economics. PER will provide support for students who wish to purchase data sets for their Ph.D. research. To apply, a student must submit a five-page research proposal detailing the use of data for his/her research, accompanied by letters of endorsement by two advisers. The funding will be conditional on the research carried out not being coauthored with advisers; the funding decision will take favorably into account a proposal that will make the data available for other students and has the advisers offering to match a share of the expense. PER will also provide \$500 per person during the program for English editing services, under

the condition that the sponsoring faculty member(s) match the PER contribution.

In addition, the newly established, Summer Research Assistant (RA) Support Program awarded 12 Ph.D. students working with faculty in the department \$2,000 each. “PER supports research activities at the highest level and aims to promote research collaboration and development of new research areas within the field,” says Yeon-Koo Che, executive director of PER. “This initiative gives students unparalleled access to our distinguished faculty, learning side by side with diverse and accomplished scholars.”



Manhattan skyline as seen from the International Affairs Building, which houses the Department of Economics. (Photo by Jeffrey Schiffman)



*Pictured from left to right, opposite page:
Ph.D. students: Teresa Esteban Casanelles
and Nathaniel Denison Mark*

Introducing Macro Finance and Macro Labor Economics and Search Frictions

In the aftermath of the 2008 financial and economic crisis, academics and policymakers are paying closer attention to frictions in the goods and money markets and financial frictions in business cycles extending into the macroeconomic and financial landscape.

Two new courses at Columbia Economics, taught by Matthieu Gomez and Andres Drenik, give students an opportunity to dig deeper into the crisis and across a range of policy areas encompassing fiscal, economic, and financial policies. “My course introduces students to the theoretical and empirical literature on macro finance,” says Professor Gomez.

Professor Gomez joined the department this summer and specializes in the field of finance and macroeconomics. He says the Macro Finance course will cover general equilibrium models of risk and return, models with heterogeneous agents, and models with financial frictions. The literature examines the relations between financial markets and the real side of the economy. Typical questions addressed in macro finance are: Do financial markets matter for aggregate productivity? How do financial frictions amplify recessions? What is the impact of innovation shocks on asset prices and the economy? What drives CEO pay and wealth inequality? “My goal in teaching this course is to bring students to the research frontier in this literature. One dimension of the literature that I find

particularly exciting is the wealth of real and financial data available to test these models,” he adds.

Andres Drenik, who joined the department in 2016, will teach Macro Labor Economics and Search Frictions in fall 2017. “My course is about recent research of markets that face search frictions, that is, markets in which buyers and sellers need to search and find each other prior to making a transaction,” says Professor Drenik. “Although the classical framework of demand and supply is useful to analyze a broad range of issues, it is unable to answer some questions. For example, what determines the lengths of unemployment spells, why there exist vacant jobs and unemployed workers simultaneously, why similar workers doing similar jobs are paid differently?

Professor Drenik says similar questions arise in the market for goods: Why do similar (sometimes identical) goods have different prices across stores? Search theory tackles these issues by taking into account the fact that it takes time and resources to find a “good” job or visit many stores to find the “best” price.” His course also analyzes the implications that search theory has on the economy as a whole.

Q&A with Ph.D. Alum Beth Ann Bovino

DEPARTMENT OF
ECONOMICS FACULTY
AND STAFF HAD
THIS ALUM'S BACK,
WHICH ENABLED HER
TO THRIVE.

Q. How did you develop an interest in the field of economics?

As an undergrad I was at the Wharton School, and there I studied economics and I developed a taste for the subject. As well, as an undergrad I volunteered with a group that helped with assistance for families that are struggling, and of course that gave me first-hand experience of what the impact could be of losing your job. Those experiences gave me some personal eye to it. My love for economics kept on blossoming.

Q. What are the most useful field-related insights you gained during your graduate years at Columbia (for instance, modeling techniques)?

