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CENTER FOR OPERATIONS
RESEARCH AND ECONOMETRICS

UCL
Université
catholique
de Louvain

CORE

CONTENTS

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PRESENTATION

PRESENTATION

PREAMBLE

Founded in 1966, the Center for Operations Research and Econometrics (CORE) is an interdisciplinary research center of the Université catholique de Louvain. In 2010, CORE became one of the poles of IMMAQ, a research institute associating researchers from three different research entities: CORE, IRES (Institut de Recherches Economiques et Sociales) and ISBA (Institute of Statistics, Biostatistics and Actuarial Sciences).

CORE follows **three objectives**. The first objective is the development of scientific **research** in the fields of economics, econometrics, operations research and quantitative and economic geography. The second objective is the **training** of young researchers at the doctoral and postdoctoral stages of their career. The third objective is the promotion of local and international scientific **exchanges and collaborations**. This report gives an overview of the activities developed in the period from Summer 2014 to Summer 2015 to meet these objectives. A more dynamic follow-up of the current activities can be found in the **CORE Newsletter** which is published three times a year, on the **CORE website**, and on social networks (**Facebook**, **Twitter**, **Wikipedia**).

RESEARCH DIRECTIONS

CORE's activities integrate fundamental and applied research to shed analytical light on a wide range of issues arising from economic policy and the management of private and public organizations. These research activities build on a common foundation of quantitative modeling and rigorous mathematical reasoning, encompassing many different fields of human activity. The main scientific disciplines to which CORE researchers actively contribute are: economics and game theory; econometrics; operations research; and quantitative and economic geography.

The research in **economics** and **game theory** at CORE is indeed quite diverse and comprises applied and empirical work grounded on robust theoretical foundations. While general equilibrium and game theory were dominating themes in the early years of CORE, current research in economics is now mostly directed towards applications of theory to problems in market regulation and the organization of the public sector. In 2014-2015, CORE members pursued active research projects in industrial organization; public economics and political economy; environmental economics; welfare economics and social choice theory; as well as general equilibrium and game theory.

Econometrics research at CORE is concerned with the development of quantitative models and of statistical and computational methods for the analysis of economic data. CORE's best known early contributions to econometrics were the introduction and development of Bayesian methods and inference. In 2014-2015, CORE members worked on financial econometrics, studying volatility models; on the development and analysis of high dimensional stochastic models, as well as identification and inference for time series and the analysis of complex data; and on further developments of Bayesian methods, in particular Markov Chain Monte Carlo algorithms and Bayesian inference.

Operations research deals with the development and application of analytical methods to help make better decisions. CORE has long been known for its methodological contributions to mathematical programming, in particular convex optimization and integer programming. It has expanded its interests and expertise to applications in operations management and to the study of large energy investments, transmission systems and energy markets. In 2014-2015, CORE's OR researchers worked on interior point methods in optimization; the computation of economic equilibria; the study and applications of mixed integer programming and discrete optimization models; the design and development of algorithmic procedures and optimization software; as well as applications in energy management and supply chain management.

Quantitative and economic geography brings a quantitative modeling orientation to the study of the location, distribution and spatial organization of economic and other human activities, In 2014-2015, QEG research at CORE was mainly devoted to measuring and modelling socio-economic, transport and urban/periurban realities, covering different spatial levels of analysis on such topics as optimal location-allocation modeling; spatial statistics; urban modelling; land-use planning policy issues (LUTI models); and system of cities. This research addressed methodological challenges brought about by our connected world and resulting enormous data bases, where spatial theories must be informed by Big Data analysis and modeling.

RESEARCH ACHIEVEMENTS AND RECOGNITION

Scientific publications are the main outlet for research work in the directions pursued at CORE. In 2014–2015, CORE members have produced three **books** in the area of public economics. They have published a total of 145 **papers in scientific journals**, of which 91 have been included in the *CORE Reprints Series*.

Following a well-established tradition, many research papers are first released, following an internal refereeing process, as *CORE Discussion Papers*, to elicit comments and discussion before or during submission to scientific journals. 74 papers were contributed to the **CORE Discussion Papers** series in 2014-2015.

Details on these publications, as well as on newspaper articles and commissioned reports contributed by CORE members, are found in **chapter 2**.

CORE researchers and their work continue to receive **international recognition**, including an Honorary Doctorate from the Hebrew University of Jerusalem (Jacques DRÈZE); the distinction of *Walloon Officer of Merit* (François MANIQUET); that of *Expert of the year 2014* by the magazine Lobby (Jean HINDRIKS); a *Franqui Chair* (Isabelle THOMAS); a *Franqui Research Professorship* (David DE LA CROIX); a visiting professorship at the *European University of St Petersburg* (Thierry BRÉCHET); as well as an *Outstanding Paper award* by SIAM, the *Society for Industrial and Applied mathematics* (Yurii NESTEROV) and a *SUERD/UniCredit & Universitie Foundation Research Prize* for a paper co-authored by CORE Research Fellow Elena MATTANA. Further details on these prizes and awards are found in **chapter 2**.

TRAINING

Training of young researchers takes several forms at CORE. In 2014-2015 CORE was home to 32 **doctoral students**, of whom 5 defended their thesis in this period; and to 15 **postdoctoral research fellows**. These junior researchers develop their research under the supervision or sponsorship of one or several permanent CORE academic members.

CORE is a founding member of, and an active participant in two European doctoral programs, the **European Doctoral Program in Quantitative Economics** (EDP), of which 3 students were at CORE in 2014-2015, and the **European Doctorate in Economics Erasmus Mundus** (EDEEM), with 6 students at CORE in 2014-2015.

CORE also organizes or co-organizes **Winter/Spring/Summer schools** on emerging topics, aimed at junior (and not so junior) researchers. In 2014-2015 we had:

- a Winter School on Networks in *Economics and Finance*, at the Louvain School of Management (December 1-4);
- an ECORES Summer School on *Market Power*, at the Université libre de Bruxelles (May 26-29);
- a SoFiE Spring School on *Financial Econometrics*, at the National Bank of Belgium, Brussels (June 1-5); and
- a PORESP Summer School on *Anti-Poverty Policies & Individual Responses*, at the Fondation Universitaire, Brussels (July 6-9).

A noteworthy initiative of the junior researchers is the launching in October 2014 of a **CORE Brown Bag seminar** series, where junior researchers from CORE, the UCL and occasionally from other institutions, present their current work or job market paper and obtain invaluable feedback in an attentive and friendly atmosphere. 15 such brown bag seminar presentations were held in 2014-2015.

SCIENTIFIC EXCHANGES AND COLLABORATIONS

One of the main features of CORE since its very foundation has been its focus on developing interuniversity and international scientific exchanges. CORE actively pursues this networking tradition, at both the institutional and individual levels. Such scientific exchanges and collaborations, detailed in **chapter 4**, take many forms, notably:

- First and foremost is the continuing stream of **research visitors**, including *Associate Fellows* from (mostly) Belgian universities, who work at CORE on a regular, weekly basis, and participate in weekly seminars and other research activities; *Research Associates*, usually former CORE members, who regularly visit CORE, typically for a few weeks each year; and short-term visitors, about 30 of them in 2014-2015, who spent from a few days to several months at CORE and presented their work at one of the weekly research seminars, participated in CORE workshops or conferences, and worked on joint research at CORE.
- CORE organizes or co-organizes international and national **scientific meetings**, in addition to or in conjunction with the Winter/Spring/Summer schools mentioned above.
- Following a well-established and successful CORE tradition, weekly research **seminars** in the four main CORE disciplines described above, as well as other internal workshops and readings groups, allow CORE members and visitors to present their work and share ideas. Well over one hundred research seminars were held at CORE in 2014-2015.
- Finally, CORE members were invited to speak in numerous international and national conferences and to give research presentations at various universities and research centers.

