

NICOLAS CARAYOL

*Professor of economics*

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## Education

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- 2001      UNIVERSITÉ DE TOULOUSE 1  
*Doctor of Philosophy in Economics, Title: Properties and failures of open science. Essays in the economics of 'imperfect science', Dec 2001.*
- 1997      UNIVERSITÉ DE TOULOUSE 1  
*Master 2 in Industrial and Labour Economics, Ranked first.*
- 1996      UNIVERSITÉ DE TOULOUSE 1  
*Masters 1 in Economics and in Political Sciences.*

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## Academic Positions

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- 2016–17    Visiting Professor, Stanford Institute for Economic Policy Research, Stanford University (Recipient of a Fulbright Research Grant)
- 2014–      Scientific Delegate, HCERES (Haut Conseil de l'Évaluation de la Recherche et de l'Enseignement Supérieur)
- 2008–      Professor of Economics (first French national aggregation contest), Université de Bordeaux. First Class since Sept 2015. Recipient of the Prime d'Excellence Scientifique and of the PEDR since 2009.
- 2009–15    Director, Programme "Market Structure and Finance", GREThA (CNRS UMR 5113)
- 2007–14    Associate Researcher at OST (Observatoire des Science et Techniques de Paris)
- 2005–08    Assistant professor of Economics, Université Paris Orsay
- 2002–05    CNRS Post-Doctoral Research Fellow, BETA UMR CNRS 7522, Université Louis Pasteur (Strasbourg)
- 1998–01    Teaching Assistant, Université de Toulouse 1

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## Teaching

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- 2008–      Microeconomics, Undergraduate level, Faculty of Economics and Management, University of Bordeaux
- 2008–      Game theory, Graduate level, Faculty of Economics and Management, University of Bordeaux
- 2010–      Industrial Organization, Graduate level, Faculty of Economics and Management, University of Bordeaux

2008–	Economics of Social Networks, Post Graduate level, Faculty of Economics and Management, University of Bordeaux
2008–11	Game theory, Undergraduate level, Faculty of Economics and Management, University of Bordeaux
2008–11	Economic dynamics, Graduate level, Faculty of Economics and Management, University of Bordeaux
2006–09	Economics of Science and Innovation, Post Graduate level, Faculty of Economics and Management, University of Bordeaux
2010	Introduction to Mechanism Design and Auctions, Doctoral teaching, Faculty of Economics and Management, University of Bordeaux
2010	Lectures at DIMETIC PhD Summer School, Pecs, Hungary Publications
2007	Lecture at PhD Summer School “Knowledge, Science and Innovation”, Aix en Provence, GRE-QAM,
2006–07	Lectures at European Summer School on Industrial Dynamics (ESSID) in Cargèse and Dubrovnik
2006–07	Lectures at European School on New Institutional Economics (ESNIE) in Cargèse
2005–07	Managerial Economics, Graduate level, Faculté of Economics and Management, Université Paris Sud
2004–06	International Economics, Faculté of Economics and Management, Université Paris Sud
2004–05	Microeconomics, Graduate level, Faculty of Mathematics and Computer Sciences, Univ. Louis Pasteur de Strasbourg

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**Research Projects Funded as Principal Investigator** (amounts exclude permanent’s wages)

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2017-2018	The Impact of IdEx policy.
2016-2019	University Technology Transfer and its Optimization, funded by ANR (Programme genérique).
2014-2015	Methodology and analyses of scientific publications of IdEx Bordeaux.
2013	The impact of ANR funding.
2009-2011	Inventors Networks, technological Dynamics and the regional comparative advantages, funded by the Aquitaine Region.
2009	Structure, Formation and Co-evolution of Social and Economic Networks, funded by the University of Bordeaux.
2009-2010	Sources, modalities, and scales of academic research funding and their impact. A study on UK, French and Italian universities and young talented scholars, funded by the EU NoE.
2007-2009	Project Dyn-Net (Dynamics of Networks), funded by the ANR (Programme Blanc Jeunes chercheurs, Jeunes Chercheuses).

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**Contribution to Research Projects**

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Dime (Dynamics of Institutions and Markets) - EU Network of Excellence.

Prime (Science and Technology Policy in Europe) - EU Network of Excellence.

Project Genomics, funded by the ANR (Agence Nationale de la Recherche).

Project Ineck (Innovation, Networks and Knowledge) - EU Thematic network.