In terms of modeling techniques, you need to learn your craft. I wouldn't really spend too much time on what modeling techniques you use, because if you go in the private sector, you don't have a choice if your business says it's going to use one or the other. It really matters in terms of econometrics, that you understand the craft. For those students who need something to explore, debate. Obviously, it is very important to master your field in economics, but it is equally important to be able to present your findings. Particularly to an area where the opinions are divided. This is something that matters today, given the polarized environment on Capitol Hill. This really matters. I would also encourage students to take advantage of the dissertation workshops. You as a student can present your findings, but as an audience member you can learn from that. And, it gives you more ideas.

Q. The Wall Street Journal recognized you as the most accurate forecaster of the U.S. economy in 2013. What work experience (in the Fed or in the private sector) helped the most in terms of helping you develop a good sense of how the economy works and making good forecasts?

My education at Columbia gave me a strong foundation to be able to explore a lot of questions. For example, what the Federal Reserve would do? What do we expect for the unemployment rate, next month or next year?

At S & P Global, we do forecasting out several years, recognizing that the further out you go the less robust it will become. But, that early foundation was something that was really pivotal. I would also say that as an economist you can't just rely on theory and models. Even with all my education, what really matters is experience. I would say experience helps you recognize the signals. You can't rush it, and unfortunately you just don't learn this in a text book.

Q. What are the signs of confidence in the labor market that Americans should look for?

We have been pretty optimistic about the jobs market going out. Two years ago we started to see signs that the jobs market was getting stronger. Fortunately, it looks like it's still holding up relatively well. We did think that wages would pick up as well. What we looked at in terms of what are leading indicators, job openings were one thing. We saw job openings continuing to climb. Businesses needed to hire, and that's a sign that the jobs market is holding up rather strongly and wages were going to climb.

Another thing that we look at is the so-called voluntary separation rates or the quit rate. That also was climbing higher, and that means there is more bargaining power for workers when they go to their boss. That was something that we watched. We also looked for few other indicators in the job market report from the government,

Beth Ann Bovino is the U.S. chief economist at S&P Global Ratings, based in New York. Bovino's abstract painting, *Bullfight*, (background) was inspired by a dream.

which doesn't get a whole lot of attention but we follow to see what the trends are going forward. We look at what's happening with temporary hires. And that's something that is certainly the case often. We also look at the work week. When that gets larger, meaning the work week goes from 30 hours a week on average to 38 hours, that means businesses need their current workers and they will need to hire more. These are the indicators we look for, and certainly for the most part all of them suggest the job market is holding up relatively well.

For those economists out there, I would also say it's a good time to be an economist. There is a lot of demand in the private sector and we will hire you as well. There is a lot of demand for an economist to make sense of the economy and where its heading. And that's largely because we needed a financial crisis to help us realize that.

Q. Tell us about your dissertation, titled, "Essays on Race and Discrimination in Financial Markets." What was happening in the financial markets at the time, and have there been improvements?

The research was tied to redlining. Lawmakers were addressing discrimination in the lending space. In this case redlining, which is the practice of denying loans to an otherwise credit worthy applicant for housing in a certain area because of race.

So, what happened, going back to the 1970s now, the Community Reinvestment Act was initiated that required banks to basically meet the needs of the community in which they operated, including low income neighborhoods and large minority concentration. Because of that initiative

by the government, a lot of data was collected in this area and that opened up an opportunity. For grad students, they know data is key.

My dissertation explored the relationship between property values, location, and race in a neighborhood in determining whether a bank would decide to offer a mortgage or not. What we found was that it kind of challenged an earlier study by the Boston Federal Reserve that found no direct evidence of redlining. We created a more detailed database, and we found that there was indeed bias in some of the specifications on those three variables that suggested that they underestimated redlining. So, that's what we looked at.

Now, to your point, I think the United States has come a long way from say the 1930s when redlining or when the government refused to insure mortgages in or near African American communities. We are a long, long, way from there. However, and I can't speak to this directly because I have not really been following it, I can say most likely mission not accomplished.