PEOPLE

Most of CORE research and activities are led by its permanent **academic members** who form the "heart and soul" of CORE, see **chapter 5**. In addition to conducting their own research and performing their other university duties, CORE academic members lead and supervise junior researchers, collaborate with visitors, coordinate and participate in research seminars, and contribute to the organization of scientific meetings. They also play a critical role in securing the financial support outlined below.

CORE could not continue to be the lively, stimulating and welcoming research environment it is today without its efficient and friendly **administrative staff**. These essential members of CORE create a place where the researchers can focus on their work without being hampered by

practical issues. They also play an essential role in making CORE an attractive place for visitors. The contributions of the administrative staff are gratefully acknowledged.

SUPPORT

These activities are supported by CORE's participation in a long list of **research projects and contracts**, detailed in **chapter 6**. These projects are financed by several institutions, including the Belgian Federal Government, the Belgian French Community (*Fédération Wallonie-Bruxelles*), the Walloon Region (*Région Wallonne*), the European Commission, and private partners.

In 2014-2015 CORE was home to three **Research Chairs**: the *GDF Suez Chair* on *Energy Economics and Management of Energy Risk*; the *GSK Biologicals Chair on Strategic Sourcing and Procurement*; and the *Lhoist Berghmans Chair* in *Environmental Economics and Management*. These Research Chairs provide financial and other support for junior and senior researchers, as well as for teaching, training and outreach activities.

Last, and not least, we gratefully acknowledge the continuing and vital support from the **Université catholique de Louvain**.

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RESEARCH ACHIEVEMENTS AND RECOGNITION

▶ BOOKS AND EDITED BOOKS

▶ CORE REPRINTS

▶ OTHER PUBLISHED PAPERS

▶ CORE DISCUSSION PAPERS

▶ OTHER DISCUSSION PAPERS AND MANUSCRIPTS

▶ ARTICLES IN NEWSPAPERS

▶ REPORTS

▶ PRIZES AND AWARDS

RESEARCH ACHIEVEMENTS AND RECOGNITION

PUBLICATIONS

Books and Edited Books

Public Economics

▸ **Jean HINDRIKS**. *Quel avenir pour nos pensions? Les grands défis de la réforme des pensions.* Louvain-la-Neuve: De Boeck, 2015.

What should we do about our pension system to avert the old age crisis? This book by Professor Jean HINDRIKS, also member of the Belgian Pension Reform Commission, is a clear call for action. Far from current alarmism, the book offers a concrete set of proposals. The problem underlying pension reform is serious: Soaring public pension spending (30% increase over the last five years in Belgium) not only threatens economic stability, but also crowds out necessary investments in education, health and infrastructure. The book argues that the resistance to pension reform is mostly attributable to a set of myths that have dominated public discussion over the last decades. The first contribution of the book is then to demolish those myths to lay ground for a reform. The myths that are addressed in the book are the lump of labor fallacy, the nominal illusion of aging, the emancipation of labor, the priceless welfare state, the riskless public pension. The book then makes uncompromising evaluations of age and employment policies to address the pension crisis. The bottom line is clear, we will need both age and employment policies. Longevity gain will require postponing the retirement age, and the papy-boom will require boosting the employment rate of old age workers. The book also makes a serious departure from existing pension reforms such as the German and Swedish pension reforms involving a switch from a defined benefit to a defined contribution system. In this book we propose to use the so-called Musgrave rule for a fair sharing of the risks across generations. This system implies a constant ratio of consumption between old and young generations. To reach that rule in practice, we must adopt a pension mix of defined benefit and define contribution. The book proposes to implement such a rule via a point system. The value of a point will adjust to the evolution of the economy and the demography according to some pre-determined rule. The book also proposes the introduction of a part-time pension at an early age, such as 60 years, which workers can freely top up with their earnings. The part-time pension scheme offers a possibility for old age workers to work longer but at a reduced intensity. It offers a progressive landing to the full pension. The role of a private defined-contribution second pillar is discussed in the book together with the reverse mortgage pension system.

▸ **Jean HINDRIKS** and Gareth D. MYLES. *Intermediate Public Economics, 2nd edition.* Indian edition (2014): Prentice-Hall of India; Chinese edition (2015): Shanghai, Truth and Wisdom Press.

Public economics studies how government taxing and spending activities affect the economy-economic efficiency and the distribution of income and wealth. This comprehensive text in public economics covers the core topics market failure and taxation as well as recent developments in the political economy and public choice literatures. It is unique not only in its broad scope but also in its balance between public finance and public choice and its combination of theory and relevant empirical evidence. After introducing the theory and methodology of public economics and reviewing the efficiency of the competitive equilibrium, the book presents a historical and theoretical overview of the public sector. It then discusses departures from efficiency, including imperfect competition and asymmetric information; issues in political economy, including rent-seeking (a topic often omitted from other texts); equity; taxation issues, including tax evasion and its consequences; fiscal federalism and tax competition among independent jurisdictions; and the intertemporal issues of social security and economic growth. This text introduces the reader to the theory of public economics and the most significant results of the analysis, providing an overview of the current state of the field. It is accessible to anyone with a background of intermediate microeconomics and macroeconomics and can be used in advanced undergraduate as well as graduate courses. Although the mathematics has been kept to a minimum, the book remains analytical rather than discursive. Annotated suggestions for further reading and numerous exercises are included at the end of each chapter.

▸ Julie LE GALLO et **Isabelle THOMAS** (eds). *Espace, Statistique et Econométrie : Progrès et Défis en Science Régionale.* Revue d'Economie Régionale et Urbaine n°1/2, Bordeaux : Université de Montesquieu, 2015.

The thematic issue of the *Revue d'Economie Régionale et Urbaine* entitled "Statistics, Econometrics and Space: Advances and challenges in regional science" is co-edited by Julie LE GALLO and Isabelle THOMAS. It aims at illustrating

by a set of 11 papers the diversities and the new trends in statistics and spatial econometrics in regional sciences: Diversity of topics, diversity of challenges and diversity of methods used. It combines literature review papers (authors: Van Huyen, Thomas-Agnan & Vanhems; Chakir), methodological papers (authors: Rey; Ba & Baumont; Mayor et Patuelli), and empirical papers (authors: Guevara & Autant-Bernard; Sari; Delbecq, Guillain et Legros; Géniaut, Napoléone & Leroux; Abildtrup, Garcia & Queré; Chasco & Sanchez), opening new avenues for further research.

CORE REPRINTS

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2651. **LUC BAUWENS**, Gary KOOP, Dimitris KOROBILIS and Jeroen V.K. ROMBOUTS. The contribution of structural break models to forecasting macroeconomic series. *Journal of Applied Econometrics*, 30, 596-620, 2015.

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Energy Economics

2688. **Jinil HAN** and **Anthony PAPAVASILIOU**. Congestion management through topological corrections: A case study of Central Western Europe. *Energy Policy*, 86, 470-482, 2015.

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Environmental Economics

2636. **Thierry BRÉCHET** and Guy MEUNIER. Are clean technology and environmental quality conflicting policy goals? *Resource and Energy Economics*, 38, 61-83, 2014.

Game Theory

2631. Jens Leth HOUGAARD, **Juan D. MORENO-TERNERO** and Lars Peter ØSTERDAL. Assigning agents to a line. *Games and Economic Behavior,* 87, 539-553, 2014.