Project Nprnet (New Policy Rationales for the support of public research in the European Union) - EU Strata.

## Editorial Services

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Associate Editor Journal of Information Economics and Policy (2007-2011).

Referee Advances in Complex Systems, Annals of Regional Science, Canadian Journal of Economics, Econometrica, Economie et Prévision, Economics Letters, European Management Review, Games and Economic Behavior, Industrial and Corporate Change, Information Economics and Policy, International Journal of Game Theory, Journal of Economic Behavior and Organization, Journal of Economic Dynamics and Control, Journal of Informetrics, Journal of Technology Transfer, Journal of the European Economic Association, Mathematical Social Sciences, Papers in Regional Science, Physics Letters-A, Plos One, Regional Science and Urban Economics, Research Policy, Revue Economique, Science, Social Choice and Welfare, Social Networks.

## Project Evaluation for Funding Agencies

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Agence National de la Recherche (France), European Research Council (ERC), Fonds National Suisse (Schweizerische Nationalfond), National Science Foundation (USA), Région Ile-de-France (France), Région Provence-Alpes-Cote-d'Azur (France), Social Sciences and Humanities Research Council of Canada, The Leverhulme Trust (UK), The Research Foundation - Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen), The Royal Society (UK).

## Organization of International Workshops and Conferences (as chair)

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Second Bordeaux Workshop on Economic Theory, Design and Games, May 26th 2014 ([http://ncarayol.u-bordeaux4.fr/workshop\\_gretha\\_bordeaux2.pdf](http://ncarayol.u-bordeaux4.fr/workshop_gretha_bordeaux2.pdf)).

Bordeaux Economic Theory Workshop on Interactions, Institutions and Design, May 28th 2013 ([http://ncarayol.u-bordeaux4.fr/workshop\\_gretha\\_bordeaux.pdf](http://ncarayol.u-bordeaux4.fr/workshop_gretha_bordeaux.pdf)).

International Conference "Incentives and the Design of Mechanisms in Open Science", Bordeaux, January 11th, 2013 ([http://ncarayol.u-bordeaux4.fr/workshop\\_bordeaux\\_prog.pdf](http://ncarayol.u-bordeaux4.fr/workshop_bordeaux_prog.pdf)).

International Conference "Economics of science: where do we stand?", Paris, Observatoire des Sciences et Techniques, Paris April 4-5th 2011 ([http://carayol.u-bordeaux4.fr/Economics\\_of\\_science\\_in\\_Paris.doc](http://carayol.u-bordeaux4.fr/Economics_of_science_in_Paris.doc)).

Dime International Conference on the Formation of Economic and Social Networks, Maison des Sciences Economiques, Paris, June 25-27th 2009.

The Formation of Social Networks, June 28-29th 2007, Carré des Sciences, Paris.

## Member of the Scientific Boards of International Conference Series

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- 2015– Member of the ENID (European Network of Indicator Designers) board committee  
2006-2007 Member of the scientific committee of the DRUID summer conferences  
2005 Member of the scientific committee of the EMEE conference

## PhD Supervision

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- 2010–15 Remy Delille, *Bilateral Bargaining and Farsightedness in Networks: Essays in Economic Theory* (with J-C Pereau). Now at the British University Vietnam.  
2010–15 Laurent Bergé, *Social Networks and the Geography of Innovation and Research Collaboration: Three Essays*. Now at the University of Luxembourg.  
2010–16 Emmanuel Lorenzon, *Auctions and Search Behaviors on the Web*. Now at Université Paris Dauphine.  
2011– Marianne Lanoë, *The Impact of Project Based Funding in Science*.  
2013– Dan Tran : *Financial Networks* (with E. Gabillon).  
2013– François Maublanc, *Team Formation in Science* (with S. Rouillon).

## Defense and recrutement committees

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Defense committees: “Habilitation à diriger de recherches” committee of S. Rouillon (2011), at the Université de Bordeaux; Ph.D. committee of Claire Bonnard (2011) at the Université de Bourgogne, Dijon; Ph.D. committee of David Frachisse (2011), at the Université de St. Etienne; Ph.D. committee of Jean Phillippe Berrou (2010), at the Université de Bordeaux.

Recruitment committees: Assistant professor recruitment in Bordeaux 2015 (chair), Nice 2013, Strasbourg 2012, Bordeaux 2010; Professor recruitment: Bordeaux 2011 and 2014.