Q. To what extent is your Ph.D. dissertation related to your current research? Do you mind sharing with us your experiences during your final graduate years, and giving some advice to students in the dissertation writing stage?

For those who decide to go into the private sector, you don't have as much choice about what you can write about. If you are working for a company, and they are looking at the bottom line, you move with what their thoughts are. But still, I can say that while I haven't really developed my particular research



Beth Ann Bovino (Photo by Rick Schwab or Rick's Image Works, LLC.)

topic further, it has informed my deep understanding of a lot of other areas. Basically, I wrote reports on income inequality, I wrote reports on housing, I wrote reports on the role of demographics in the long term potential growth aspects of the United States. All those factors are in play with what I researched earlier. So, I would just say, what you do as a grad student and what you pursue, will stay with you. You carry that with you. You may not directly follow through on one particular topic, but it will be embedded in your processes going forward.

Q. The forecasting models and programming languages vary across companies and institutions. Which type of model/methodology do you use and why?

We have used a lot of econometric forecasting models, but they are usually all largely driven off the Solow growth model. I am sure students are all well aware of that. I started with Stata and STAT, SAS in grad school. I had to learn other languages at S & P Global. That's what they can expect if they decide to go to the private sector. You pretty much don't have much of a choice on it. A company basically decides what programs you are going to be using.

"My education at Columbia gave me a strong foundation to be able to explore a lot of questions. For example, what the Federal Reserve would do? What do we expect for the unemployment rate, next month or next year?"

“If you decide to go into the private sector as an economist, you are not going to necessarily be moving with the markets. Markets are going to be moving often a lot faster than what your research will be.”

The point to take away here is if you have the basic framework of econometrics and modeling methodology, you are going to learn whatever comes your way.

Q. It seems that working in the industry requires forecasting market movements in a timely fashion. Do you think speed compromises the rigor of research? What role does your “gut feeling” play when you make forecasts?

Hmmm ... the gut. If you decide to go into the private sector as an economist, you are not going to necessarily be moving with the markets. Markets are going to be moving often a lot faster than what your research will be. The fastest you'll go, for example, is that you might respond to, make comments on what the jobs number said that day, and then we put something out. How does that change our forecasts in any way? But that would be a short comment. Really what we look at is the medium and longer term horizon. Speed is going to offer little to no advantage.

In terms of the question on following your gut, I'll go back to what I said: It's not necessarily the gut, it's experience. And, it's basically understanding the signals behind the data.

Q. What are your goals now?

At S & P Global, I focus a lot on the jobs market. Could this be from my past experience, and just my involvement in working and helping people who hit a bad point in their lives when they were unemployed? It could be part of that. It's also just basically as an economist, you follow these issues. One thing we follow here is the key impact of automation

on jobs. We did some research on that. One of the reasons we did look on this is because there was this question about what was destroying jobs in the United States. This was a campaign story and everybody was saying it's trade. Well what we found was that it wasn't really trade. Maybe in some areas, in some sectors you did see the impact of trade in terms of destroying jobs. But, we think the real culprit was automation. Now we would argue, and we are not going to kill the robot here but, we argued that the American workforce was key here. We must unlock the potential for automation, in terms of productivity but also to help with jobs as well, we saw this as education. Reskilling workers so that they actually can work in an environment, in a new automated workforce.

We argue that we need to provide workers with the toolset. This isn't just good for the workers, it certainly helps them, it helps their family, their income and certainly has knock-down effects. But, it helps the business in terms of really tapping into the productivity from those robots because they work together. But, the other thing is that it makes the US more competitive internationally. It makes our workforce more competitive, it makes us, the companies, more competitive and that goes a long way to putting us on the global map.

