Summer School on
SOCIAL CHOICE & FAIR DIVISION

THEORY & APPLICATIONS

6th
7th
8th
September
University of Tehran and Ferdowsi University of Mashhad

TEPT_ir

Introduction

Embark on a transformative academic journey with our Summer School on Social Choice and Fair Division, the first of its kind in the Middle East and Asia. This program builds on the success of last year's summer school on Economic Design and offers a unique chance to delve into the advanced topics of social choice theory and fair division.

Social choice theory explores how societies can make collective decisions in a fair and efficient manner. It addresses questions such as how to design voting systems that reflect the preferences of all individuals, or how to allocate resources equitably among diverse groups. This field is crucial for developing fair policies and systems that impact public governance, resource management, and more.

Our carefully designed curriculum provides a comprehensive understanding of these specialized subjects, guided by leading experts. Participants will learn about practical applications such as voting systems, resource allocation, and public policy design, enhancing their ability to address complex social and economic issues.

Introduction

The summer school also fosters global collaboration by bringing together scholars, research-ers, and students from around the world. This international setting encourages the exchange of ideas, promotes joint research efforts, and strengthens academic networks between Iranian and global institutions.

In addition to its academic offerings, the program provides an enriching cultural experience. Participants will gain insights into Iranian culture while interacting with peers from diverse backgrounds, broadening their global perspective.

Who is the Potential Audience?

Our academic summer school caters to a diverse audience, including graduate students, early-career researchers, and professionals. We offer specialized courses, workshops, and topics in seminars for top graduate students in economics from leading departments in Iran and abroad, designed to enhance research skills, expand academic networks, and explore new research areas.

Early-career researchers, such as postdoctoral fellows and junior faculty, can gain expertise in emerging areas, learn cutting-edge methodologies, and establish collaborations. The program provides opportunities for feedback, networking, and engaging with senior scholars.

Professionals in government, industry, and non-profit sectors are also welcome. They can update their skills, stay current with developments, and engage with best practices through applied courses, practical workshops, and hands-on training.

Summer School Structure

– All virtual classes will be conducted via the Zoom platform, with real-time English subtitles available.

– Participants in this program will be awarded a certified bilingual certificate of completion.

– In light of the substantial number of online attendees, considerable efforts have been undertaken to enhance the quality of the online instructional experience.

– In-person participants are advised to pay special attention to the different location for the third day of the course and plan accordingly for any necessary travel. It is important to note that virtual participation will be available for those who are unable to attend in person.

What is Social Choice?
Understanding Social Choice Theory

Social choice theory, a branch of economics and political science, examines how individual preferences are aggregated to make collective decisions. It addresses mechanisms and processes for group choices among alternative outcomes or policies, exploring key questions like how to form a group preference from individual preferences, evaluate decision-making procedures, and the implications of various voting systems.

What is Social Choice?

Key components include

- Individual Preferences: Considering the varying preferences of individuals in a society or group.
- Social Welfare Function: Aggregating individual preferences into a collective preference or social welfare.
- Voting Systems: Mechanisms for making collective decisions, such as majority rule, proportional representation, ranked-choice voting, and approval voting.

Social choice theory offers a framework for analyzing collective decision-making challenges and provides insights into designing and evaluating voting systems and decision rules in politics, economics, and public policy.

What is Fair Division?
Understanding Fair Division

Fairness is crucial in everyday life as it promotes social cohesion and harmony by ensuring individuals feel valued and respected. When people perceive decisions as fair, they trust institutions, cooperate with others, and contribute positively to society. Fairness addresses inequalities, promotes equal opportunities, and protects individual and group rights. It enhances psychological well-being, fostering happiness, self-esteem, and life satisfaction. Fair treatment encourages effort, risk-taking, and goal pursuit, leading to mutual agreements and peaceful conflict resolutions. Prioritizing fairness in institutions and policies reduces resentment and tensions, maintaining social order and long-term stability.