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2633. **Ana MAULEON**, **Vincent VANNETELBOSCH** and Cecilia VERGARI. Unions' relative concerns and strikes in wage bargaining. *Bulletin of Economic Research*, 66(4), 374-383, 2014.

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Growth and Development

2655. **David DE LA CROIX** and Frédéric DOCQUIER. An incentive mechanism to break the low-skill immigration deadlock. *Review of Economic Dynamics*, 18, 593-618, 2014.

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2624. Philippe Michel and **Pierre Pestieau**. Social security and early retirement in an overlapping-generations growth model. *Annals of Economics and Finance*, 14-2(B), 705-719, 2013.

2627. Helmuth Cremer and **Pierre Pestieau**. Social long-term care insurance and redistribution. *International Tax and Public Finance,* 21(6), 955-974, 2014.

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Supply Chain Management

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▶ **Isabelle THOMAS**, Camille COTTEELS, **Jonathan JONES**, Alain PHOLO BALA and **Dominique PEETERS**. Spatial challenges in the estimations of LUTI models: Some lessons from the SustainCity project. In M. Bierlaire, A. de Palma, R. Hurtubia and P. Waddell (eds), *Integrated Transport & Land Use Modelling for Sustainable Cities.* Lausanne; EPFL Press, 2015.

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CORE DISCUSSION PAPERS

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▶ Mélanie Birke, **Sébastien Van Bellegem** and Ingrid Van Keilegom. Semi-parametric estimation in a single-index model with endogenous variables. ISBA Discussion Paper 2014/43, UCL, 2014.

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▸ **Florian MAYNERIS**. Contrôle des chômeurs. *Libération,* September 14, 2015.

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▸ **Mikael PETITJEAN**. Hats off and respect for Albert Frère? *La Libre Belgique,* April 28, 2015.

▸ **Mikael PETITJEAN**. From a democracy of opinions to an aristocracy of knowledge. *L'Echo,* April 29, 2015.

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▸ **Thierry BRÉCHET** et al. Territoire et énergie 2050. Rapport de recherche, CPDT, 2014 (http://cpdt.wallonie.be/recherches/finalisees/annee-2013-2014/territoire-et-energie-2015-ri1).

▸ **Jean HINDRIKS** et al. Métiers pénibles, pension à temps partiel et flexibilité équitable dans le système de pension (Avis complémentaire de la Commission de réforme des pensions), SPF Sécurité Sociale, Avril 2015 (http://pension2040.belgium.be).

PRIZES AND AWARDS

▸ On May 31, 2015, Jacques DRÈZE received the title of Honorary Doctor from the Hebrew University of Jerusalem.

▸ Each year the SoFiE Council elects several "SoFiE Fellows", in recognition of their outstanding contributions to financial econometrics. Professor Luc BAUWENS has been elected SoFiE Fellow recently.

▸ Jean HINDRIKS has been designated in the category "Expert of the year 2014" by the magazine Lobby. The motivation of this selection is the contribution of Prof. HINDRIKS to the Pension Reform Commission report published in June 2014 and his unflagging effort to promote this report to a large public via press interviews, television debates and conferences.

▸ Isabelle THOMAS was awarded the Belgian Francqui Chair 2014-2015, with a lecture series under the umbrella theme of *Measuring and Modeling in Economic and Transport Geography: Challenges and Opportunities* at Universiteit Antwerpen.

▸ On September 18, François Maniquet was elevated to the rank of Walloon Officer of Merit. This distinction reflects the recognition of the Walloon authorities to any person (or entity) whose talent or merit honors Wallonia in an exceptional measure and contributes significantly to its success. François was distinguished for his research on fair economy.

▸ The paper *A Dynamic Quantitative Macroeconomic Model of Bank Runs* (CORE DP 2014/68) by Elena Mattana, with co-author Ettore Panetti from Bank of Portugal, was designated one of the two winners of the 2nd SUERD/UniCredit & Universitie Foundation Research Prize. The prize was awarded on December 11, 2014 at the Vienna University of Economics and Business, during the workshop on the subject "Reregulation of the Financial Sector - Economic Consequences, Costs and Benefits".

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JUNIOR RESEARCHERS

Doctoral Students and Research Assistants

Abdelrahaman ALY · Ignacio Andrés ARAVENA SOLÍS · Gautier ATTANASI · Rytis BAGDZIUNAS · Sinem BAS · Mikel BEDAYO · Stéphane BOUCHE · Manuela BRAIONE · Benoit DECERF · Justin DELLOYE · Julien DEWEZ · Aditi DIMRI · Cyrille DOSSOUGOIN · Mery FERRANDO GUTIERREZ · Bartosz FILIPECKI · Sophie FLAGOTHIER · Valeria FORLIN · Andras GREGOR · Oswaldo GRESSANI · Claudia HUPKAU · Jonathan JONES · Tanguy KEGELART · Arnaud LATIERS · Liana-Sabina LUNCASU · Simone MARTELLI · Pierre-Yves MISTIAEN · Wenli PENG · Francesco Andrea PIRRONE · Nicolas K. SCHOLTES · Eva-Maria SCHOLZ · Alice SERVAIS · Fahimeh SHAMSAEI · Gille SINNAEVE · Jonas TEUSCH · Brais VARDAR · Simon VERELST · Andrew Adrian YU PUA

Research Fellows

Research Fellows are scholars working at CORE for a predefined time period (from one to three years):

- ▶ Ignace ADANT, CORE, UCL, Belgium
- ▶ Gustavo ANGULO, CORE, UCL, Belgium
- ▶ Arnaud DUFAYS, CREST, Paris, France
- ▶ Silvia GALLI, CORE, UCL, Belgium
- ▶ Véronique GILLE, CORE, UCL, Belgium
- ▶ Elena Mattana, CORE UCL, Belgium,
- ▶ Jonia Milla, CORE, UCL, Belgium
- ▶ Dirk NEUMANN, CORE, UCL, Belgium
- ▶ Yukihiro NISHIMURA, Osaka University, Japan

- ▶ Eve RAMAEKERS, CORE, UCL, Belgium
- ▶ Sebastian Martin RIVAS, Universidad de Málaga, Spain
- ▶ Monalisa SEN, CORE, UCL, Belgium
- ▶ Vladimir SHIKMAN, CORE, UCL, Belgium
- ▶ Sebastian URBAN STICH, CORE, UCL, Belgium
- ▶ Claudio TELHA, CORE, UCL, Belgium
- ▶ Tom TRUYTS, KU Leuven, Belgium
- ▶ Yukai YANG, CORE, UCL, Belgium

COMPLETED PH.D. DISSERTATIONS

Five doctoral students successfully defended their Doctoral Dissertation at CORE.

- ▶ **Anton O. BELYAKOV**, *Essays on economic dynamics under heterogeneity*
  Economics School of Louvain, UCL, Belgium, September 9, 2014 under the supervision of Julio DÁVILA
  Current position: Senior Research Fellow at Lomonosov Moscow State University

  This thesis consists of three essays studying the influence of heterogeneity upon the economic dynamics. In the first model of R&D-based economic growth, the agents have heterogeneous preferences over a growing continuum of consumption goods. In the second model, a monopolist firm or an industry distributes investments in physical capital among a growing set of technologies the payoff of which is heterogeneous. In the third model of solving territorial disputes between countries, the income from the land use of a country is not equally (heterogeneously) distributed among the citizens.