My personal goals? If you are a private sector economist, you pretty much have to align directly to what the Federal Reserve is thinking. We do that because they are the gatekeepers of the economy. What they think and say, maybe they are not right all the time in terms of where they see their outlook going, but they are the ones who are in charge of basically interest rates and what happens with the monetary policy. So you always follow them. We are also

following what the government does. In fact, in our forecasts, what we do we have a risk of recession outlook going out 12 months. We had it now a little on the high end growth to markets and that's largely because of the risk of policy mistakes on Capitol Hill. Indeed, if we thought that had been reduced, we would go a little bit lower. It would more aligned with what the data is saying.

On a personal note, there has been a big change in my life. I am married with a toddler, 15 months old. My life is now filled with sloppy kisses and poop diapers. I couldn't be happier. Which actually brings me back to my earlier point, which is don't lose yourself. Don't lose yourself in research and miss these moments.

“I would also say that pursuing that other side, that creative side, didn't just help me as an artist, but it also made me a better economist.”

Q. Tell us about the role of art in your life, and the painting that is hanging in Professor Brendan O'Flaherty's office?

I always dabbled in the arts. Back in the day, I think I may have been that quirky student that showed up covered in paint to an economics class. I was not the normal economics grad student that's for sure.

In the first two years when you are doing your field exams, it's exhausting and when I finally finished them, to quote a famous poet, I took the road less traveled and joined the art department. Fortunately, the art department welcomed me.

I would also say that pursuing that other side, that creative side, didn't just help me as an artist, but it also made me a better economist. There are many facets to me, not just an economist. My creativity helped when I was doing my research. I took chances, I thought outside of the box. Another perfect example of how exploring this other side of me helped nurture me as

a better economist was that I didn't hold on to an idea.

In the art department, I had an instructor, Archie Rand; I don't know if he is still at Columbia. He pulled me aside one day and said, you are a genius with a small “g” (laugh). I was convinced I was the next Picasso. But, he also told me when you are working on a painting you are holding on to one piece; it's too precious and you don't want to let it go, destroy it. And that applies to economics. Because if you are holding on to an idea and you don't allow it to change, then you could be held back and maybe that idea is not quite right. If you hold on to that, all those other opportunities could be lost. So, it definitely helped me. It's a part of me that I would never change. I treasure those days.

The painting hanging in Professor O'Flaherty's office was inspired by a dream. The piece is called Bullfight. It's kind of an abstraction, but it is called Bullfight. I had a dream, and I woke up and I remembered bullfight. It was so visual and the colors were there. I took what I remembered from that dream and painted that. I just worked with primary colors. Art opens your world. And, that goes to economics because don't rely on just what you are good at. That could hold you back in economics as well.

I am glad the piece is still hanging in Professor O'Flaherty's office. I was so touched to hear that. It was a small token of my appreciation, because he really spent the time with me.

Q. Parting words of wisdom for our Ph.D. (job market candidates)?

What I found so important to get across the finishing line—take advantage of the resources at Columbia University. Talk to

the professors. Yes, they are busy, but there is a lot you can learn. Use them to really bounce off ideas. They can lead you in the right direction, and that's huge help. Take advantage. Don't lock yourself into a silo of just economics. Also, get involved. Go to office hours, go to workshops, form your own groups. Find people who are like minded in terms of their own research and thoughts. Form a group. That can get you so far. And finally, one of the most important things is don't lose yourself by pursuing your degree.

And for those of you out there who are in the midst of dissertation hell, and it is hell, remember this: the only good dissertation is a finished one. We are not all John Nash, but you still have something to contribute. What you offer matters, not only to your career, but to economic thought down the road. I did not turn my dissertation into a bestselling book on the subject. I was certainly far away from that. But, it helped shape my thinking, it influences my research today and it influences the reports we put out at S&P Global. So, it's something that will matter.

Beth Ann Bovino holds a bachelor's degree in economics from the Wharton School at the University of Pennsylvania, a master's degree in international and development economics from Yale University, and a Ph.D. in economics from Columbia University.



