Toulouse Summer School in Quantitative Social Sciences
May 30 – June 24, 2022 – TOULOUSE

May 30/June 10 – Part 1 – The evolution of human sociality
June 13/June 24 – Part 2 – Economic and political institutions

Economics + Social Sciences
A program in economics and the social sciences

In pursuit of the common good, through excellence in new economic knowledge

The Toulouse Summer School in Quantitative Social Sciences at Toulouse School of Economics (TSE) and the Institute for Advanced Study in Toulouse (IAST) offers an interdisciplinary program in economics and the social sciences. The summer school is open to PhD students in economics and other disciplines.

Applicants should provide a CV, a copy of their most advanced degree, a proof of student status, a short cover letter and a recommendation letter (optional) on the online application form. Applicants should specify if they will attend part 1, part 2, or both.

Credits: 3 ECTS credits per part.
Fees: 275€ for the whole program.
Waiver and funding: All students will be provided with university accommodation on site throughout the length of the program they are registered for. PhD students in other disciplines than economics will further have their registration fees waived and their travel expenses funded.

Application deadlines: Early applications are encouraged and will be given priority in the event of excess demand.
- Early application deadline: February 4, 2022
- Regular application deadline: March 18, 2022

Location: Classes will be in-presence only and located in the new TSE building at 1 Esplanade de l’Université, 31000, Toulouse, France.
- June 2 / June 3: Economics and Biology Workshop
- June 22 / June 23: Political Economy Workshop

Program:

PART 1 - May 30 ➔ June 10 - The evolution of human sociality
PART 2 - June 13 ➔ June 24 - Economic and political institutions

Online application platform: www.tse-fr.eu/toulouse-summer-school-quantitative-social-sciences
Contact: summerschool@tse-fr.eu
Organizers: Victor Gay (victor.gay@tse-fr.eu) and Jorge Peña (jorge.pena@iast.fr)
The evolution of human sociality
Jorge Peña and Jonathan Stieglitz

Overview
Evolutionary theory provides a powerful organizing conceptual framework for understanding human social behavior that spans several academic disciplines (e.g., anthropology, biology, and economics), levels of explanation (e.g., proximate, ultimate, developmental, and phylogenetic) and levels of social organization (dyads, families, communities, and beyond). In so doing, this framework helps explain variation in human sociality across space and time.

This first part of the summer school will provide an overview of evolutionary approaches to understanding human sociality from an interdisciplinary perspective, incorporating the most recent theoretical and empirical advances. The first week comprises a course by Jorge Peña on mathematical models of social evolution, and the second week, a course by Jonathan Stieglitz on human social evolution from an evolutionary anthropology perspective.

Instructors

- **Jonathan Stieglitz** is Professor Anthropology at University of Toulouse 1 Capitole and a member of the Institute for Advanced Study in Toulouse. He is also co-director of the Tsimane Health and Life History Project (http://tsimane.anth.ucsb.edu/index.html), a joint health and anthropology project aimed at understanding human life course evolution.

  Dr. Stieglitz's research aims to understand how ecological and social factors interact to influence human behavior. Specifically, his research addresses three questions: 1) Why do families form and function the way they do? 2) How does variability in family functioning affect well-being of household members? and 3) Why and how do social relationships (family and other) interact with local ecology to influence behavior over the life course?

  To address these questions Dr. Stieglitz uses principles from behavioral ecology and life history theory, which attempt to explain modern human variation as an adaptive response to trade-offs between investments in competing demands.

  Dr. Stieglitz received his PhD in Anthropology (concentration: Human Evolutionary Ecology) from the University of New Mexico.

