

# François Lafond

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## CONTACT

francois.lafond at inet.ox.ac.uk

<https://francoislafond.info>

INET, Eagle House, Walton Well Road, Oxford OX2 6ED

## CURRENT POSITION

Senior Research Officer, Institute for New Economic Thinking at the Oxford Martin School and Smith School for Enterprise and the Environment, University of Oxford.

Oxford Martin fellow, Oxford Martin School programme on Technological and Economic Change, University of Oxford.

Associate member, Nuffield College, Oxford.

## PREVIOUS POSITION

2014-2018: Research officer and Oxford Martin fellow, Institute for New Economic Thinking at the Oxford Martin School and London Institute for Mathematical Sciences.

2014-2016: Postdoctoral researcher, London Institute for Mathematical Sciences.

## EDUCATION

2009-2014: PhD in "Economics and Policy Studies of Technical Change", UNU-MERIT, Maastricht University. PhD thesis: "*The evolution of knowledge systems*" (supervisor: Robin Cowan).

2008-2009: Research Master in economics, "Industrial Organization and the Economics of Knowledge", University of Strasbourg. Master thesis: "*The role of attention in the creation and diffusion of knowledge*"

2005-2007: Professional Master in economics, 'Competitive Intelligence and Local Development', Université d'Auvergne. Internship at the Regional network of technological development.

2002-2005: Bachelor in economics, Université d'Auvergne.

## TEACHING

### *Lecturing:*

Networks in the economics of innovation, Oxford Summer School on Economic Networks, 2018

Introduction to network theory (Oxford Summer School on Economic Networks, 2017 & 2018)

Technological forecasting (GROWTHCOM complex systems summer school, Lipari, 2015)

Quantitative methods and Microeconomics (2012 and 2013, UNU-MERIT PhD program).

### *Tutoring:*

Network Economics (2011, Bachelor in Economics);

Basic Microeconomics (2011, UNU-MERIT PhD program).

Introduction to complex networks analysis and simulation using igraph (2011, 2012, and 2013).

## PUBLICATIONS

### Peer-reviewed publications

“Long-run dynamics of the U.S. patent classification system” (with Daniel Kim), *Journal of Evolutionary Economics*, forthcoming

Wright meets Markowitz: How standard portfolio theory changes when assets are technologies following experience curves (with Rupert Way, Valentyn Panchenko, Fabrizio Lillo, and J. Doyne Farmer), *Journal of Economic Dynamics & Control*, forthcoming

“Early identification of significant patents through time-balanced network centrality” (with Manuel Mariani and Matús Medo), *Technological Forecasting & Social Change*, forthcoming

“How well do experience curves predict technological progress? A method for making distributional forecasts” (2018) (with Aimee G. Bailey, Jan D. Bakker, Dylan Rebois, Rubina Zadourian, Patrick McSharry, and J. Doyne Farmer), *Technological Forecasting & Social Change* 128, pp 104-117

“How predictable is technological progress?” (2016) (with J. Doyne Farmer), *Research Policy* 45(3), pp. 647-665

“Self-organization of knowledge economies” (2015), *Journal of Economic Dynamics and Control* 52, pp. 150–165

### Working papers

Why is productivity slowing down? (with Ian Goldin, Pantelis Koutroumpis, Nils Rochowicz and Julian Winkler), *under review*

## WORK IN PROGRESS

“Disruptive technologies and regional innovation policy” (with Pantelis Koutroumpis)

“The effects of experience on costs: Comprehensive evidence from WWII as a natural experiment”, (with Diana Greenwald and Doyne Farmer)

“A network model of occupational mobility: Analyzing the impact of automation on employment” (with R. Maria del Rio-Chanona, Penny Mealy, Mariano Beguerisse, J. Doyne Farmer)

The origin of new technological domains (with Vilhelm Verendel and J. Doyne Farmer)

## CONFERENCES, WORKSHOPS AND SEMINARS

11/2018: OECD seminar, Managing disruptive technologies, *Disruptive technologies and regional innovation policy*.

10/2018: Complex Systems Conference, Satellite on Cultural Evolution, Thessaloniki *The evolution of patent classification systems as indicator of cultural evolution*.