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Panel On Protectionism Today

UNIVERSITY PROFESSOR JAGDISH BHAGWATI DISCUSSES
THE TRUMP ADMINISTRATION'S TRADE POLICY AGENDA

University Professor Jagdish Bhagwati and former advisors to Obama and Bush administration and the World Trade Organization debated President Donald Trump's trade policy on September 11, 2017.

The panels titled, Protectionism Today and Trade, Poverty and Inequality, discussed several issues such as the concern over bilateral balances, China, negotiating trade agreements, trade disputes, and the advantages offered by the multilateral trading system.

"The discussion was not about rewriting the rules of global trade, but really an opportunity to understand the value and purpose of trade in the 21st century," said Professor Bhagwati, described as the most

creative international trade theorist of his generation and a leader in the fight for freer trade. "I am deeply committed to public debates based on facts, research and policy experience," he said.

Professor Bhagwati has been leading numerous trade conferences and symposiums since he arrived at Columbia in 1980. The panelists included: Chad P. Bown, Senior Fellow at the Peterson Institute for International Economics; Petros C. Mavroidis, Professor of Foreign and Comparative Law, Columbia Law School; Phil Levy, Senior Fellow on the Global Economy, The Chicago Council on Global Affairs; Pravin Krishna, Distinguished Professor of International Economics and Business, Johns Hopkins University; Amit Khandelwal, Jerome A. Chazen Professor of Global Business and Director, Jerome A. Chazen Institute for Global Business; Wojciech Kopczuk, Professor of Economics, Columbia University; Jan Svejnar, James T. Shotwell Professor of Global Political Economy and Director of the Center on Global Economic Governance (CGEG) at Columbia University; and Devashish Mitra, Professor of Economics and Gerald B. and Daphna Cramer Professor of Global Affairs, Syracuse University.

The event was jointly sponsored by the Program for Economic Research, the Jerome A. Chazen Institute for Global Business at Columbia Business School, and the Center on Global Economic Governance at Columbia University.



Pictured below, left: Jagdish Bhagwati. (Photo by Columbia Law School)

B

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Faculty Distinction

CELEBRATING
THE SIGNIFICANT
ACCOMPLISHMENTS
OF OUR FACULTY
DURING THE PAST
ACADEMIC YEAR

Yeon-Koo Che

Kelvin J. Lancaster Professor of Economic Theory
Jacob Marschak Lecture,
Econometric Society, Australasian Meeting (July 2016)

Donald Davis

Ragnar Nurkse Professor of Economics;
Elected Vice President of the
Urban Economics Association

Padma Desai

Gladys and Roland Harriman Professor Emerita of Comparative Economic Systems
Honorary Doctor of Letters,
Columbia University, 2017
European Scientific Industrial Chamber Gold Medal Award

François Gerard

Assistant Professor
Research Affiliate, International Growth Center (May 2016)
Member, The National Bureau of Economic Research (NBER)

Kate Ho

Associate Professor
Program Committee Member, Econometric Society Winter Meetings 2018

Harrison Hong

John R. Eckel Jr. Professor of Financial Economics
Honorary Doctorate, Aalto University, School of Business, 2016
Honorary Doctorate, Stockholm School of Economics, 2016

Réka Juhász

Assistant Professor
Alexander Gerschenkron Prize,
Economic History Association, 2016

Navin Kartik

Professor
Appointed as Foreign Editor,
Review of Economic Studies, 2016

Jennifer La'O

Assistant Professor
National Science Foundation CAREER Award for "Interdealer Networks and the Distribution of Credit Risk"

Sokbae (Simon) Lee

Professor
Maekyung-KAEA (Korea America Economic Association) Economist Award, 2017

W. Bentley MacLeod

Sami Mnaymneh Professor of Economics and Professor of International and Public Affairs
Excellence in Refereeing, *American Economic Review*, 2016