- ▶ **Francesco DI COMITE**, *More linear than you would think: quadratic utilities, product differentiation and trade patterns*
  Economics School of Louvain, UCL, Belgium, September 23, 2014 under the supervision of Hylke VANDENBUSCHE
  Current position: Economist, scientific project officer at the European Commission, Joint Research Centre, Seville

  The increasing availability of detailed trade datasets is exposing limits in existing trade theories that need to be addressed. For example, this thesis documents how the observed micro and aggregate trade patterns cannot be explained by the combinations of functional forms and sources of heterogeneity proposed in the existing literature. To fill this gap, it is here developed a new class of space-augmented trade models based on quadratic utilities with asymmetric varieties and heterogeneous consumers yielding rich patterns of multi-dimensional heterogeneity across firms and markets. Different models are analysed, each one associated with specific properties in terms of market outcomes and underlying spatial structure. Hence, based on the observed or desired properties of the problem at hand, trade practitioners can refer to this thesis to find guidance on which model suits better their research purposes. One model in particular, called the "verti-zontal", is identified as the most appropriate to study trade patterns in general, when all products are included in the sample. Its validity is tested on micro and aggregate trade data, showing that market and exporter characteristics are enough to capture price variability across markets but an additional, variety-market-specific source of variability is needed to explain quantity variability. The models can be used for research purposes, to identify demand parameters, or for policy purposes, to produce indices of competitiveness at the country-product level.

▶ **Abdelrahaman ALY**, *Network flow problems with secure multiparty computation*
Graduate School in Systems, Optimization, Control and Networks, UCL, Belgium, August 31, 2015, under the supervision of Mathieu VAN VYVE
Current position: CORE, UCL, Belgium

In this Ph.D dissertation, we investigate how to solve some classical combinatorial optimization problems in network flows and their applications, using secure multiparty computation. Our study highlights the differences between traditional and secure adaptations of some algorithms to later test its implementation. It also explores various trade-offs between performance and security. We provide protocols that can be used as building blocks to solve more complex problems. Additionally, we report on practical applications, more specifically, we study the problem of securely building auction mechanisms with transmission constraints. We focus on improving performance for real life applications. We report on the design of a specific object oriented implementation of the necessary secure multiparty computation protocols used for the experimentation on practical applications. Areas of interest for our work can be found in: Auction markets, communication networks, routing data from rival company hubs, distribution problems, amongst others.

▶ **Daniel KOCH**, *Multiscale methods for the analysis of high-dimensional locally stationary time series*
Graduate School in Statistics and Actuarial Sciences, UCL, Belgium, June 5, 2015, under the supervision of Sébastien VAN BELLEGEM
Current position: CORE, UCL, Belgium

This thesis deals with multiscale modelling of the covariance pattern of discrete time series with time-varying autocovariance function. We propose a novel class of locally stationary wavelet (LSW) processes which allows for correlations between the increment terms at the different scales of resolution. The first part of the thesis focuses on univariate time series modelling. We prove that the autocovariance representation of the extended class of LSW processes is asymptotically unique and propose a consistent estimator of the corresponding evolutionary wavelet spectrum (EWS). The second part deals with multivariate time series modelling. As for the univariate setting, we prove that the new class of LSW processes has an asymptotically unique covariance representation and we derive a consistent estimation procedure of the EWS matrix. In the third part, we use the extended class of multivariate LSW processes to build a dynamic factor model. We construct a consistent estimator of the number of common factors and the standardized factor loadings, based on an eigenvalue decomposition of the estimated EWS matrix of the multivariate LSW model. In the fourth part, we propose a multiscale estimator of covariance matrices in high-dimensional settings using unbalanced Haar wavelets. We prove consistency in operator norm of the estimator, given conditions on the degree of sparsity of the wavelet transform of the population covariance matrix. Each of the four parts contains applied sections in which we use the proposed modelling techniques to study various economic and financial phenomena.

▶ **Federico DE STEFANO GRIGIS**. *Essays on Nash equilibrium refinements*
Economics School of Louvain, UCL, Belgium, January 30, 2015, under the supervision of Vincent VANNETELBOSCH
Current position: Banca d'Italia, Roma, Italy

This thesis introduces, as major contribution, a new definition of strategically stable set of equilibria by considering a new class of perturbed games obtained by adding a set of irrelevant players and a collection of dominated strategies to the initial game. Both variations have no effect on the set of equilibria of the original game but allow to widen the resulting stable sets of equilibria up to satisfy all the properties proposed in Kohlberg and Mertens [1986] and in Mertens [1989]. Besides, a new fictitious game is proposed to define a new single valued Nash equilibrium refinement, namely refined equilibria, and to extend strategic stability to correlated equilibria. In both cases, the desired goals are not reached even if there are significant positive results: a refined equilibrium satisfies the invariance property improving on the concept of proper equilibrium. This result stems from a setting that is closer to the forward induction than the backwards induction approach: a single valued solution concept that always conforms with backwards induction cannot verify the property of invariance. Similarly, the concept of stable correlated equilibria improves on both perfect and acceptable correlated equilibria since it can be applied to player games and it excludes equilibria that are not perfect.

PH.D. DISSERTATIONS IN PROGRESS

IGNACIO ANDRÉS ARAVENA SOLÍS

▶ Title: Models and distributed solution algorithms for short-term uncertainty management in the European power system
▶ Supervisor: Anthony Papavasiliou
▶ Started: 2013
▶ Doctoral School: Louvain School of Engineering, UCL, Belgium

RYTIS BAGDZIUNAS

▶ Title: Functional data estimation in the presence of endogeneity
▶ Supervisor: Sébastien VAN BELLEGEM
▶ Started: 2011
▶ Doctoral School: Economics School of Louvain, UCL, Belgium

SINEM BAS

▸ Title: Essays on poverty and inequality
▸ Supervisors: Alain Chateauneuf and François Maniquet
▸ Started: 2012
▸ Doctoral School: Economics School of Louvain, UCL, Belgium and Université Paris 1 Panthéon Sorbonne, France (EDEEM student)

STÉPHANE BOUCHÉ

▸ Title: Essays on growth and sustainable development: discounting, habits and externalities
▸ Supervisor: Julio Dávila
▸ Started: 2009
▸ Doctoral School: Economics School of Louvain, UCL, Belgium

MANUELA BRAIONE

▸ Title: Essays on forecasting of realized correlation matrices
▸ Supervisors: Luc Bauwens and Christian Hafner
▸ Started: 2013
▸ Doctoral School: Economics School of Louvain, UCL, Belgium

BENOIT DECERF

▸ Title: Welfare and behavior micro-analysis of economies with agents exhibiting non-classical preferences
▸ Supervisors: François Maniquet and Frank Riedel
▸ Started: 2011
▸ Doctoral School: Economics School of Louvain, UCL, Belgium and Universität Bielefeld, Germany (EDEEM student)

JUSTIN DELLOYE

▸ Title: Three-dimensional morphodynamics of a developers-conducted urban densification
▸ Supervisors: Dominique Peeters and Isabelle Thomas
▸ Started: 2014
▸ Doctoral School: School of Geography, UCL, Belgium

JULIEN DEWEZ

▸ Title: Exact nonnegative matrix factorization: algorithms, bounds and applications to optimization
▸ Supervisor: François Glineur
▸ Started: 2012
▸ Doctoral School: Graduate School in Systems, Optimization, Control and Networks, UCL, Belgium

ADITI DIMRI

▸ Title: Poverty measurement and anti-poverty policy design
▸ Supervisors: François Maniquet and François Bourguignon
▸ Started: 2013
▸ Doctoral School: Economics School of Louvain, UCL, Belgium and Université Paris 1 Panthéon Sorbonne, France (EDEEM student)

CYRILLE DOSSOUGOIN

▸ Title: Financial complexity: A spatial econometrics approach
▸ Supervisors: Sophie Béreau and Nicolas Debarsy
▸ Started: 2013
▸ Doctoral School: LSM Doctoral School, UCL, Belgium