## Research Interests

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Economics of science and innovation

Economics of social networks

## Ongoing Research Papers

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- Carayol, N., Lanoë, M., 2017, *The impact of project-based funding of science: the French ANR experience*.
- Bergé, L., Carayol, N., Roux, P., 2017, *How do inventor networks affect urban invention? Revise and Resubmit to Regional Science and Urban Economics*
- Carayol, N., Sterzi, V., 2015, *Quality Sorting in the Transfer of Academic Inventions, Revise and Resubmit to Management Science*.

- Carayol, N., Lahatte L., 2015, Comparing and ranking universities when quantity and quality both matter, *Revise and Resubmit to Journal of Informetrics*.
- Carayol, N., Cassi, L., Roux, P., 2015, Unintended closure in social networks. The strategic formation of research collaborations among French inventors (1983-2005). *Revise and Resubmit to Journal of Economic Behavior and Organization*
- Carayol, N., Plunket, A., Roux, P., 2015, Agglomeration, R&D knowledge spillovers and inventors' networks: a plant-level productivity analysis.
- Carayol, N., Lanoë, M., 2013, The Impact of Blue Sky Project Based Funding of Academic Research.
- Carayol, N., Cassi, L., 2012, Who's Who in Patents, A Bayesian approach.

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### Research Publications in Peer Reviewed Scientific Journals

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- Carayol, N., Delille R., Vannetelbosch, V., 2015, Allocating value among farsighted players in network formation, *Economics Letters* 137, 50-53.
- Carayol, N., Filliatreau, G., Lahatte, A., 2015, Impact, dominance et classements des universités, *Revue Economique* 66, 173-194.
- Carayol, N., Filliatreau, G., Lahatte, A., 2012, Reference classes: A tool for benchmarking universities research, *Scientometrics* 93 (2), 351-371.
- Carayol, N., Roux, P., 2009, Knowledge flows and the geography of networks. The strategic formation of small worlds, *Journal of Economic Behavior and Organization* 71, 414-427.
- Carayol, N., Roux, P., 2008, The strategic formation of inter-individual collaboration networks. Evidence from co-invention patterns, *Annals of Economics and Statistics/Annales d'Economie et de Statistiques* 87-88, 275-302.
- Carayol, N., Roux, P., Yildizoglu, M., 2008, In search of efficient network structures: The needle in the haystack, *Review of Economic Design* 11, 339-359.
- Carayol, N., Roux, P., Yildizoglu, M., 2008, Inefficiencies in a model of spatial networks formation with positive externalities, *Journal of Economic Behavior and Organization* 67, 495- 511.
- Carayol, N., Dalle, J-M., 2007, Sequential problem choice and the reward system in the Open Science, *Structural Change and Economic Dynamics* 18, 167-191.
- Carayol, N., 2007, Academic incentives and research organization for patenting at a large French university, *Economics of Innovation and New Technology* 16 (2), 119-138.
- Boumahdi, R., Llerena, P., Carayol, N., 2007, The private contractual funding of academic laboratories: A panel data analysis, *Applied Economics Letters* 15 (6), 465-468.
- Carayol, N., 2006, Les propriétés incitatives de l'effet Saint-Matthieu dans la compétition académique, *Revue Economique* 57 (5), 1033-1051.
- Carayol, N., 2006, La production de brevets par les chercheurs et enseignant-chercheurs. Le cas d'une grande université de recherche française, *Economie et Prévision* 175-176, 117-134.
- Azagra-Caro J., Llerena P., Carayol, N., 2006, Patent production at a European research university: Evidence at the laboratory level, *Journal of Technology Transfer* 31 (2), 257-268.
- Carayol, N., Matt M., 2006, Individual and collective determinants of academic scientists' productivity, *Information Economics and Policy* 18, 55-72.

- Carayol, N., Thuc Uyen Nguyen Thi, 2005, Why do academic scientists engage in interdisciplinary research?, *Research Evaluation* 14, 70-79.
- Carayol, N., Roux, P., 2005, Self-organizing innovation networks: When do Small Worlds emerge?, *European Journal of Economic and Social Systems* 18 (2), 307-332.
- Carayol, N., Matt M., 2004, Does research organization influence academic production? Laboratory level evidence from a large European university, *Research Policy* 33, 1081-1102.
- Carayol, N., Matt M., 2004, The exploitation of complementarities in the scientific production process at the laboratory level, *Technovation* 24 (6), 455-465.
- Carayol, N., Roux, P., 2004, Behavioral foundations and equilibrium notions for social network formation processes, *Advances in Complex Systems* 7 (1), 77-92.
- Carayol, N., 2003, Objectives, agreements and matching in science-industry collaborations: Reassembling the pieces of the puzzle, *Research Policy* 32 (6), 887-908.
- Carayol, N., Bes, MP., 2000, Quelle finalisation 'appropriée' des savoirs scientifiques?, *Sciences de la Société* 49, 179-190.
- Carayol, N., 2000, Modeling creation vs. diffusion of structured knowledge, *Advances in Complex Systems* 3, 353-370.