10/2018: Complex Systems Conference, Thessaloniki. *The origins of new technological domains*,

10/2018: 5<sup>th</sup> Asian Modelling Workshop, Singapore. *Time series forecasting of technological progress in renewable energy technologies*,

04/2018: Flame University Seminar, Pune, India. *Long-run dynamics of the US patent classification system*,

04/2018: Economic History Society annual conference, *The effects of experience on costs: Comprehensive evidence from WWII as a natural experiment*

03/2018: OECD seminar. *The Productivity Paradox: Reconciling Technological Change with Slowing Productivity*

01/2017: INET seminar. *Long-run dynamics of the US patent classification system.*

12/2016: Conference on “What’s new in the economics of innovation?”, Grenoble, *Forecasting with experience curves.*

09/2016: Conference on Complex Systems, Amsterdam, *Analysis, prediction and control of technological progress.*

12/2015: Uppsala University, invited workshop on Social Change as a Dynamical System. *Analysis, prediction and control of technological progress.*

11/2015: Oxford Mathematical Institute. *Analysis, prediction and control of technological progress.*

10/2015: University of Warwick, (Maths Dept). *Analysis, prediction and control of technological progress.*

04/2015: University of Strasbourg (BETA). *Knowledge diffusion and the structure of citation networks.*

03/2015: Science, Technology and Innovation Workshop (Campinas, Brazil). *How predictable is technological progress? and Sustainable energy transitions in Brazil.*

02/2015: Copernicus Institute (Utrecht): *How predictable is technological progress?*

02/2015: Institute for new Economic Thinking (Oxford): *How predictable is technological progress?*

11/2014: UNU-MERIT 25th anniversary conference (Maastricht): *New perspectives on learning curves.*

08/2014: Workshop of the Management History Research Group (London): *Using long-run business and economic data to forecast technological progress.*

07/2014: Santa Fe Institute: *The evolution of knowledge systems.*

06/2014: Hangzhou University: *Technological ecosystem theory, technological forecasting and optimal investment portfolios.*

06/2014: University of Oxford (CabDyn): *The evolution of knowledge systems.*

12/2013: University of Bordeaux (GREThA): *Knowledge diffusion and the structure of citation networks.*

11/2013: Institute for New Economic Thinking (Oxford): *The evolution of knowledge systems.*

06/2013: WEHIA conference (Reikjavik): *Self-organization of knowledge economies*

05/2013: INSNA Sunbelt (Hamburg): *Learning and the structure of citation networks.*

10/2012, Eindhoven ECIS seminar, *Learning and the structure of citation networks.*

02/2012, Internal PhD seminar, UNU-MERIT: *Preferential learning and scale free citation networks.*

11/2011: 10th Workshop on Networks in Economics and Sociology: *The evolution of knowledge systems.* Utrecht.

## RESEARCH VISITS

Santa Fe Institute, Summer 2014.

University of Fribourg, Department of Theoretical Physics, Summer 2015.

## GRANTS/FELLOWSHIPS

2016: Ogden grant for a summer intern, working summer intern on “Comparing time series and expert forecasts of the world energy mix”.

2014: Travel and accommodation grant for the Science, Technology and Innovation Workshop, Campinas, Brazil

2009-2013: PhD fellowship, UNU-MERIT and GSBE, Maastricht University

## PROFESSIONAL SERVICE

Refereeing: *Research Policy* (3), *Technological Forecasting and Social Change*, *Journal of Economic Interaction and Coordination* (2), *Plos One*(2), *World Patent Information* (4), *Physica A*, *R&D Management*, *Advances in Complex Systems*, *International Journal of Microsimulation*, *International Journal of Work and Innovation*, *IEEE* or other engineering journals (3).

Invited comment: *Economics E-journal* (2)

Reviewer: *American Mathematical Society MathSciNet*

Books: Palgrave

PhD thesis evaluation committee: 1 (Economics, Australian National University)

Supervision: Doctoral students: Maria Del Rio Chanona, Mathematical Institute and Institute for New Economic Thinking, University of Oxford, 2016-

### Events

Co-organizer, Oxford Summer school on Economic Networks, 2017, 2018 and 2019

Co-organizer, Satellite to the European Conference on Complex Systems on “Quantitative Methods for Predicting, Explaining and Describing Technological Change”, 2015

### Hiring committees

Hiring committees (3 positions), Oxford Martin School, 2017-2018

Hiring committee, INET Oxford, 2014

PhD application pre-selection committee, UNU-MERIT PhD program, 2012