

INHOMOGENEOUS RANDOM SYSTEMS

Systèmes Aléatoires Inhomogènes

January 26-27, 2021

online

To receive your connection link, please register before January 18 (see below).

Tuesday 26 January:

Structure and function of complex networks: epidemics and optimization.

Moderator: **Remco van der Hofstad (Eindhoven)**

- 9h00 – 9h10 : Opening
- 9h10 – 10h00 : **Remco van der Hofstad (Eindhoven)**: *Critical percolation on scale-free random graphs.*
- 10h00 – 10h45 : **Jean-Stéphane Dhermin (Paris)**: *Spatial evolution of an epidemic and “social” networks.*
- 10h45 – 10h55 : “Coffee” Break
- 10h55 – 11h40 : **Christina Goldschmidt (Oxford)**: *The scaling limit of a critical random directed graph.*
- 11h40 – 12h25 : **Nicolas Broutin (Paris)**: *The Brownian parabolic tree.*
- 12h25 – 13h30 : “Lunch” Break
- 13h30 – 14h15 : **Lenka Zdeborová (Lausanne)**: *Epidemic mitigation by statistical inference from contact tracing data.*
- 14h15 – 15h00 : **Amin Coja-Oghlan (Frankfurt)**: *Group testing.*
- 15h00 – 15h10 : “Coffee” Break
- 15h10 – 15h55 : **Laurent Massoulié (Paris)**: *Partial alignment of sparse random graphs.*
- 15h55 – 16h40 : **Pieter Trapman (Stockholm)**: *Herd immunity, population structure and the second wave of an epidemic.*

Wednesday 27 January:

Statistical physics of active matter

Moderator: **Julien Tailleur (Paris)**

- 9h00 – 9h10 : Opening
- 9h10 – 10h00 : **Julien Tailleur (Paris)**: *First-order fluctuation-induced phase transitions to collective motion.*
- 10h00 – 10h45 : **Cécile Cottin-Bizonne (Lyon)**: *An introduction to active matter in real (laboratory) life.*
- 10h45 – 10h55 : “Coffee” Break
- 10h55 – 11h40 : **Clément Erignoux (Lille)**: *Scaling limits and behavior for microscopic stochastic models of active matter.*
- 11h40 – 12h25 : **Liesbeth M. C. Janssen (Eindhoven)**: *The physics of glass formation: from liquids to living cells.*
- 12h25 – 13h30 : “Lunch” Break
- 13h30 – 14h15 : **Yariv Kafri (Haifa)**: *The long-ranged influence of disorder on active systems.*
- 14h15 – 15h00 : **Martin Evans (Edinburgh)**: *Interacting persistent random walkers.*
- 15h00 – 15h10 : “Coffee” Break
- 15h10 – 15h55 : **Mike Cates (Cambridge)**: *Entropy production rate in active field theories.*
- 15h55 – 16h40 : **Vincent Calvez (Lyon)**: *A simple go-or-grow model of self-generated aerotaxis.*

Informations and abstracts at: <http://irs.math.cnrs.fr>

Registration:

The conference is free and open to all.

To receive a connection link, please register in advance by sending an e-mail **before January 18** with your name, affiliation and mail address to:

inter@math.cnrs.fr with subject: **IRS 2021**

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