MERY FERRANDO

▸ Title: Essays on human capital accumulation among disadvantaged agents
▸ Supervisor: François Maniquet
▸ Started: 2012
▸ Doctoral School: Economics School of Louvain, UCL, Belgium

BARTOSZ FILIPECKI

- ▶ Title: Improving models & algorithms for mixed-integer nonlinear optimization in the power industry
- ▶ Supervisor: Mathieu Van Vyve
- ▶ Started: 2014
- ▶ Doctoral School: Graduate School in Systems, Optimization, Control and Networks, UCL, Belgium

VALERIA FORLIN

- ▶ Title: Essays on firms' environmental strategies
- ▶ Supervisor: Paul Belleflamme
- ▶ Started: 2014
- ▶ Doctoral School: Economics School of Louvain, UCL, Belgium

ANDRAS GREGOR

- ▶ Title: Essays on public economics
- ▶ Supervisor: Jean Hindriks
- ▶ Started: 2014
- ▶ Doctoral School: Economics School of Louvain, UCL, Belgium

OSWALDO GRESSANI

- ▶ Title: Endogenous quantal response equilibrium in normal games
- ▶ Supervisors: Pierre Picard and Vincent Vannetelbosch
- ▶ Started: 2014
- ▶ Doctoral School: Economics School of Louvain, UCL, Belgium

CLAUDIA HUPKAU

- ▶ Title: Essays on the economics of poverty
- ▶ Supervisors: François Maniquet and Andrew Clarck
- ▶ Started: 2010
- ▶ Doctoral School: Economics School of Louvain, UCL, Belgium

JONATHAN JONES

- ▶ Title: Sensitivity of LUTI models to space: Assessment and recommendations
- ▶ Supervisors: Dominique Peeters and Isabelle Thomas
- ▶ Started: 2010
- ▶ Doctoral School: School of Geography, UCL, Belgium

ARNAUD LATIERS

- ▶ Title: The role of electricity demand response for providing ancillary services
- ▶ Supervisors: François Glineur and Emmanuel Dejaeger
- ▶ Started: 2012
- ▶ Doctoral School: Graduate School in Systems, Optimization, Control and Networks, UCL, Belgium

SIMONE MARTELLI

- ▶ Title: On the drivers of greenhouse gas emissions and policies for climate change mitigation
- ▶ Supervisor: Thierry Bréchet
- ▶ Started: 2013
- ▶ Doctoral School: Economics School of Louvain, UCL, Belgium

WENLY PENG

- ▶ Title: Global study chain modeling
- ▶ Supervisor: Philippe Chevalier
- ▶ Started: 2012
- ▶ Doctoral School: Doctoral School of Management, UCL, Belgium

FRANCESCO ANDREA PIRRONE

- ▸ Title: Game theory and monetary policies
- ▸ Supervisor: Julio Dávila
- ▸ Started: 2013
- ▸ Doctoral School: Economics School of Louvain, UCL, Belgium

NICOLAS K. SCHOLTÈS

- ▸ Title: Agent-based models and network theory applied to interbank markets
- ▸ Supervisors: Sophie Béreau and Jean-Yves Gnabo
- ▸ Started: 2013
- ▸ Doctoral School: LSM Doctoral School, UCL, Belgium

EVA-MARIA SCHOLZ

- ▸ Title: Essays in industrial economics
- ▸ Supervisor: Paul Belleflamme
- ▸ Started: 2013
- ▸ Doctoral School: Economics School of Louvain, UCL, Belgium

ALICE SERVAIS

- ▸ Title: An interbank market in a DSGE model
- ▸ Supervisors: Sébastien Van Bellegem and Frank Smets
- ▸ Started: 2012
- ▸ Doctoral School: Economics School of Louvain, UCL, Belgium and Katholieke Universiteit Leuven, Belgium

FAHIMEH SHAMSAEI

- ▸ Title: An improved formulation for dynamic productivity lot sizing problems
- ▸ Supervisor: Mathieu Van Vyve
- ▸ Started: 2010
- ▸ Doctoral School: Doctoral School of Management, UCL, Belgium

GILLES SINNAEVE

- ▸ Title: Improved patient to bed allocation to stimulate the bed utilization rate
- ▸ Supervisor: Philippe Chevalier
- ▸ Started: 2013
- ▸ Doctoral School: Doctoral School of Management, UCL, Belgium

JONAS TEUSCH

- ▸ Title: Beyond incentive regulation
- ▸ Supervisors: Per Agrell and Axel Gauthier
- ▸ Started: 2013
- ▸ Doctoral School: HEC-Ecole de Gestion de l'Université de Liège, Belgium

EDEEM PROGRAM

EDEEM is a doctoral program in economics that gathers seven leading European institutions coordinated by the Bielefeld University, Germany. It is a research-oriented program and aims to produce top-quality researchers, who will gain international experience working within the research units with some of Europe's leading researchers in economics. Students are trained for positions in academia at the international level as well as for responsible positions in government, research organizations, and business enterprises. High focus is made on research work, publication and presentation, with dedicated Jamborees and Summer Schools being an integral part of the training.

The EDEEM program welcomes around 25 students each year. Admission is based on excellence in previous Master Degree studies or equivalent. This degree does not have to be in economics, although interest in economics is certainly desirable and a strong background in mathematics will be helpful together with fluent written and spoken English. The program is organised in three years.

All Ph.D. students are jointly supervised by two advisers through a co-tutelle agreement between two universities of the consortium. The student must spend at least two semesters in each of the two degree-granting universities. A single defense in one of the two universities is organized. After having successfully completed the program, the student is awarded a double degree from the two hosting institutions. The consortium is fully committed to the placement of students at the end of the program.

Three students were at CORE in the scope of this program during academic year 2014-2015: Sinem BAS, Benoit DECERF and Aditi DIMRI.

As part of the European Doctorate in Economics - Erasmus Mundus (EDEEM) consortium, Universita' Ca' Foscari (Venezia, Italy) hosted the 2015 EDEEM Jamboree in July 2015. The event is one of the activities for doctoral students participating in the EDEEM program. The idea of the Jamboree is to give students the opportunity to present their work within the EDEEM network and to encourage discussion. Another jamboree activity was a job market placement training session. Furthermore, the annual monitoring of EDEEM doctoral students took place during the jamboree.

JAMBOREE PROGRAM

July 16, 2015

PARALLEL SESSION: LABOR

Chair: Giacomo PASINI, Universita' Ca' Foscari, Venezia, Italy

▸ Bertrand ACHOU, Université Paris 1 Panthéon Sorbonne, France and Universita Ca'Foscari Venezia, Italy
Disability in retirement, home production and informal insurance between spouses
▸ Sheng BI, Université Paris 1 Panthéon Sorbonne, France and Universität Bielefeld, Germany
Holdup and hiring discrimination with search friction
▸ Hamzeh ARABZADEH JAMALI, Université Paris 1 Panthéon Sorbonne, France and UCL, Belgium
Current account imbalances in developed countries and centralization of wage bargaining
▸ Aditi DIMRI, UCL, Belgium and Ecole des Hautes Etudes en Sciences Sociales, Paris, France
Household composition & women empowerment: living with in-laws in India

PARALLEL SESSION: FINANCE

Chair: Monica BILLIO, Universita' Ca' Foscari, Venezia, Italy

▸ Julien PINTER, Université Paris 1 Panthéon Sorbonne, France and Universiteit Amsterdam, The Netherlands
The post-crisis puzzling behavior of deposit rates: How to explain downward rigidities?
▸ Lorenzo BASTIANELLO, Université Paris 1 Panthéon Sorbonne, France and Universita Ca' Foscari Venezia, Italy
Topological implication of delay aversion
▸ Marko PETROV, Universidade Nova de Lisboa, Portugal and Universiteit Amsterdam, The Netherlands
Zero coupon inflation indexed swaps credit value adjustment under the Jarrow-Yildirim model