  Email: jonathan.stieglitz@iast.fr

- **Jorge Peña** is Assistant Professor at University Toulouse 1 Capitole and a member of the Institute for Advanced Study in Toulouse. His research focuses on social evolution theory and collective action problems from a theoretical and interdisciplinary perspective. His work has been published in The American Naturalist, Evolution, Games and Economic Behavior, Journal of Mathematical Economics, Journal of Theoretical Biology, Proceedings of the Royal Society B: Biological Science, and Trends in Ecology and Evolution, among others. Originally trained as an engineer, he received his PhD in Applied Mathematics from the Faculty of Social and Political Sciences of the University of Lausanne, and has previously held postdoctoral research positions at the Faculty of Business and Economics of the University of Basel, at the Max Planck Institute for Evolutionary Biology, and at the GEOMAR Helmholtz Centre for Ocean Research Kiel.

  Email: jorge.pena@iast.fr

- **Péter Bayer** is a postdoctoral researcher at Toulouse School of Economics and Institute for Advanced Study in Toulouse. His research focuses on game theory, networks, and the application of game theory to fight cancer. His research has been published in Journal of Economic Theory, Journal of Economic Dynamics and Control, and Journal of Theoretical Biology. Dr. Bayer received his PhD at Maastricht University in 2019.

  Email: peter.bayer@tse-fr.eu
Mathematical models of social evolution

Social evolution is the subfield of the evolutionary sciences concerned with the evolution (be it genetic or cultural) of social behaviors, that is, behaviors having fitness consequences for individuals other than the actor. Although most research in the evolutionary (human) sciences is empirical, predictions and intuitions are often derived from mathematical models drawing upon evolutionary theory and game theory. In this course, we introduce students to ideas and models used in social evolution theory, and apply them to the general question of the evolution of human cooperation. In particular, we will review models of indirect reciprocity and institutional sanctioning. The format will consist of lectures in the mornings (by Jorge Peña) and tutorials in the afternoons (by Péter Bayer).

References

Methods


Indirect reciprocity


Institutional sanctioning

Human social evolution

Human social behavior has been shaped by evolutionary processes. This course reviews the relevant theory and primary approaches for investigating human social behavior from an evolutionary perspective. We will explore universal and variable features of human sociality across time and space, with a primary focus on subsistence-level populations but also including modern industrialized economies. Topics addressed will include cooperation, mating and parenting, life history theory and the demographic transition to low fertility.

The format will consist of lectures (morning) and workshops (afternoon) taught by Jonathan Stieglitz. Workshops will include class discussions (for example, about how to design novel research) and individual and/or group projects.

LECTURE TOPICS

- Human social organization: an overview
- Human life histories: diet, intelligence and sociality
- Food sharing: conceptual models and empirical evidence
- Marriage and the division of labor
- Life history theory
- Demographic transition

Evaluation

Students will be evaluated based on research proposals presented during the workshops on Thursday and Friday.
Course structure, part 1 / week 2
(Tuesday, June 7 – Friday, June 10)

References

**Human social organization**


**Food sharing**


**Life history theory**


**Demographic transition**

Part 2 (June 13 – June 24, 2022)

Economic and political institutions
Horacio Larreguy and Mohamed Saleh

Overview

Economic and political institutions are fundamental determinants of development, inequality, and human well-being. In this course, we introduce students to recent conceptual, methodological, and data advances in the study of institutions in economic history, political economics, and political science. While the study of institutions has been central to political science since its inception, economics has seen a revival of interest in the impact of historical and political institutions on long-run development and inequality, and political scientists are paying more attention to political economy issues. Today, work on the research frontier often concerns the interaction of politics and the economy, historically and contemporaneously, and spans multiple disciplines.

Methodological advances concern the analysis of natural and field experiments that may enable scholars to make stronger causal inferences by employing techniques such as difference-indifferences, instrumental variables, randomized control trials, and regression discontinuity. The introduction of “big data” (e.g., micro-level and large-scale administrative data, or social media data) makes it possible to study the origins and consequences of institutions in history and politics at the micro level, as well as the profound consequences of more modern institutions, such as social media, on politics. We consider these issues through the discussion of several substantive topics: institutions and development, democracy, and social media.

