



**Google Matrix:  
fundamentals, applications and beyond**

15-18 October 2018

*Marilyn and James Simons Conference Center*

**Monday 15 October, 2018 (from 14h00)**

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- 14h00 - 14h30      *Welcome of the participants*
- 14h30 – 15h30      Sergey Dorogovtsev (University of Aveiro, PT)  
Complex network approach to evolving manifolds and simplicial complexes
- 15h30 – 16h30      Yann LeCun (Facebook AI Research NY, USA)  
Graph Embedding, Content Understanding, and Self-Supervised Learning
- 16h30 – 17h00      *Coffee break*
- 17h00 – 18h00      Ravi Kumar (Google CA, USA) – video talk  
Random Walks and Graph Properties

**Tuesday 16 October, 2018 (10h00-18h00)**

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- 10h00 – 10h30      *Welcome coffee*
- 10h30 - 11h30      Piet Van Mieghem (Delft University of Technology, NL)  
The simplex geometry of graphs
- 11h30 - 12h30      Klaus Frahm (Université de Toulouse, FR)  
Spectral properties of Google matrix and beyond
- 12h30 - 14h00      *Buffet lunch*
- 14h00 - 15h00      Katia Jaffres-Runser ( IRIT, INPT-ENSEEIH, Toulouse, FR)  
Reduced Google Matrix analysis of Wikipedia networks
- 15h00 - 16h00      Stéphane Nonnenmacher (Université Paris-Sud, FR)  
From Fractal Weyl Laws to spectral questions on sparse directed graphs
- 16h00 – 17h00      *Coffee break*
- 17h00 - 18h00      Andrew Tomkins (Google CA, USA) – video talk  
Inverted steady states and LAMP models

**Wednesday 17 October 2018 (10h00-17h30)**

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- 10h00 – 10h30      *Welcome coffee*
- 10h30 - 11h30      Leonardo Ermann (Comisión Nacional de Energía Atómica, AR)  
Google matrix analysis of the World Trade Network
- 11h30 - 12h30      Lior Rokach (Ben-Gurion University, IL)  
Recommender Systems: Twenty years of research
- 12h30 - 14h00      *Buffet lunch*
- 14h00 - 15h00      Jean-Philippe Bouchaud (CFM Paris, FR)  
Overlaps in RMT: theory and applications
- 15h00 - 16h00      Jean-Jacques Slotine (MIT, USA)  
Collective computation in nonlinear networks and the grammar of evolvability
- 16h00 – 16h30      *Coffee break*
- 16h30 – 17h30      Matteo Marsili (ICTP Trieste, IT)  
Typical properties of efficient representations of high dimensional data

**Thursday 18 October, 2018 (10h00-16h00)**

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- 10h00 – 10h30      *Welcome coffee*
- 10h30 - 11h30      Paolo Boldi (Universita di Milano, IT)  
Axioms for centrality: rank monotonicity for PageRank
- 11h30 - 12h30      Robert Palovics (MTA SZTAKI Budapest, HU)  
Temporal walk based centrality metrics for graph streams
- 12h30 - 14h00      *Buffet lunch*
- 14h00 - 15h00      Jose Lages (Institut UTINAM Besançon, FR)  
World influence from Wikipedia directed networks: academic rankings,  
infectious diseases, cancers and drugs
- 15h00 - 16h00      Andrey Zinovyev (Institut Curie, FR)  
Reduced Google Matrix approach for exploring biological networks