What is Fair Division?
Importance of Fairness

Fair division, also known as fair allocation, is a field in mathematics and economics that deals with dividing resources among individuals in a fair and equitable manner. This concept applies to various real-world situations, such as allocating land, water, airspace, and public goods among competing users. Mathematical and computational algorithms, including division algorithms, negotiation protocols, and auction mechanisms, are used to solve fair division problems. These methods ensure that resources are divided systematically, considering the preferences and constraints of all parties involved.

Why Should We Care About Fair Division in Public Policy?

Fair division ensures equitable distribution of public resources, benefits, and services among all citizens, regardless of their socioeconomic status or background. This promotes social justice by addressing inequalities, ensuring marginalized groups receive their fair share, and enhancing the legitimacy and trustworthiness of public institutions. Transparent and impartial resource allocation builds public trust and compliance with laws, fostering social cohesion by promoting fairness, reciprocity, and mutual respect
.

Incorporating fair division principles into public policy decision-making helps resolve conflicts through objective criteria, facilitating negotiation and consensus building among competing interests. This approach is fundamental to democratic governance, upholding values such as equality, freedom, and justice, and contributes to long-term stability by addressing underlying inequities. Overall, fair division promotes effective governance, social cohesion, and the overall

Haris Aziz

Best of Both Worlds Fairness

Haris Aziz is a Scientia Associate Professor at UNSW Sydney and leader of the Algorithmic Decision Theory group. His research intersects artificial intelligence, theoretical computer science, and social sciences, with recognition from institutions like IEEE and media coverage in outlets like BBC and Scientific American. He holds a Ph.D. from the University of Warwick and has held visiting positions at Oxford and Harvard.

Pre-School Articles:*

Best of Both Worlds: Ex Ante and Ex Post Fairness in Resource Allocation
Best-of-Both-Worlds Fairness in Committee Voting

*In order to make better use of the school, it is necessary to read the mentioned articles.

Inácio Bó

Redesigning the Brazilian affirmative action policies for university admissions
Designing a new market: Civil service jobs selection, assignment and reassignment in Brazil

Inácio Bó is an Associate Professor of Economics at the University of Macau, with a Ph.D. from Boston College. His research in market design and behavioral economics has been published in journals like The Economic Journal and Management Science. He has advised the Brazilian government on affirmative action policies for university admissions.

Pre-School Articles:*

College Admission with Multidimensional Privileges: The Brazilian Affirmative Action Case

Hiring from a pool of workers

Racial and income-based affirmative action in higher education admissions: Lessons from the Brazilian experience

*In order to make better use of the school, it is necessary to read the mentioned articles.

Satya R. Chakravarty

Ethical Approaches to Inequality Measurement
Fair Allocation Problems

Satya R. Chakravarty is affiliated with the Indira Gandhi Institute of Development Research in Mumbai and retired as a professor from the Indian Statistical Institute, Kolkata. His research appears in journals such as Econometrica and the Journal of Economic Theory. He has written books on inequality, poverty, and game theory. He has worked as a consultant for organizations like the Asian Development Bank and the World Bank.

Sinan Ertemel

Claims Problem

Sinan Ertemel is an Assistant Professor of Economics at Istanbul Technical University, with a Ph.D. from Rice University. His research areas include game theory, market design, and energy economics, and he has published in leading economic journals. He also provides specialized training in decision-making and game theory for industry leaders.

Pre-School Articles:*

Moulin, H. (2002). Axiomatic Cost And Surplus Sharing. Handbook Of Social Choice And Welfare, 1:289–357.
Thomson, W. (2019). How To Divide When There Isn't Enough. Number 62. Cambridge University Press.
Aumann, R. J. And Maschler, M. (1985). Game Theoretic Analysis Of A Bankruptcy Problem From The Talmud. Journal Of Economic Theory, 36(2):195–213.
Dagan, N. (1996). New Characterizations Of Old Bankruptcy Rules. Social Choice And Welfare, 13(1):51–59.
Moulin, H. (1985). Egalitarianism And Utilitarianism In Quasi-linear Bargaining. Econometrica: Journal Of The Econometric Society, Pages 49–67.
O'neill, B. (1982). A Problem Of Rights Arbitration From The Talmud. Mathematical Social Sciences, 2(4):345–371.