July 17, 2015

PARALLEL SESSION: INTERNATIONAL ECONOMICS

Chair: Anna ZAHARIEVA, Universität Bielefeld, Germany

▸ Hung LY DAI, Universität Bielefeld, Germany and Université Paris 1 Panthéon Sorbonne, France
Global imbalance in a multi-county OLG model
▸ Igor KHORENZHENKO, Université Paris 1 Panthéon Sorbonne, France and Universität Bielefeld, Germany
Modeling the formation of the EUETS trade network
▸ Thu Hien DAO, Universität Bielefeld, Germany and UCL, Belgium
Migration and development: Dissecting the transition curve
▸ Zainab IFTIKHAR, Universität Bielefeld, Germany and UCL, Belgium
Brain gain from brain drain in presence of turnover costs

PARALLEL SESSION: INDUSTRIAL ORGANIZATION

Chair: Herbert DAWID, Universität Bielefeld, Germany

▸ Hsin-Mien WANG, Universiteit Amsterdam, The Netherlands and Universität Bielefeld, Germany
An R&D race with knowledge accumulation and the product market
▸ Lan SUN, Université Paris 1 Panthéon Sorbonne, France and Universität Bielefeld, Germany
Deterence game under asymmetric information on demand uncertainty
▸ Baris VARDAR, Université Paris 1 Panthéon Sorbonne, France and UCL, Belgium
The role of capacity building on technology adoption under imperfect competition

PARALLEL SESSION: INEQUALITY AND GROWTH

Chair: François MANIQUET, CORE, UCL, Belgium

- Benoit DECERF, Université Paris 1 Panthéon Sorbonne, France and Universität Bielefeld, Germany
  Income poverty measures: Beyond the absolute and relative approaches
- Mathieu BOULLOT, Université Paris 1 Panthéon Sorbonne, France
  Bubbly inequality: Rational bubbles, secular stagnation and the distribution of wealth
- Moutaz ALTAGHLIBI, Université Paris 1 Panthéon Sorbonne, France and Universiteit Amsterdam, The Netherlands
  Unconditional aid and green growth
- Sinem BAS, Université Paris 1 Panthéon Sorbonne, France and UCL, Belgium
  Poverty measurement with heterogeneous preferences

ECONOMETRICS

Chair: Bertrand WIGNIOLLE, Université Paris 1 Panthéon-Sorbonne, France

- Anna PETRONEVICH, Université Paris 1 Panthéon Sorbonne, France and Universita Ca' Foscari Venezia, Italy
  On the convergence of the ML estimator of the Markov-Switching dynamic factor model
- Elisa RIZZO, UCL, Belgium and Université Paris 1 Panthéon Sorbonne, France
  Education and fertility in Sub-Saharan Africa: An econometric analysis
- Hasinavonizaka FANIRISOA, Université Paris 1 Panthéon Sorbonne, France and Universita Ca' Foscari Venezia, Italy
  Option valuation with VIX using U-shaped quadratic pricing kernel

July 18, 2015

PARALLEL SESSION: MISCELLANEOUS

Chair: Kees Jan van GARDEREN, Universiteit Amsterdam, The Netherlands CORE, UCL, Belgium

- Eleana ORLOVA, Universität Bielefeld, Germany and Ecole des Hautes Etudes en Sciences Sociales, Paris, France
  Evolution of preferences
- Simon SCHOPOHL, Universität Bielefeld, Germany and Ecole des Hautes Etudes en Sciences Sociales, Paris, France
  Mechanism design with communication constraints
- Risa PAVIA, Universidade Nova de Lisboa, Portugal and UCL, Belgium
  Profit shifting by multinational corporations in Portugal
- Dalal MOOSA, Université Paris 1 Panthéon Sorbonne, France; UCL, Belgium and Universidade Nova de Lisboa, Portugal
  The evolution of intra-household transfers in France and their influence on generational inequality
- Nucke KUSUMO, Université Paris 1 Panthéon Sorbonne, France and Universidade Nova de Lisboa, Portugal
  The efficiency of dual physician practice in developing and developed countries in the presence of patient's heterogeneity in income

EUROPEAN DOCTORAL PROGRAM IN QUANTITATIVE ECONOMICS

The European Doctoral Program in Quantitative Economics (EDP) is a program of doctoral studies in economics organised jointly by the following universities: Université catholique de Louvain (Belgium), Ecole des Hautes Etudes en Sciences Sociales, Paris (France), Rheinische Friedrich-Wilhelms-Universität Bonn (Germany), European University Institute, Florence (Italy), Universitat Pompeu Fabra, Barcelona (Spain), London School of Economics (United Kingdom) with Tel Aviv University (Israel) as an exchange partner.

This is done within the framework of the existing degree requirements of these institutions. The aim of EDP is to promote the exchange of doctoral students between these institutions in order for their research training to benefit from their strengths in various areas of quantitative economics.

Each institution offers Masters and Ph.D. courses, seminars and workshops, and research supervision. Doctoral students participating in the program do the research work for their dissertation in the institutions of the EDP network. They are required to spend at least 3 months abroad in an EDP institution different from the one where their dissertation will be presented.

The program focuses on economic theory, mathematical economics, decision and game theory, econometric theory and methodology, empirical econometrics and applied mathematical economics through the coordinated curriculum based on the activities at Barcelona, Bonn, Florence, London, Louvain, Paris and Tel-Aviv. It creates the opportunity for students to specialize in almost any major area of quantitative economics while allowing them to integrate different aspects of economics. Moreover, EDP offers unique access to the traditions and current research of these seven institutions.

The program started in 1977. Fifty students are currently enrolled. Six are currently staying at CORE: Mikel BEDAYO, Stéphane BOUCHÉ, Mery FERRANDO, Valeria FORLIN, Francesco Andrea PIRRONE and Eva-Maria SCHOLZ.

Paris School of Economics organized the Jamboree 2014-2015. Around 45 students attended the event.

Jamboree Program

September 12, 2014

KEYNOTE LECTURE

▸ Eric Maurin, Paris School of Economics, France
Following the crowd: Leisure complementarities beyond the household

PARALLEL SESSION: MACROECONOMICS
Chair: Gernot Müller, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

▸ Martin Wolf, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
Exit expectations in currency unions
▸ Stefanie Huber, Universitat Pompeu Fabra, Barcelona, Spain
Housing bubbles and homeownership
▸ Guzman Ourens, IRES, UCL, Belgium
The long-term impact of trade in an asymmetric world

PARALLEL SESSION: ECONOMICS OF EDUCATION
Chair: Gabrielle Fack, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

▸ Emma Duchini, Universitat Pompeu Fabra, Barcelona, Spain
Early ability information and provision of incentives: RDD estimates on the effect of assignment to college remediation
▸ Mery Ferrando, CORE, UCL, Belgium
Cash transfers and school outcomes: The case of Uruguay
▸ Camille Terrier, Paris School of Economics, France
Giving a little help to girls? Evidence on grades discrimination and its effect on students achievement

JOB MARKET SESSION 1: MACRO AND R&D
Chair: Alexis Bergès, Paris School of Economics, France

▸ Anna Grodecka, Universitat Pompeu Fabra, Barcelona, Spain
Subprime borrowers, securitization and the transmission of business cycles
▸ Jan Witajewski, European University Institute, Florence, Italy
Induced technological change in energy intensive sectors