José A. Scheinkman

Charles and Lynn Zhang Professor of Economics
Elected Fellow of the Society for Economic Theory
Elected Fellow of the American Finance Association
Named inaugural Charles and Lynn Zhang Professor of Economics

Joseph E. Stiglitz

University Professor
Distinguished Book Prize for *Creating a Learning Society: A New Approach to Growth, Development, and Social Progress*, Columbia University Press, 2016
Bloomberg 50 Most Influential People in the World of Finance, 2016
Progress Medal for *Scholarship and Leadership on Fairness and Well-being*, Society for Progress, 2016

Michael Woodford

John Bates Clark Professor of Political Economy
2017 Research Initiatives in Science and Engineering (RISE) Award Recipient

AWARDS

2017 RISE Awardees

MICHAEL WOODFORD AND JACQUELINE GOTTLIEB AMONG AWARDEES

Columbia University Office of the Executive Vice President for Research named Michael Woodford, John Bates Clark Professor of Political Economy in the Department of Economics, and Jacqueline Gottlieb, associate professor in the Department of Neuroscience (CUMC), among six teams receiving funding through the Research Initiatives in Science and Engineering (RISE) in 2017. The annual award provides funds for up to six interdisciplinary faculty teams from the basic sciences, engineering, and/or medicine to pursue blossoming and extremely creative research projects. Each team's award is worth \$80,000 per year for up to two years.

The project, titled "Integrating Information Sampling and Decision Making through Large-Scale Testing of Human Information Seeking Behavior," will seek to provide empirical answers to key questions regarding information sampling policies; allow significant extension of normative theories of decision making to take account of informational constraints and the strategies that individuals use to overcome these constraints; and establish a robust behavioral testing platform that can be extended in the future to gather other types of "big data" on human behavior.

RISE is one of the largest internal research grant competitions within the University. The competition was created in 2004 to provide Columbia faculty and research scientists with the initial funding necessary to explore paradigm-shifting and high-risk ideas. Amid federal

budget cuts for the sciences, researchers are increasingly challenged to provide more conclusive initial proofs of concept to demonstrate viability, even though they lack funding to complete such preliminary work. In this competition, Columbia follows the National Institutes of Health's definition of high-risk research as having "an inherent high degree of uncertainty, and the capability to produce a major impact on important problems," says G. Michael Purdy, executive vice president for research and professor of earth and environmental sciences.

Presidential Teaching Award

XINGYE WU AWARDED THE PRESIDENTIAL TEACHING AWARD

The Presidential Teaching Award for outstanding teaching by graduate students was awarded in 2017 to Xingye Wu. He was among three graduate student instructor (teaching assistant) recipients recognized during the Graduate School of Arts and Sciences convocation ceremony in May. Winners receive a certificate signed by President Bollinger, a formal citation written by their department, and an honorarium of \$8,000.

Prior Department of Economics winners include Carlos Montes-Galdon (2012) and Raicho Bojilov (2009).



Hassan Afrouzi



Michael Carlos Best



Gregory F. Cox



Matthieu Gomez



Jack Willis



Wouter Vergote

New Faculty

SIX NEW FACULTY JOIN THE DEPARTMENT

As of fall 2017, the Department of Economics has welcomed five new tenure track faculty members and one lecturer in discipline to Columbia. Their collective excellence, both historically and extending into the future, is sure to enrich the vibrancy of our Columbia community. Below is a complete list of the six faculty, their departmental affiliation, and which institutions they are joining us from:

Hassan Afrouzi joined the Economics Department as an assistant professor in July 2017, after receiving his Ph.D. from the University of Texas at Austin. His research focuses on the macroeconomic implications of imperfect competition and imperfect information. He received a B.S. in mathematics from Sharif University of Technology (Tehran, Iran), and M.S. in Economics from the University of Texas at Austin.

