

Mathematics of Voting and Representation

Monday 10 – Friday 14 June 2024

Hosted by ICMS at Edinburgh Futures Institute (EFI)

The programme is subject to change. All times are British Summer Time (BST).

MONDAY 10 JUNE 2024	
09.00 – 09.50	Registration and refreshments
09.50 – 10.00	Welcome and housekeeping
10.00 – 11.00	Hervé Moulin , University of Glasgow <i>Fair mixing and participatory democracy</i>
11.00 – 11.30	Refreshments
11.30 – 12.30	Adam Graham-Squire , High Point University <i>Anomalies and Manipulation in Scottish Single Transferable Vote Elections</i>
12.30 – 14.30	Lunch
14.30 – 15.30	Christian Klamler , University of Graz <i>An Analysis of the Styrian Parliamentary Elections in 2015 and 2019 Using Different (Theoretical) Approaches</i>
15.30 – 16.00	Refreshments
16.00 – 17.00	Eric Maskin , Harvard University <i>A Resolution of Arrow's Impossibility Theorem</i>
17.00 – 18.00	Welcome Reception hosted at ICMS, Bayes Centre (47 Potterrow, Edinburgh EH8 9BT)

TUESDAY 11 JUNE 2024	
10.00 – 11.00	Markus Brill , University of Warwick <i>Proportional Representation Beyond Elections</i>
11.00 – 11.30	Refreshments
11.30 – 12.30	Mostapha Diss , University of Franche-Comte <i>On the price of diversity for multi-winner elections under (weakly) separable scoring rules.</i>
12.30 – 14.30	Lunch
14.30 – 15.30	Friedrich Pukelsheim , University of Augsburg <i>Composition of the European Parliament</i>
15.30 – 16.00	Refreshments
16.00 – 17.00	Moon Duchin , Cornell University <i>Preferences and proportionality</i>
18.00 - 20.00 Doors from 17.45	Public Lecture - Will of the People: The Mathematics of How We Vote and Why It Matters hosted at Surgeons Quarter (Symposium Building, 12 Hill Square, Edinburgh EH8 9DR)

WEDNESDAY 12 JUNE 2024	
09.00 – 10.00	Sarah Cannon , Claremont McKenna College <i>Understanding Districting via Random Sampling</i>
10.00 – 11.00	Daryl DeFord , Washington State University <i>Local Walks on Trees and Evaluating Non-Partisan Tradeoffs in Redistricting</i>
11.00 – 11.30	Refreshments
11.30 – 13.30	Short presentations on computational tools in voting, representation, and related fields Jeanne Cleland, Moon Duchin, David McCune, Ulle Endriss
13.30	Lunch and Free Afternoon

THURSDAY 13 JUNE 2024	
09.00 – 10.00	Ulle Endriss , ILLC, University of Amsterdam <i>Automated reasoning for social choice theory</i>
10.00 – 11.00	Zoi Terzopoulou , Saint-Etienne School of Economics <i>Ranking rankings: Forming preferences on others based on others' preferences on us, and applications in social choice</i>
11.00 – 11.30	Refreshments
11.30 – 12.30	Edith Elkind , University of Oxford and Alan Turing Institute <i>An Adaptive and Verifiably Proportional Method for Participatory Budgeting</i>
12.30 – 14.30	Lunch
14.30 – 15.30	Beth Malmskog , Colorado College <i>Colorado: An Ensemble Analysis Case Study</i>
15.30 – 16.00	Refreshments
16.00 – 17.00	Anthony McGann , University of Strathclyde <i>PR and FPTP as systems of representation and AI</i>

FRIDAY 14 JUNE 2024	
09.00 – 10.00	Kris Tapp , St. Joseph's University <i>Ballot Clustering Algorithms</i>
10.00 – 11.00	Ellen Veomett , University of San Francisco <i>Analyzing metrics to detect gerrymandering via short bursts</i>
11.00 – 11.30	Lunch and End of Workshop