### Publications in Books

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- Carayol, N., 2008, An economic theory of academic competition: Dynamic incentives and endogenous cumulative advantages, in: *Scientific Competition*, M. Albert, Schmidtchen D. and S. Voigt (eds.), *Conferences in New Political Economy* 25, Tuebingen: Mohr Siebeck.
- Carayol, N., Roux, P., 2004, Micro-grounded models of complex network formation, in: Triboulet P. (ed), *Modélisation de réseaux et diffusion des connaissances*, INRA-Toulouse, 49-69, 2004, with Pascale Roux. 26. Carayol N., P Roux, 2005, 'Collective Innovation in a Model of Network Formation with Preferential Meeting', in Lux T., Reitz S., Samanidou E., (eds), *Nonlinear Dynamics and Heterogeneous Interacting Agents*, Springer Lecture Notes in Economics and Mathematical Systems, Springer, 139-153.
- Carayol, N., 2001, The diversity of science-industry relations and insights from the compatibility of research agendas, *Proceedings of the conference "Economics of Technology and Institutional Change"*.
- Carayol, N., 2000, Modeling creation vs. diffusion of structured knowledge, in G. Ballot and G. Weisbuch (eds), *Simulations in the Social Sciences*, Hermes, pp. 353-368.

### Conference and seminar presentations

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- 2017: Third Annual Conference on Network Science and Economics in Saint Louis (MO), Virginia Tech econ department seminar, STI Conference Paris, Atlanta Conference on Science and Innovation Policy, Seminar Paris School of Economics.
- 2016: Invited presentation at the International Workshop on "Strategic Interactions, Information Transmission and Externalities in Networks", Paris; Invited presentation at the International Conference "The Organisation, Economics and Policy of Scientific Research", Torino; Invited presentation at the Barcelona GSE Summer Forum.

- 2015: Invited presentation at the International Workshop on “Assessing the Impact of Science Funding in Europe”, Bruegel Institute, Brussels; Invited presentation at the Barcelona GSE Summer Forum.
- 2014: Keynote invited presentation at GECSO conference, Aix-en-Provence; Invited presentation at the Barcelona GSE Summer Forum; Invited presentation at the Seventh Annual Conference on Innovation Economics, Northwestern University, Chicago; EEA Congress Toulouse; Sc.Po. Seminar; Poitiers Univ. Seminar; SSTNET workshop “Research funding and the dynamics of science”, Leiden CWTS.
- 2013: Invited presentation at the conference “L’argent et la recherche”, ENS Lyon; Invited presentation at the conference “the evaluation of economic impacts of research infrastructures”, BETA Strasbourg; Keynote invited presentation at ARS’13 International conference “ Networks in space and time: Models, Data collection and Applications, Roma; EARIE Evora; SAET Paris; PET Lisbon; Invited presentation at Barcelona GSE Summer Forum.
- 2012: EEA Malaga; EPIP Conference “IP in Motion”, Leuven; EARIE, Rome; SEEK Workshop on Incentives and Innovations, ZEW, Mannheim; Workshop on University-Industry Collaboration, MOVE UAB, Barcelona; Eurolio 2012, St Etienne.
- 2011: Invited presentation at the Workshop on Economic Design and Institutions, Faculté Universitaires Saint Louis and CORE UCL, Bruxelles. Invited presentation at Workshop on Careers, Wages and Productivity in Higher Education and Research, Carré des sciences, Paris: Invited presentation at the Regional Innovation and Growth: Theory, Empirics and Policy Analysis, University of Pécs, Pécs (Hungary); Invited presentation at Conference The Organization, Economics and Policy of Scientific Research, Collegio Carlo Alberto, Turin.
- 2009: Invited presentation at the Conference on The Role of the University in Our Times, in Honor of J. Ben David, organized by ETH Zurich, at Monte Verita (Switzerland); Invited presentation at the First International NPR Conference (Networks, power and relations), Università Cattolica del Sacre Cuore, Milano.
- 2008: French Presidency Conference, Knowledge for growth, Toulouse; ENIP (European Network of Indicators Producers) Conference, Oslo;
- 2007: Invited presentation at the Conference “Economics and historical approaches to the understanding of university research behaviour”, ICER - Villa Gualino, Turin; International conference on the formation of social networks, Carré des Sciences, Paris.
- 2006: Invited presentation at Complexity Conference, Aix en Provence; JMA, Nantes.
- 2005: Invited presentation at the 24th Conference on New Political Economy: Scientific Competition. Theory and Policy, Saarbrücken; Invited presentation at the Conference “University-Industry Knowledge Transfer Instruments: Scientific Publications and Patents”, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne; Agent-Based Models for Economic Policy Design, Bielefeld; Solicited presentation for the session on Networks at SAET (organized by M. Jackson, Stanford University), Vigo; PET Conference, Greqam, Marseille; EMEAE Conference, Utrecht; AFSE Congress, Paris.
- 2004: Invited presentation at the conference “The Observatory of the European University”, Pisa, July 16-17; EEA Congress, Univ. Carlos III, Madrid; Applied Econometrics Association Conference, “Innovation and intellectual property, economic and managerial perspectives”, INSEAD, Singapore; 4th Proximity Congress, “Proximity, Networks and Co-ordination”, GREQAM, IDEP, LEST, Marseille; International J.A. Schumpeter Society Conference, Bocconi Univ., Milan; 3rd EPIP meeting, “What motivates inventors to invent?”, Scuola Superiore Sant’Anna, Pisa; Invited presentation at the conference “Science and Markets”, University of Lausanne,