JOB MARKET SESSION 2: DEVELOPMENT AND CULTURE: LESSONS FROM HISTORY
Chair: Anett John, CREST-ENSAE, Paris, France

▸ Alejandro del Valle, Paris School of Economics, Paris, France and University of California, Berkeley (CA), USA
From caring to work: The labor market effects of noncontributory health insurance cash transfers and school outcomes: The case of Uruguay
▸ Seyhun Orcan Sakalli, Paris School of Economics, Paris, France
Coexistence, polarization, and development: Armenian legacy in modern Turkey

PARALLEL SESSION: MICRO THEORY
Chair: Fabrizio Germano, Universitat Pompeu Fabra, Barcelona, Spain

▸ Andrea Pirrone, CORE, UCL, Belgium
Common knowledge: In correlated equilibria and global games
▸ Tobias Gamp, Universitat Pompeu Fabra, Barcelona, Spain
Search, information acquisition and obfuscation

PARALLEL SESSION: MACRO AND FINANCE
Chair: Peter Hansen, European University Institute, Florence, Italy

▸ Elie Murard, Paris School of Economics, Paris, France
The impact of migration on family left behind: Estimation in presence of intra-household selection of migrants
▸ Mikel Bedayo, CORE, UCL, Belgium
A network analysis of firms' credit markets

September 13, 2014

JOB MARKET SESSION 3: PUBLIC ECONOMICS
Chair: Bénédicte APOUEY, Paris School of Economics

- Xiaoguang CHEN, London School of Economics, United Kingdom
  Is VAT a very alterable tax in China?
- Abel BRODEUR, Paris School of Economics, Paris, France
  The persistant effects of demand shocks for sexual services during the Vietnam war

KEYNOTE LECTURE

- Andrew CLARCK, Paris School of Economics, France
  The easterlin paradox and public policy

PARALLEL SESSION: THEORETICAL IO
Chair: Laurent LAMY, Paris School of Economics, France

- Andrea ENACHE, Paris School of Economics, Paris, France
  Nonparametric estimation for regulation models
- Eva-Maria SCHOLZ, CORE, UCL, Belgium
  Licensing downstream technology when upstream firms are capacity constrained

PARALLEL SESSION: APPLIED ECONOMETRICS: LABOR MARKET
Chair: Gernot MÜLLER, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

- Andrei POTLOGEA, Universitat Pompeu Fabra, Barcelona, Spain
  Fueling the gender gap? Oil and women's labor and *marriage market outcomes*
- Yan LIANG, London School of Economics, United Kingdom
  Imperfect competition and misallocation

PARALLEL SESSION: POLITICAL ECONOMY
Chair: Oliver VANDEN EYNDE, Paris School of Economics, France, and Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

- Sutanuka ROY, London School of Economics, United Kingdom
  Citizen-protester model
- Lisa WINDSTIEGER, London School of Economics, United Kingdom
  Income inequality, economic segregation and misperceptions
- Carlo Antonio CABRERA, London School of Economics, United Kingdom
  Social learning and the persistent effects of institutions

PARALLEL SESSION: APPLIED ECONOMETRICS: DEVELOPMENT
Chair: Vincent VANNETELBOSCH, UCL, CORE, Belgium

- Zelda BRUTTI, European University Institute, Florence, Italy
  Decentralizing public education: Does everyone benefit? Evidence from Colombia
- Marie BLOTZ-LAEMEL, Paris School of Economics, France
  Anticipating polygyny: How is household economics affected?
- Yatang LIN, London School of Economics, United Kingdom
  Travel costs and urban specialization: Evidence from China's high speed railway

WINTER, SPRING AND SUMMER SCHOOLS

WINTER SCHOOL & WORKSHOP "NETWORKS IN ECONOMICS AND FINANCE"

As part of the research agenda of the ARC project on "Financial Complexity", the CeReFiM and naXys from the Université de Namur, CORE, ILSM from UCL and MISC (Maison Interdisciplinaire des Systèmes Complexes) from the Université d'Orléans, jointly organized their first Winter School and Workshop on "Networks in Economics and Finance". Both were held at LSM (UCL), on December 1-5, 2014.

The main objective was to gather researchers interested in the theoretic and econometric modelling of interacting agents behaviors, complexity and networks, over four days of lectures ended by one workshop day where scholars could present their ongoing work on the broad topic with an emphasis on applications in the fields of economics and finance.

December 1, 2014

▶ Mikael König, Universität Zürich, Switzerland
Network modelling and its applications in economics & finance (1) (3 lectures + discussion)

December 2, 2014

▶ Mikael König, Universität Zürich, Switzerland
Network modelling and its applications in economics & finance (2) (3 lectures + discussion)

December 3, 2014

▶ Erik Kolaczyk, Boston University (NY), USA
The statistics of networks (1) (3 lectures + discussion)

December 4, 2014

▶ Erik Kolaczyk, Boston University (NY), USA
The statistics of networks (2) (3 lectures + discussion)

December 5, 2014: Workshop

KEYNOTE SESSIONS

▶ Stefano Battiston, Universität Zürich, Switzerland
Financial networks: Empirical studies of debt rank
▶ Kamil Yilmaz, Koç Üniversitesi, Istanbul, Turkey
Estimating global bank network connectedness
▶ Sheri Markose, University of Essex, United Kingdom
Macro-prudential policy and financial network modelling

PARALLEL SESSION 1.1: FINANCIAL NETWORKS
Chair: Kamil Yilmaz, Koç Üniversitesi, Istanbul, Turkey

▶ Falk Bräuning, Tinbergen Institute, Amsterdam, The Netherlands
A dynamic network model of the unsecured interbank lending market
▶ Daniel Felix Ahelegbey, Boston University (MA), USA
Bayesian sparse graphical multivariate autoregressions
▶ Carl-Henrik Dahlqvist, CeReFiM, Department of Business Administration, UNamur and LSM, UCL, Belgium
Effective [financial] network inference through multivariate information transfer estimation
▶ Richard Heuver, De Nederlandse Bank, Amsterdam, The Netherlands
Dynamic visualization of large transaction networks: The daily Dutch overnight money market

PARALLEL SESSION 1.2: TRADE NETWORKS
Chair: Michael König, Universität Zürich, Switzerland

▶ Benjamin Vandermarliere, Universiteit Gent, Belgium
Mapping historical integration: Globalization and centralization after the second industrial revolution
▶ Glenn Magerman, KU Leuven, Belgium
Technology, networks and trade (TNT) – The Ricardian network

▶ M. Arroyabe, Business Systems Analyst III HHSC IT Enterprise Applications, Austin (TX), USA
International trade networks: The effect of knowledge spillovers on BRICS economic growth
▶ Jean-Charles Delvenne, CORE and EPL, UCL, Belgium
Trade integration and trade imbalances in the European Union: A network perspective

PARALLEL SESSION 2.1: THE ECONOMETRICS OF NETWORKS
Chair: Eric Koloczyk, Boston University (NY), USA

▶ Andreas Dzemski, Göteborgs Universitet, Sweden
An empirical model of dyadic link formation in a network with unobserved heterogeneity
▶ Ugo Bolletta, Università di Bologna, Italy
Endogenous peer group formation and peer effects

> ▶ Martha Gabriela Contreras, Universiteit Maastricht, The Netherlands
> *Equator principles adoption: Peer pressure or piggybacking?*

PARALLEL SESSION 2.2: NETWORK THEORY AND APPLICATIONS

Chair: Timoteo Carletti, UNamur, Belgium

> ▶ Simone Righi, Université de Namur, Belgium
> *Pricing in social networks under limited information*
> ▶ Daniel S. Hain, Aalborg Universitet, Denmark
> *Incremental by design? On the role of incumbents in technology niches. An evolutionary network analysis*
> ▶ Nikolas Tsakas, University of Cyprus, Nicosia, Cyprus
> *Optimal influence under observational learning*

ECORES Summer School on Market Power

On May 26-29, 2015, ECORES organized its biannual summer school. The school was hosted by ECARES at Université libre de Bruxelles. Economic models that incorporate market power resemble actual market interactions more closely. As a result, they are more directly testable and provide a useful framework for empirical work. The invited speakers had been instrumental in conducting and motivating structural empirical analysis.