Instructors

- Horacio Larreguy is Associate Professor of Government at Harvard University and a Visiting Researcher at the Institute for Advanced Study in Toulouse and Toulouse School of Economics. His research focuses on issues related to political economy of development. His work has been published, among others, in the AEJ: Applied Economics, American Journal of Political Science, the American Political Science Review, Econometrica, Journal of the European Economic Association and Review of Economics and Statistic.
  Email: hlarreguy@tse-eu.fr

- Mohamed Saleh is Professor of Economics at the Toulouse School of Economics, University of Toulouse Capitole, Member of the Institute for Advanced Study in Toulouse, and Research Affiliate in Economic History at the Centre for Economic Policy Research. His research focuses on Economic History and Political Economy. His research has been published in Econometrica, Journal of Economic History, and Explorations in Economic History, among others.
  Email: mohamed.saleh@tse-fr.eu

Course structure, part 2 / week 3
(Monday, June 13 – Friday, June 17)

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<thead>
<tr>
<th>Monday, June 13</th>
<th>Tuesday, June 14</th>
<th>Wednesday, June 15</th>
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<tr>
<td>9.00 am - 10.30 am</td>
<td>Institutions and economic development</td>
<td>Methods and Data</td>
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<tr>
<td>10.30 am - 11.00 am</td>
<td>Break</td>
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<tr>
<td>11.00 am - 12.30 am</td>
<td>Institutions and economic development</td>
<td>Methods and Data</td>
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<tr>
<td>10.30 am - 11.00 am</td>
<td>Lunch</td>
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<td>2.00 pm - 3.30 pm</td>
<td>TA Session</td>
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<td>Thursday, June 16</td>
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<td>9.00 am - 10.30 am</td>
<td>Intergenerational mobility and big data</td>
<td>Democracy and inequality</td>
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<td>10.30 am - 11.00 am</td>
<td>Break</td>
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<td>2.00 pm - 3.30 pm</td>
<td>TA Session</td>
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Evaluation
To be announced.
Course structure, part 2 / week 3
(Monday, June 13 – Friday, June 17)

References

Institutions and economic development (M. Saleh)


Methods and data (M. Saleh)

Difference-in-differences and applications in economic history. Randomized Control Trials (RCTs) and experiments in economic history.


Migration (M. Saleh)


Intergenerational mobility and big data (M. Saleh)


Democracy and inequality (H. Larreguy)

Lecture 1


Lecture 2

Course structure, part 2 / week 4
(Tuesday, June 20 – Friday, June 24)

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<tr>
<th>Monday, June 20</th>
<th>Tuesday, June 21</th>
<th>Wednesday, June 22</th>
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<tr>
<td>9.00 am - 10.30 am</td>
<td>Methods and data</td>
<td>Political selection</td>
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<td>10.30 am - 11.00 am</td>
<td>Break</td>
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<tr>
<td>11.00 am - 12.30 am</td>
<td>Methods and data</td>
<td>Social media and politics</td>
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<tr>
<td>10.30 am - 11.00 am</td>
<td>Lunch</td>
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<tr>
<td>2.00 pm - 3.30 pm</td>
<td>Political selection</td>
<td>Social media and politics</td>
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<th>Thursday, June 23</th>
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<td>9.00 am - 10.30 am</td>
<td>TA Session</td>
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<td>10.30 am - 11.00 am</td>
<td>Lunch</td>
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<tr>
<td>11.00 am - 12.30 am</td>
<td>Political Economy Workshop</td>
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<tr>
<td>10.30 am - 11.00 am</td>
<td>TA Session</td>
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<td>2.00 pm - 3.30 pm</td>
<td>Lunch</td>
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Workshop
Students will have the opportunity to attend the Political Economy Workshop held on Wednesday, June 22, and on Thursday, June 23. More information soon available.

References

Methods and data

Lecture 1

Lecture 2


Political selection

Lecture 1


Lecture 2


Political selection

Lecture 1


Lecture 2