Lausanne; Journées de l'AFSE (Association Française de Sciences Economiques), "Economie: aide à la décision publique", Crereg, Université de Rennes 1, Rennes; AFSE Congress, Paris; JMA, Lille.

2003: International Conference on Computing in Economics and Finance, Seattle (WA); Complexity conference, Paris; 8th WEHIA conference (Workshop on Economics with Heterogeneous Interactive agents), Kiel; EMEAE conference, Augsburg; JMA, Montpellier.

2002 and before: Conference "Rethinking Science Policy: Analytical Frameworks for Evidence-Based Policy", SPRU, University of Sussex, Brighton, March 21-23 2002; JMA, Rennes and Saint-Malo, 2002; ETIC Conference, Université Louis Pasteur, Strasbourg, October 16-18 2001; EGOS conference, Lyon, July 5-7 2001; 8th CCC Conference, Duke University, Fuqua School of Business, Durham (NC), April 27-29 2001; 2nd International Conference on Computing and Simulation in Social Sciences, Paris, September 18-20 2000; 5th WEHIA conference (Workshop on Economics with Heterogeneous Interactive agents), GREQAM, Marseille, June 15-17 2000; SESAME, Saint-Étienne, September 8-10 1999; EAEPE conference (European Association for Evolutionary Political Economy), Prague, November 4-7 1999; EAEPE conference (European Association for Evolutionary Political Economy), Lisbon, November 7-8 1998.

### Seminar Presentations

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Seminars at Virginia Tech, University College Dublin, CORE UCL, OST, Université Paris Dauphine, GREQAM, UPMC Paris, Paris 1, Université Louis Pasteur, Université de Toulouse 1, Université de Rennes 1.

### Project Reports

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Carayol, N., Lanoë, M., "L'impact du Financement par l'Agence Nationale de la Recherche sur les Chercheurs Sélectionnés de 2005 à 2009", 2015, 133 p.

Carayol, N., Lanoë, M., Llopis, O., Mouradian, C., Rojouan, F., "The Impact of Bordeaux IdEx", 2016, 65p.

### Non Academic Valorization of Research

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2015: Keynote speech at the ABDU (French association of librarian directors) conference: "Bibliométrie, scientométrie et métriques alternatives: quels outils pour quelles stratégies?", Paris; Presentation at the executive Board of the ANR (Conseil d'Administration de l'Agence Nationale de la Recherche)

2013. Member of the ANR scientific committee for impact analysis.

2006 Seminar REPERES at the French Ministry of National Education and Research.

2003 Seminar REPERES at the French Ministry of National Education and Research; Member of the Group 1 ("Excellence scientifique et technologique") of project FUTURIS of the French National Institute of Prospective.