

Modeling the propagation of Covid-19

Henri Berestycki, Jean-Pierre Nadal and Luca Rossi

International conference to be held by videoconference
from Monday 18 to Wednesday 20 May 2020

Invited speakers – program

Opening by Bruno Karsenti, vice-President of the EHESS, and Antoine Petit, Chairman and CEO of the CNRS.

The confirmed speakers come from a variety of fields and backgrounds:

- Patrice Bourdelais (History, EHESS)
Mapping the course of an epidemic: the example of two cholera epidemics in France (1832 and 1854)
- Laura Di Domenico & Vittoria Colizza (EPIcx lab, INSERM, Sorbonne Université)
Expected impact of lockdown on COVID-19 epidemic in Île-de-France and possible exit strategies
- Gabriel Dulac-Arnold (Google Research) & Jean-Pierre Nadal (CNRS and EHESS, Paris)
Intensive Care Unit Bed Availability Monitoring and Modelling during the COVID-19 Epidemic in the Grand Est region of France
- Luca Ferretti (Large data Institute and Bio-statistics, Oxford)
Epidemic control of COVID-19 through rapid contact tracing: the case for a mobile app-based solution
- Marie Gaille (senior research in philosophy, SPHERE, CNRS-University of Paris)
To be tracking or not tracking, that is the question ... or not?
- Marino Gatto (Ecology, Politecnico di Milano)
The routes of COVID-19 in Italy: past and future scenarios
- Quentin Griette and Pierre Magal (Institut de Mathématiques de Bordeaux)
- *Understanding unreported cases in the COVID-19 epidemic outbreak and the importance of major public health interventions*
- Marc Lavielle (Inria, CMAP Ecole Polytechnique)
Modelling the COVID 19 pandemic requires a model... but also data!
- Gabriel Leung (Chair of Population Health, University of Hong-Kong)
Research insights about COVID-19 from Hong Kong
- Samuel Nordmann (Tel-Aviv University)
Activity/susceptibility systems: a general class of models for the propagation of epidemics, social unrest and other collective behaviors
- Lulla Opatowski (Univ. de Versailles Saint Quentin / Institut Pasteur / Inserm),

- Gilles Pialoux (Head of the Infectious Diseases Unit, Tenon Hospital, France)
After the first wave of the COVID-19 crisis can the health care worker still believe in modeling? – Talk in French with slides in English
- Andrea Pugliese (University of Trento)
Inferring time course of infections from proxy aggregated data: problems and perspectives
- Jean-Michel Roquejoffre (Institut de Mathématiques, Université de Toulouse and CAMS, EHESS)
Propagation of epidemics on lines of fast diffusion
- Lionel Roques (Ecology, INRAE, Avignon)
Estimating the infection fatality ratio from COVID-19 and the impact of the lockdown in France
- Giovanni Sebastiani (Statistics, University of Rome, La Sapienza, and University of Tromsø, Norway)
Classical and Bayesian models and methods for Covid-19
- Lenka Zdeborová (CEA Saclay), Florent Krzakala and Marc Mézard (ENS Paris), Alfredo Braunstein (Politecnico di Torino) *et al*
Risk estimation from contact tracing data

The presentations will be in English unless otherwise stated.

Schedule: each day, 10:am-1pm & 2:30pm-6:30pm. Detailed schedule on the webpage.

Registration and login information

Registration is mandatory in order to receive the identifiers to connect to ZOOM.

For logistic reason, we had to change the way we register the participants.

Please register for each day of the workshop:

Monday: https://us02web.zoom.us/webinar/register/WN_BEtabgmgTKKepw_USDMCsQ

Tuesday: https://us02web.zoom.us/webinar/register/WN_9_Ut8ZaETeaqISyWlcnU9g

Wednesday: https://us02web.zoom.us/webinar/register/WN_96IAExknQMe3XHNatISgmw

For each registration, you will receive a confirmation email containing information about joining the webinar (the links are not to be shared; they are reserved for you). Warning: these mail might be discarded as spams, check you spam folder.

