



RICE ECON

News and Views from the Economics Department at Rice

Spring Break!

We hope you have a wonderful spring break and return refreshed and ready to knock out the rest of the semester. And that the Astros are diligently utilizing their spring break to prepare a reprise of last year’s amazing championship season.

In this issue of our newsletter, we continue featuring some of the new courses that we have added in recent years. “Great Course on the Menu!” below highlights one of these offerings, ECON 462, Economics of Human Capital, which will be taught next semester by Professor Flávio Cunha. And be sure to check out the

information below about the next in our series of lectures by winners of the Nobel Prize in Economics, coming up on Thursday, March 8.

Finally, in response to requests from students and to address some of our own concerns, we have made a few changes in course requirements, pre-requisites, etc., effective Fall 2018. These changes are: (1) ECON 100: Students who have (a) received a score of 5 on the AP Micro exam or a score of 6 or 7 on the IB high level Micro exam, (b) received a score of 5 on the AP Macro exam or a score of 6 or 7 on the IB high level Macro exam, and (c)

made a grade of B- or better in MATH 102 (taken at Rice), may substitute any Economics major elective for ECON 100; (2) ECON 203: ECON 200 is now a co-requisite rather than a pre-requisite; (3) ECON 209: ECON 100 replaces ECON 200 as a pre-requisite; and (4) ECON 308: New pre-requisite: A grade of B- or higher in MATH 212, either taken at Rice or transfer credit for MATH 212 subject to approval of the course instructor.

We hope the rest of your spring semester goes well!

George Zodrow
Director of Undergraduate Studies

Great Course on the Menu!

Menu

Main Course: ECON 462
Economics of Human Capital

Appetizers: ECON 200 & ECON 209

Master Chef: Professor Flávio Cunha

Dinner is Served: Fall 2018, Tues and Thurs, 10:50 am - 12:05 pm; Tues, 6:30 pm - 7:30 pm

Come enjoy a gastroeconomical delight!

When shopping for Fall 2018 economics courses, be sure to consider ECON 462, Economics of Human Capital. The course will be taught by Professor Flávio Cunha, who came to Rice in 2014 and is an internationally renowned expert in labor economics (he won the Econometric Society’s Frisch medal in 2014 for his work on cognitive and noncognitive skill formation). ECON 462 covers the theory of the role of human capital in determining economic growth as well as societal inequality. It is especially geared towards learning techniques related to the evaluation of public policy and developing related computational skills so that students can simulate complex economic models that address these problems. Students interested in studying the sources of long-run economic growth and acquiring skills in policy evaluation will especially enjoy the material covered in the class. A broad range of topics related to human capital will be discussed, including economic development, models of growth, education of young children, and agglomeration economies, among others. Economics of Human Capital will also utilize econometric techniques to test theories and to provide insights on what policies can improve human capital formation while also aiding growth and reducing inequality. The course emphasizes experimental design and methods of testing the efficacy of policies, pilot programs, and interventions. The major topics of the course are divided into two sections, both of which cover important papers on human capital. The first is macro-based and discusses theory and empirical studies about the role of human capital in the determination of long-run economic growth. The second half, which is micro-based, covers theory and empirical studies that examine how to foster human capital formation.

Spotlight on our Faculty



Jeremy Fox, Associate Professor of Economics

Research Interests: Industrial organization, econometrics, labor economics

Jeremy Fox is an Associate Professor of Economics whose main research interest lies in empirical industrial organization. Other areas Professor Fox specializes in include econometrics and labor economics. His research has covered various industries, such as mobile phone companies and venture capitalists, and he has also worked on issues within the labor market and firm productivity. Prior to joining the Rice Economics Department, Professor Fox previously held appointments at the University of Michigan as well as the University of Chicago. He obtained his undergraduate degree from Rice.

What has it been like returning to Rice as a professor?

I would say that the similarities are that it is still a very comfortable, friendly campus and it is interesting having a lot of the faculty that taught me be my colleagues. So, people like James Brown and Marc Dudey were my teachers back when I was a student and now they're my colleagues.

How did you become interested in economics?

I was originally a political science major and I did complete the major, but I was looking for a more formal way of thinking about social science problems. I got into economics through taking freshman economics, and seeing what it was about and enjoying it.

What are your current research interests/projects?

One project I'm working on is called dynamic matching, which is a game where people form relationships and take into account the benefit of a relationship today on the ability to make good relationships in the future. So, the project could be applied to labor markets for workers with terms. One application I'm working on is with a fellow at the Baker Institute, Ed Egan, and some other authors who aren't at Rice. We're working on accelerators and a special early-stage form of funding for start-ups, and how getting early-stage funding from an accelerator might affect the ability to get later-stage start-up funding from a more traditional venture capitalist.