Michael Carlos Best joined the Economics Department as an assistant professor in July 2017, after completing a postdoctoral fellowship at the Stanford Institute for Economic Policy Research this year. His research projects focus on public economics and development economics. He received a B.Sc. (government and economics) from the London School of Economics, an M.Phil. (economics) at the University of Oxford, and an M.Res. and Ph.D. in economics from the London School of Economics.

Gregory F. Cox has been appointed assistant professor and will start his appointment in fall 2017. His research field is econometrics, he focuses on weak identification and robust inference with

applications to factor models. His current work establishes tools for valid inference in models that are only generically identified, with a special focus on factor models. He received a B.A. in economics and mathematics from Columbia University, and an M.A., M.Phil., and Ph.D. in economics from Yale University.

Matthieu Gomez has been appointed assistant professor of economics. His fields are finance and macroeconomics. His working papers include “Asset Prices and Wealth Inequality” (2017) and “What Drives the Recent Rise in Top Wealth Shares?” (2017). He received a M.Sc. in applied mathematics from École Polytechnique and a Ph.D. in economics from Princeton University.

Jack Willis will join the Economics Department as an assistant professor in January 2018. His primary research interests are in development economics, public economics, behavioral economics, machine learning, and household finance. His working papers include “Time vs. State in Insurance: Experimental Evidence from Contract Farming in Kenya.” He received a B.A. and master’s in mathematics from Cambridge University. He also completed a master’s in economics at the Paris School of Economics, Université Paris, and a Ph.D. in economics at Harvard University.

The department also welcomes **Wouter Vergote** as a lecturer in discipline. He will begin his appointment this fall. Vergote served as a professor of economics at the Université Saint-Louis, Brussels. His research focuses on the economic applications of games with private information. He received his B.A. and M.A. in economics from the Catholic University of Leuven in Belgium, and M.Phil. and Ph.D. in economics at Columbia University.

30 Entering Doctoral Students

A MORE GLOBAL REACH

The Department of Economics welcomes 30 Ph.D. students with close to 20 countries represented. “We are very happy with the extremely high quality of the Ph.D. students who chose to come to Columbia this year,” says Jón Steinsson, professor of economics and director of graduate studies. “Attracting high quality Ph.D. students is crucially important to our mission both as educators and researchers,” he notes.

Omar H. Ahsan

(University of Maryland, College Park)

Amanda Aku Ahornam Awadey

(University of Ghana)

Gabriel Bracons Font (Barcelona Graduate School of Economics)

Anastasia Burya

(Lomonosov Moscow State University)

Kyle Coombs

(Macalester College)

Martsella Davitaya

(Moscow School of Economics)

Bruno de Albuquerque Furtado

(Universidade de Brasília)

Prerna Dewan

(Indian Statistical Institute)

Guanzhong Du (University of North Carolina, Chapel Hill)

Naman Garg (Delhi School of Economics)

Bhargav Gopal

(University of California, Berkeley)

Sakshi Gupta

(Delhi School of Economics)

Yi Jie Gwee (London School of Economics)

Youngbin Han (Yonsei University)

Sean David William Hyland

(Victoria University of Wellington)

Hyoseok Kim (Columbia University Graduate School)

Kwhangho (Joshua) Kim

(Stanford University)

Yu Kyung Koh (University of Chicago)

Eugene Larsen-Hallock (Yale University)

Rui Duarte Mascarenhas

(Universidade Nova de Lisboa)

Shruti Mishra

(St. Xavier's College, Mumbai)

Andrew R. Olenski

(George Washington University)

Szymon Konrad Sacher

(University of Edinburgh)

BooKang Seol (Harvard University, Kennedy School)

Katherine Esther Strair

(Northwestern University)

Hong Ken Teoh

(London School of Economics)

Yu Fu Wong

(Université Toulouse 1 Capitole)

Lizi Yu (Duke University)

Krzysztof Zaremba (Università Commerciale Luigi Bocconi)