Organization

Henri Berestycki, Jean-Pierre Nadal and Luca Rossi, Centre d'Analyse et de Mathématique Sociales (CAMS, CNRS – EHESS, Paris)

Contact (excluding registration): hb@ehess.fr

Workshop webpage

The program and conference abstracts, the schedule and the registration information are/will be posted on the workshop webpage,

<http://cams.ehess.fr/workshop-modeling-the-propagation-of-covid-19/>

Modeling the propagation of Covid-19

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Monday 18

10:00-10:30am	Opening session: Bruno Karsenti, vice-Président of the EHESS, Antoine Petit, Chairman & CEO of the CNRS	
10:30-11:45am	Gabriel Leung (Hong-Kong)	Research insights about COVID-19 from Hong Kong
11:45am-1pm	Gilles Pialoux (Tenon Hospital, Paris)	After the first wave of the COVID-19 crisis can the health care worker still believe in modeling? – Talk in French, slides in English
2:30-3:45pm	Quentin Griette and Pierre Magal (Institut de Mathématiques de Bordeaux)	Understanding unreported cases in the COVID-19 epidemic outbreak and the importance of major public health interventions
3:45-5:00pm	Gabriel Dulac-Arnold (Google Research) & Jean-Pierre Nadal (CNRS & EHESS)	Intensive Care Unit Bed Availability Monitoring and Modelling during the COVID-19 Epidemic in the Grand Est region of France
break		
5:15-6:30pm	Patrice Bourdelais (history, EHESS)	Mapping the course of an epidemic: the example of two cholera epidemics in France (1832 and 1854)

Tuesday 19

10:00-10:30am	Opening session: Pascal Auscher, Scientific Director of the National Institute for Mathematical Sciences and their Interaction, CNRS, and the Scientific Director of the National Institute for Humanities and Social Sciences, CNRS	
10:30-11:45am	Marino Gatto (ecology, Politecnico di Milano)	The routes of COVID-19 in Italy: past and future scenarios
11:45am-1pm	Jean-Michel Roquejoffre (Institut de mathématiques, Univ. de Toulouse)	Propagation of epidemics on lines of fast diffusion
2:30-3:45pm	Lionel Roques (ecology, INRAE)	Estimating the infection fatality ratio from COVID-19 and the impact of the lockdown in France
3:45-5:00pm	Luca Ferretti (Large data Institute & Bio-statistics, Oxford)	Epidemic control of COVID-19 through rapid contact tracing: the case for a mobile app-based solution
break		
5:15-6:30pm	Laura Di Domenico & Vittoria Colizza (EPIcx lab, INSERM, Sorbonne Université)	Expected impact of lockdown on COVID-19 epidemic in Île-de-France and possible exit strategies

Wednesday 20

10:00-10:30am	Opening session: Marie Gaille (senior research in philosophy, SPHERE, CNRS-University of Paris)	To be tracking or not tracking, that is the question ... or not?
10:30-11:45am	Marc Lavielle (Inria, CMAP Ecole Polytechnique)	Modelling the COVID 19 pandemic requires a model... but also data!
11:45am-1pm	Samuel Nordmann (University of Tel-Aviv)	Activity/susceptibility systems: a general class of models for the propagation of epidemics, social unrest and other collective behaviors
2:30-3:00pm	Lenka Zdeborova (CEA Saclay), Florent Krzakala, Marc Mézard (ENS Paris) <i>et al</i> [short talk]	Risk estimation from contact tracing data
3:00-4:15pm	Lulla Opatowski (Univ. de Versailles Saint Quentin / Institut Pasteur / Inserm)	Modelling sars-cov2 transmission in the French community and hospitals
4:15-5:00pm	Giovanni Sebastiani (Statistics, La Sapienza, Rome & Univ. of Tromsø)	Classical and Bayesian models and methods for Covid-19
break		
5:15-5:45pm	Andrea Pugliese (University of Trento) [short talk]	Inferring time course of infections from proxy aggregated data: problems and perspectives
5:45-6:30pm	General discussion	