What other current research in your area are you most excited about?

I've noticed that a lot of people are working on the topic of bargaining, and we have some people working on that here at Rice like Hülya Eraslan, Antonio Merlo and Xun Tang among others. There's also people working on bargaining as a way to understand, say, pricing in healthcare, where you have insurance companies bargaining with hospitals about the prices they charge their members. That's being used to study a lot of policy issues in healthcare, about how we regulate health insurance markets and whether we should encourage mergers between hospitals to form larger systems or encourage insurance companies to team up and bargain collectively with hospitals. Of course, that's related to matching since the hospitals are forming relationships with insurance companies.

What advice do you have for undergraduates who are looking to pursue further education in economics?

My basic advice would just to be to take the more challenging courses earlier, so you can ask the professor to write a letter of recommendation for you based on your performance. Also, taking those courses early might allow you to become a research assistant or otherwise get involved in a research project that might help train you for a PhD program. I think the main idea is just to get started early. Eventually, if you're going to a PhD program, you might be interested in taking some of the PhD courses in the department, and if you don't take all of the undergrad courses by, say, your junior year it's not going to be easy to take PhD courses your senior year.

Looking into the future, do you have any ideas you're particularly excited about?

I have a set of project ideas about bank mergers and trying to understand whether retail bank mergers are driven by synergies between the merging firms. If so, I want to investigate whether those synergies are primarily about the demand for banking services, like maybe because having more outlets of the same bank is beneficial to consumers, or are the synergies primarily driven by cost savings.

For more information on Professor Fox's research projects, including his current working papers and his C.V., see the [Faculty Page](#) on the Economics Department website.

Advising Corner

Spring 2018 Advising Office Hours

Monday

1:00–2:00 p.m.
Maria Bejan, BKH 251

Tuesday

1:30–2:30 p.m.
George Zodrow, BKH 260

Wednesday

4:00–5:00 p.m.
James Brown, BKH 250

Thursday

1:00–2:00 p.m.
Mahmoud El-Gamal, BKH 240

Friday

1:30–3:30 p.m.
Peter Hartley, BKH 262

Economics Faculty Awarded NSF Grant

Congratulations to Professors Hülya Eraslan, Jeremy Fox, and Yinghua He, who have recently been awarded a National Science Foundation grant (in the amount of \$443,678) for a research project that investigates “Operationalizing Pseudo-Market Mechanisms: School Choice and Shared Office Allocation.” Working with Rice graduate student Yakym Pirozhenko, the team will investigate more complex structures for market mechanisms that are now used to solve matching problems, such as matching students to schools in systems of school choice or matching medical students to residency training programs.

Yinghua He notes that, “Matching market design is an exceptionally exciting research field. On the one hand, it combines knowledge from many fields, such as computer science, economics, mathematics, and operational research. On the other hand, it has been successful in the real world, assigning students to better schools, finding patients organs for transplantation, and in general finding ways to make the best use of limited resources.” Most current matching mechanisms utilize only a simple preference ranking from participants, such as a ranking by students of schools they would like to attend. However, Eraslan, Fox, and He are interested in a class of mechanisms that considers more specific information from participants, who would give not only a preference ranking but also provide information on the strengths of their preferences. As



Jeremy Fox, Yakym Pirozhenko, Hülya Eraslan, and Yinghua He

Jeremy Fox puts it, “We’re asking people to give us information about the intensity of their preferences, for example, are their first and second choices pretty close or is their first choice quite a bit better for them than their second choice?” While the basic concepts behind such mechanisms can be found in the existing economic literature, no one has yet implemented these principles in practice. The team will investigate whether the additional information on individual preferences provided beyond just a simple ordering of options results – as predicted – in improved and more efficient assignments of people to slots. Such systems also have other advantages, as they can take into account preference structures in which participants care not only about their own assignment but about the assignment of others, and can also allow

for different priorities in school choice. The team’s specific project will construct a simulated market in which these intensity preferences are registered without the use of money. A key factor will be the calculation of a competitive equilibrium, a problem that has practical obstacles, and the team plans to implement a new computational algorithm to find equilibria in these markets. Their approach will also take into account the possibility of coordination by students in stating their preferences. The Economics Department research team has already put the ideas behind their project into practice by using their methodology to assign offices to Economics PhD students, and they will also be implementing their approach to the problem of assigning rooms to students at Wiess College for the next academic year.