Howard Zihao Zhang (Harvard College)

DEPARTMENT OF ECONOMICS

Professor Kenneth J. Arrow

(1921-2017)

It is with great sadness that we announce the passing of Professor Kenneth J. Arrow on Tuesday, February 21. He was 95. Kenneth Arrow, the Joan Kenney Professor of Economics and Professor of Operations Research at Stanford University, was awarded the Nobel Prize in Economic Science in 1972. Professor Arrow's work was formative in shaping the field of economics over the past sixty years and his ideas, style of research, and breadth of vision were a model for generations of the boldest and most creative economists. He received his Ph.D. from Columbia University in 1951 and was awarded an honorary doctorate from the university in 1973. The Program for Economic Research has been honored to be one of the organizers of the Kenneth J. Arrow Lecture Series at Columbia University, now in its ninth year, which highlights economists whose work builds on Professor Arrow's pioneering scholarship and innovative spirit. He will be deeply missed.

Below, we share some comments from Professor Arrow's colleagues.

Joseph Stiglitz, University Professor at Columbia University:

"Ken Arrow was one of the greatest intellects of the past century and among the kindest I have ever known. His originality and depth of insight were unsurpassed, as was his commitment to creating a better world. I was privileged to have him as a professor at MIT, then as a colleague at Stanford, and finally as a co-author and friend. We worked on a large number of causes together including the Intergovernmental Panel on Climate Change and Economists for Peace and Security. He will be terribly missed."

Mike Woodford, John Bates Clark Professor of Political Economy at Columbia University:

"Kenneth Arrow, still the youngest person ever to be awarded the Nobel Memorial Prize in Economic Science, was widely recognized as one of the most important contributors to economics in the second half of the twentieth century. While particularly renowned for his foundational contributions to the theory of social choice, the theory of general competitive equilibrium, asset pricing theory, and the theory of choice under uncertainty, he also had a considerable impact on economic understanding of problems as diverse as economic growth, health economics, inventory management, and statistical issues arising in quality control studies.

Kenneth Arrow was a giant of economics, and an inspiration to those of us in the generations that followed him. The acuteness of his mind and his commitment to rigorous analysis, even well into his nineties, were impressive, and have set an example that the rest of us will struggle to live up to. We shall not soon see someone like him."

José A. Scheinkman, Edwin W. Rickert Professor of Economics:

"Ken Arrow was one of the greatest economists that ever lived. He was also immensely read and an insightful and generous critic. Giving a lecture with Ken in the audience was an amazing experience because you often came out with a fresh perspective on a problem in which you thought you were an expert."

Source: econ.columbia.edu



Professor Arrow at the 9th Annual Arrow Lecture in December 2016.

COLUMBIA | ECONOMICS

Department of Economics:

Bernard Salanié

Professor of Economics and Chair

Economic Advisory Council (EAC):

John A. Allison

Princeton, B.A.
Columbia, M.A., M.Phil.
CEO and Chief Investment Officer,
Unio Capital

Miles Freedman

Owner, GFD Management Inc.

Mark E. Kingdon

Columbia, B.A., 1971
Harvard, M.B.A., 1973
President, Kingdon Capital
Management

John G. Quigley

Georgetown, A.B., summa cum laude
Stanford, J.D., M.B.A.
Columbia, M.Phil.
Cofounder, Special Limited Partner,
YL Ventures GP Ltd.
Senior Adviser, Carthage
Capital Group

Andrew M. Senchak

Lafayette College, B.A.
Columbia, Ph.D.
Executive, Morgan Stanley

Bart Turtelboom

Columbia, Ph.D.
Chief Executive Officer and Executive
Director, APQ Global Limited

Program for Economic Research (PER):

Yeon-Koo Che

Kelvin J. Lancaster Professor of
Economics and Executive Director

Sophia N. Johnson

Assistant Director

Stephanie Cohen

Program Manager

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