*In order to make better use of the school, it is necessary to read the mentioned articles.

Flip Klijn

Hedonic Coalition Formation Problems with Friend-oriented Preferences
Shapley-scarf's Housing Markets and Kidney Exchange Programs
Top Trading Cycles: From Shapley-scarf to Multiple-type Housing Markets

Flip Klijn is the scientific director at the Institute for Economic Analysis (CSIC) in Barcelona and a research professor at the Barcelona School of Economics. He holds an M.Sc. in Mathematics from Radboud University Nijmegen and a Ph.D. in Economics from Tilburg University. His research focuses on matching theory, market design, game theory, social choice theory, and operations research, with publications in top journals like the American Economic Review and the Journal of Economic Theory. He has also held research positions at Harvard Business School, Aix-Marseille School of Economics, and Innsbruck University.

Pre-School Articles:*

Core Stability and Strategy-Proofness in Hedonic Coalition Formation Problems with Friend-Oriented Preferences

Shapley–Scarf Housing Markets: Respecting Improvement, Integer Programming, and Kidney Exchange

Characterizing The Typewise Top-trading-cycles Mechanism for Multiple-type Housing Markets

*In order to make better use of the school, it is necessary to read the mentioned articles.

Fuhito Kojima

How to Integrate Fragmented Matching Markets for Welfare Improvement

Fuhito Kojima is a Professor of Economics at the University of Tokyo and Director of the University of Tokyo Market Design Center. His research interests include microeconomic theory, game theory, market design, and political economics. He is a Fellow of the Econometric Society and serves on the Board of Editors for the American Economic Review. He is also a Council Member of the Game Theory Society and a Foreign Editor of the Review of Economic Studies.

Pre-School Articles:*

Ekkyo matching: How to integrate fragmented matching markets for welfare improvment

Interdistrict school choice: A theory of student assignment

What's the Matter with Tie-Breaking? Improving Efficiency in School Choice

Fair matching under constraints: Theory and apllications

Efficient Matching under Distributional Constraints: Theory and Applications

Two-sided matching with indifferences

*In order to make better use of the school, it is necessary to read the mentioned articles.

François Maniquet

A Theory of Fairness and Social Welfare: A Decade After

François Maniquet is a professor at UCLouvain and part-time professor at the University of Warwick. He specializes in economic sciences and has received the Francqui Prize for his work on the just economy. He is a member of the Center for Operations Research and Econometrics (CORE) at UCLouvain.

Pre-School Articles:*

Fleurbaey, Marc, and François Maniquet. A theory of fairness and social welfare. Vol. 48. Cambridge University Press, 2011.

*In order to make better use of the school, it is necessary to read the mentioned articles.

Alexander Nesterov

Incentives and fairness in matching mechanisms: axiomatics and beyond

Alexander Nesterov is an Associate Professor in Economics at HSE University in St. Petersburg, with a Ph.D. from Humboldt University Berlin. His work focuses on microeconomic theory, mechanism design, and market design. He has been involved in significant projects like the Russian crab auction and redesigning the Russian college admission system.

Marcus Pivato

Belief Aggregation and Epistemic Democracy

Marcus Pivato is a professor at Université Paris 1 Panthéon–Sorbonne and a managing editor of Social Choice and Welfare. His research focuses on normative economic theory, social choice theory, and social welfare theory, exploring how individuals and groups should make decisions using mathematics.

Arunava Sen

Teacher Redistribution in Public Schools

Arunava Sen is a Professor of Economics at the Indian Statistical Institute. He specializes in game theory, social choice theory, and mechanism design. He has received numerous awards, including the Infosys Prize and the Mahalanobis Memorial Medal, for his contributions to economic theory.

