



Department  
of Excellence  
2018 - 2022

# EMbeDS

Economics and Management  
in the era of Data Science

## 2022 WORKSHOP

4-5 JULY 2022

AULA SAVI

Botanical Garden, University of Pisa

Via Luca Ghini 13, Pisa

4 JULY 2022

09:00am gathering of participants (coffee and pastries available)

9:15am Welcome and short remarks by Francesca Chiaromonte

### Morning Sessions

I. 9:30am-11:00am **Computational approaches for process-oriented data analysis, simulations of large agent-based models, and statistical model checking.** Chair: Andrea Vandin.

Adelinde Uhrmacher, Rostock University, Germany. *Valid agent-based models - requirements and implications.* (in remote).

Andrea Burattin, DTU Technical University of Denmark. *Process-oriented Data Science: a gentle overview on Process Mining.*

Andrea Vandin, Sant'Anna School of Advanced Studies, Italy. *Simulation models meet Process Mining: a novel approach to model validation and enhancement.*

11:00am-11:30pm **Coffee break**

II. 11:30pm-01:30pm **Economic theory and learning processes.** Chair: Daniele Giachini

Jonathan Newton, Kyoto University, Japan. *Asymmetric behavior and long run outcomes.*

Filippo Massari, University of Bologna, Italy. *Good biases bad biases.*

Pietro Dindo, Cà Foscari University of Venice, Italy. *Learning models from prices.*

Giulia Livieri, Scuola Normale Superiore, Italy. *Analysis of Bank Leverage Via Dynamical Systems and Deep Neural Networks.*

01:30pm-3:00pm **Light lunch**

### Afternoon Sessions

III. 03:00pm-05:00pm **Joint panel session with the Summer School of the PhD AI & Society**

Francesca Chiaromonte, Sant'Anna School of Advanced Studies, Italy and Penn State University, USA.

Rita Cucchiara, University of Modena and Reggio Emilia, Italy.

Fosca Giannotti, Scuola Normale Superiore, Italy.

Michela Milano, University of Bologna, Italy.

Mariarosaria Taddeo, Oxford University, UK.

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**05:00pm-5:30pm Coffee break**

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**IV. 5:30-6:30 Keynote lecture.** Chair: Francesca Chiaromonte

Marzia Cremona, Université Laval, Canada. *Local clustering and motif discovery of functional data: applications in "omics", biomedical sciences and finance.*

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**6:30-8.00 Guided tour of the botanical garden**

**5 July 2022**

**9:00am gathering of participants (coffee and pastries available)**

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**Morning Sessions**

**V. 9.30 am-11:00am Science Technology and Innovation.** Chair: Andrea Mina

Gaétan de Rassenfosse, Ecole Polytechnique Fédérale de Lausanne, Switzerland. *The commercialization of DoD-SBIR patents: A counterfactual analysis.*

Martina Iori, Sant'Anna School of Advanced Studies, Italy; and Jacopo Di Iorio, Statistics Department, Penn State University, USA. *Local economies and specialization trajectories: A dynamic analysis from a Complexity Economics perspective.*

Giorgio Tripodi, Sant'Anna School of Advanced Studies. *Quantifying knowledge spillovers from advances in negative emissions technologies*

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**11:00am-11:30pm Coffee break**

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**VI. 11:30pm-1:00pm Climate risk and economic dynamics.** Chair: Francesco Lamperti

Antoine Mandel, Sorbonne and PSE, France. *Modelling climate-related financial risks.*

Maximilian Kotz, Potsdam Institute for Climate Impact Research (PIK), Germany. *Macroeconomic climate damages - resolving the locality of climate impacts in time and space.*

Matteo Coronese, Sant'Anna School of Advanced Studies, Italy. *Who will carry the climate burden? Heterogeneous impacts of climate anomalies on income classes and sectors.*

**1:00pm-2:00pm Light lunch**

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**Afternoon Sessions**

**VII. 2.00 pm-3.00pm Panel: Fostering Data and Computation-driven Interdisciplinary Research.** Chair: Andrea Mina

Jenni Evans, Penn State University, USA.

Francesca Ieva, Human Technopole and Politecnico di Milano, Italy.

Third panelist to be announced.

**VIII. 3:00pm-4:30pm Statistical approaches for the analysis of large and structured data.**

Chair: Francesca Chiaromonte

Luca Insolia, Sant'Anna School of Advanced Studies, Italy. *Simultaneous feature selection and outlier detection with optimality guarantees.*

Tobia Boschi, IBM Research Dublin, Ireland. *High-dimensional functional regression: an efficient method for feature selection and estimation.*

Ephraim Hanks, Penn State University, USA. *Understanding and mitigating spatial confounding in spatially-referenced health data.* (in remote).

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**4:30pm-5:00pm Coffee break**

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**IX: 5:00– 6:30 Causal inference and its applications in healthcare.** Chair: Chiara Seghieri

Marcella Vigneri, London School of Hygiene and Tropical Medicine, UK. *Hand hygiene policies, strategies and interventions across settings: A scoping review across domains to identify knowledge.*

Falco Bargagli, Harvard University, USA. *Causal Rule Ensemble: A general ensemble learning framework for interpretable subgroups identification with an application in discovering heterogeneous exposure effects in air pollution studies.*

Bénédicte Colnet, Inria Paris-Saclay, France. *How can we account for sampling bias in randomized controlled trials?*

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**6:30pm** Francesca Chiaromonte, EMbeDS Scientific Coordinator. *Goodbyes.*