RISE Lecture - Nobel Laureate William F. Sharpe



The Rice Initiative for the Study of Economics (RISE), directed by former Economics Department Chair and current Dean of Social Sciences Antonio Merlo, has brought numerous distinguished recipients of the Nobel Memorial Prize in Economic Sciences to Rice. This semester’s RISE lecture features Professor William F. Sharpe of Stanford University, who received the Nobel Prize in 1990 for his work in financial economics. Among many other accomplishments, Sharpe was one of the originators of the Capital Asset Pricing Model and developed the Sharpe Ratio, which is widely used to analyze investment performance. He has been president of the American Finance Association, published a wide range of articles in top professional journals, and written seven books. His lecture is entitled “Financing Retirement: Social Security, Public Pensions and Defined Contribution Plans,” and will be delivered on Thursday, March 8, at 5:00 p.m. in Stude Hall. We hope that you will be able to attend.

Back to the Future: An Interview with Maggie Shi '16



Maggie Shi is a second-year economics PhD student at Columbia University. Her research interests are in public finance and labor economics – interests that were very much influenced by the classes she

took at Rice. Maggie was a member of Baker College and majored in Mathematical Economic Analysis and Statistics.

How have you enjoyed your first two years at Columbia? What can you tell prospective students about economics graduate school?

I have grown immensely, both academically and as a person. The first year was tough but also incredibly rewarding. As in most economics PhD programs, at Columbia I had to take the “big three” core classes – micro, macro, and (econo)metrics – and prepare for certifying exams in the summer. While three classes might sound like a breeze ... it certainly wasn't! I probably worked 2-3 times harder than I did as an undergrad. They put you through the ringer so that you understand the models inside and out. This requires understanding every assumption, working through all the details in the mathematical proofs, and fully grasping the intuition. But all that hard work wasn't fruitless. Once I understood the material, ideas and models I had encountered in my undergrad courses at Rice suddenly clicked together. I really started to appreciate the beauty of economics (am I getting too nerdy here? Guess that's why I'm in grad school!). The first year of grad school also pushes you as a person – I came out of it a lot more self-disciplined and a lot more aware of how to manage stress.

I'm now in my second year, which is a lot more relaxed and fun. I'm taking really interesting electives in public finance, political economy, education, health economics, and development. I've enjoyed seeing what is on the research frontier in these classes, and I am planning

on choosing public finance and applied microeconomics as my two fields. I've also started to dip my toes into empirical work this year, which you don't get to do a lot in first year.

How did your classes at Rice as well as your overall student experience help you prepare for graduate study? In what ways do you feel you could have been better prepared?

I think the most important classes that prepared me at Rice were the electives. Yes, math is incredibly important, and so are the basics of micro and macro. But personally, the research and ideas I was exposed to in my electives are what keep me inspired.

Another really important part of my Rice experience was the mentorship I received from professors. While I was applying for PhD programs, they helped me evaluate schools and showed me what I needed to do to improve my chances. Last year, when I felt like there was no way I could master the material, I thought back to all my Rice professors who believed in me, and I pushed on.

Looking back, my only regret is that I didn't work under a professor to get more research experience – many of my classmates had experience as research assistants. So, I am still catching up to them in terms of Stata and data cleaning/management, although I can leverage what I learned from my honors research project in my senior year.

Are there other things that you would recommend that our students do to prepare themselves for graduate studies in economics?

First, *make sure you really want to get an economics PhD*. Figure out what people do after getting an econ PhD and what life in a PhD program is like, and see if it lines up with your own preferences. Graduate school is not just five more years of undergrad. If you do the research on grad school and are still interested, then I would recommend reaching out to professors in the department to ask about next steps. This probably includes taking as many math classes as you can, studying for the GRE, maybe taking a course in the ECON grad program, and doing an independent research project in your

senior year.

What are the best features of the Columbia PhD program?

It is a really supportive environment. Of course, I have not personally experienced any other PhD program, so I can't really compare. But I have found that my classmates are really friendly and not competitive at all, which is great when it comes to first year classes and also co-authorship opportunities in the future. Additionally, there are very few limitations on research areas as there are so many professors whose research covers almost any topic you might be interested in and Columbia's economics department doesn't have a reputation for being heavily skewed toward any particular field. There are also a lot of fantastic economists working in Columbia's other graduate schools, like the School of International and Public Affairs, Teachers College, and Columbia Business School.

How do you like living in New York City?

I love it! It is really different from Houston – lots of public transportation, walkable neighborhoods, and we get all four seasons! Columbia is located a bit north of the busiest parts of the city, but it is still in Manhattan. My neighborhood is relatively quiet (which is good for when you want to focus), but I still have access to everything New York City has to offer. It is definitely an expensive city for a student living on a grad school stipend, but there are lots of inexpensive and fun things to do. Being a grad student, my hours are flexible enough that I can do things like catch a matinée performance of Hamilton or go to the Met on a Tuesday afternoon when no one else is around. Living in New York City adds a great new dimension to graduate student life.