Pre-School Articles:*

Optimal Flows in Networks with Multiple Sources and Sinks
A Concept of Egalitarianism Under Participation Constraints

*In order to make better use of the school, it is necessary to read the mentioned articles.

Kemal Yildiz

Equitable Stable Matchings under Modular Assessment

Kemal Yildiz is an Associate Professor of Economics at Bilkent University, with a Ph.D. from NYU. His research in choice theory, mechanism design, and game theory has been published in journals like Theoretical Economics and Management Science. He has received the Marie Sklodowska–Curie Global Fellowship and other awards for young scientists in Turkey.

Summer School Time Table

Tehran: UTC:	08:30_09:45 05:00_06:15	10:00_11:15 06:30_07:45	11:30_12:45 08:00_09:15	12:45_14:15 09:15_10:45	14:15_15:30 10:45_12:00	15:45_17:00 12:15_13:30	17:15_18:30 13:45_15:00
			Keynote Speakers				
6th September Tehran	*A Theory of Fairness and Social Welfare: A Decade After* *Online* François Maniquet *Université catholique de Louvain,*	*Hedonic coalition formation problems with friend-oriented preferences* **Flip Klijn** *Institute for Economic Analysis, Spain*	Best of Both Worlds Fairness *Online* Haris Aziz *University of New South Wales, Australia*	Break	*Shapley-Scarf's housing markets and kidney exchange programs* Flip Klijn *Institute for Economic Analysis, Spain*	*Top trading cycles: from Shapley-Scarf to multiple-type housing markets* Flip Klijn *Institute for Economic Analysis, Spain*	*Ethical Approaches to Inequality Measurement* **Satya Chakravarty** *Indira Gandhi Institute of Development Research, Mumbai, India*
7th September Tehran	*Claims Problem* *Online* Sinan Ertemel *Istanbul Technical University, Turkey*	**How to Integrate Fragmented Matching Markets for Welfare Improvement** *Online* Fuhito Kojima *University of Tokyo, Japan*	*Belief Aggregation and Epistemic Democracy* *Online* Marcus Pivato *Université Paris 1 Panthéon-Sorbonne, France*	Break	*Redesigning the Brazilian affirmative action policies for university admissions* Inácio Bó *University of Macau, China*	*Incentives and fairness in matching mechanisms: axiomatics and beyond* Alexander Nesterov *HSE University, Russia*	*Equitable Stable Matchings under Modular Assessment* Kemal Yildiz *Bilkent University, Turkey*
8th September Mashhad	*Claims Problem* *Online* Sinan Ertemel *Istanbul Technical University, Turkey*	*Incentives and fairness in matching mechanisms: axiomatics and beyond* Alexander Nesterov *HSE University, Russia*	*Teacher Redistribution in Public Schools* *Online* Arunava Sen *Indian Statistical Institute, India*	Break	*Designing a new market: Civil service jobs selection, assignment and reassignment in Brazil* Inácio Bó *University of Macau, China*	*Fair Allocation Problems* Satya Chakravarty *Indira Gandhi Institute of Development Research, Mumbai, India*	*Fair Allocation Problems* Satya Chakravarty *Indira Gandhi Institute of Development Research, Mumbai, India*

Summary School Prices

🏷	Online Attendance	In-Person Attendance
University of Tehran Students	1.500.000 TMN	1.500.000 TMN
Other Iraninan Students	2.000.000 TMN	2.000.000 TMN
Non-Student Iraninans	2.500.000 TMN	3.000.000 TMN
Foreign Participants	50 €	300 €

!

The capacity for in-person attendance at the course is very limited.

Participants who wish to attend in person are required to select the in-person attendance option on the Evand registration link and pay a fee of 100,000 Tomans for the resume review and consideration process.
This amount will be deducted from the course fee for those who are selected.

Foreign participants, whether attending online or in-person, should fill out the Google Form. The course support team will review the requests and inform participants via email at scfd2024@gmail.com about the payment process and participation details.