May 26, 2015

PLENARY SESSION 1

> ▶ Marc Melitz, Harvard University, Cambridge (MA), USA
> *Firm heterogeneity and trade. Theory and empirics*

PARALLEL SESSION 1A: ALLOCATION MECHANISMS

> ▶ Mehdi Madani, LSM, UCL, Belgium
> *A MIP framework for non-convex uniform price day-ahead electricity auctions*
> ▶ Li Chen, Université libre de Bruxelles, Belgium
> *Timing preference submissions in centralized university admissions*
> ▶ Benoit Decerf, CORE, UCL, Belgium
> *A new method to compare manipulable mechanisms, with applications to school choice*

PARALLEL SESSION 1B: ORGANIZATION OF FIRMS

> ▶ Luca Livio, Université libre de Bruxelles, Belgium
> *Teamwork production, incentive provision, kindness and reciprocity*
> ▶ Verena Nowak, Heinrich-Heine-Universität, Düsseldorf, Germany
> *Organizational decisions in multistage production processes*
> ▶ Maté Fodor, Université libre de Bruxelles, Belgium
> *Education, private screening and task allocation*

PLENARY SESSION 2

> ▶ Paul Klemperer, Oxford University, United Kingdom
> *Theory and design of multi-object auctions*

May 27, 2015

PLENARY SESSION 3

> ▶ Marc Melitz, Harvard University, Cambridge (MA), USA
> *Firm heterogeneity and trade. Theory and empirics*

PLENARY SESSION 4

> ▶ Paul Klemperer, Oxford University, United Kingdom
> Theory and design of multi-object auctions

PARALLEL SESSION 2A: INDUSTRIAL ORGANIZATION 1

▸ Tsz Kin LEUNG, Toulouse School of Economics, France
What do they advertise?
▸ Geert VAN MOER, Universiteit Antwerpen, Belgium
Horizontal subcontracting and intermittent power generation
▸ Dmitry POKROVSKY, Higher School of Economics, Moscow, Russia
Market size, entrepreneurship, sorting and income inequality

PARALLEL SESSION 2B: ECONOMIC THEORY

▸ Marco SERENA, Universidad Carlos III de Madrid, Spain
Information in contests
▸ Tom POTOMS, Université libre de Bruxelles, Belgium
On symbols and cooperation
▸ Andrea PIRRONE, CORE, UCL, Belgium
Common knowledge in correlated equilibria and global games

PLENARY SESSION 5

▸ Ariel PAKES, Harvard University, Cambridge (MA), USA
Methodologies for empirical analysis in industrial organization

May 28, 2015

PLENARY SESSION 6

▸ Marc MELITZ, Harvard University, Cambridge (MA), USA
Firm heterogeneity and trade. Theory and empirics

PLENARY SESSION 7

▸ Paul KLEMPERER, Oxford University, United Kingdom
Theory and design of multi-object auctions

PARALLEL SESSION 3A: INTERNATIONAL ECONOMICS

▸ Liza ARCHANSKAIA, KU Leuven, Belgium
Why aren't welfare gains from trade increasing overtime?
▸ Salamat ALI, Nottingham University, United Kingdom
Exchange rates, firm heterogeneity, and the intensive margins of trade in agriculture
▸ Tommaso AQUILANTE, Université libre de Bruxelles, Belgium
Bureaucrats or politicians? Political parties and antidumping in the United States

PARALLEL SESSION 3B: INDUSTRIAL ORGANIZATION II

▸ Olga ROZANOVA, Toulouse School of Economics, France
Final vs. intermediate price regulation in the presence of demand-enhancing investments
▸ Marina SANDOMIRSKAIA, National Research University Higher School of Economics, Moscow, Russia
Price-quantity competition of farsighted firms: From strict competition to tacit collusion
▸ Tim THOMES, WHU - Otto Beisheim School of Management, Vallendar, Germany
Distribution channels and collusion of manufacturers: Common versus independent retailers

PARALLEL SESSION 4A: INNOVATION

▸ Georgios PETROPOULOS, Toulouse School of Economics, France
The relationship between competition and innovation: How important are firms' financial constraints?
▸ Aleksandra BOUTIN, Université libre de Bruxelles, Beligum
Screening for good patent pools through price caps on individual licences
▸ Olivier DE GROOTE, KU Leuven, Belgium
How much do households value the future? Evidence from the adoption of photovoltaic systems

PARALLEL SESSION 4B: OFF-SHORING

▶ Sotiris Blanas, IRES, UCL, Belgium
Knowledge transfer, knowledge expropriation and intra-firm trade

▶ Ursula Fritsch, Kiel University for the World Economy, Russia
Offshoring, labor market dynamics and innovation

▶ Angelos Theodorakopoulos, Universiteit Gent, Belgium
Effects on productivity and markups of Belgian firms from inter-industry offshoring and inshoring to China

May 29, 2015

PLENARY SESSION 8

▶ Arial Pakes, Harvard University, Cambridge (MA), USA
Methodologies for empirical analysis in industrial organization

PARALLEL SESSION 5A: MISC

▶ Sebastian Fleitas, University of Arizona, Tucson (AZ), USA
The costs of lock-in health care markets: Evidence from hospital choice in Uruguay

▶ Karen Geurts, KU Leuven, Beligum
How sensitive is the analysis of firm and employment dynamics to longitudinal linkage problems?

▶ Guzman Ourens, IRES, UCL, Belgium
The long-term impact of trade with firm heterogeneity

PARALLEL SESSION 5B: EMPIRICAL INDUSTRIAL ORGANIZATION I

▶ Kun Li, Toulouse School of Economics, France
Distortions, dynamic inputs and misallocation

▶ Dennis Rickert, Heinrich-Heine Universität, Düsseldorf, Germany
Bargaining power in manufacturer-retailer relationships

▶ Marjin Verschelde, KU Leuven, Belgium
Nonparametric analysis of multi-product firms with unobserved products and technological heterogeneity

PLENARY SESSION 9

▶ Arial Pakes, Harvard University, Cambridge (MA), USA
Methodologies for empirical analysis in industrial organization

PARALLEL SESSION 6A: EMPIRICAL INDUSTRIAL ORGANIZATION II

▶ Javier Elizalde, Universidad de Navarra, Spain
Determinants of ticket prices in Spanish cinema market

▶ Simon Galle, University of California at Berkeley (CA), USA
The trade-off between competition and capital misallocation. Evidence from the Indian manufacturing sector

▶ Amela Saric, Heinrich-Heine Universität, Düsseldorf, Gerimany
Substitution between fixed, mobile and voice over IP telephony. Evidence from the European Union

PARALLEL SESSION 6B: REGULATION OF INDUSTRIES

▶ Mathias Reynaert, KU Leuven, Belgium
Abatement strategies and the cost of environmental policy: Emission standards on the European car market

▶ Vicente Lagos, Toulouse School of Economics, France
Post-merger coordinated effects: Characterization and assessment by simulations

▶ André Romahn, KU Leuven, Belgium
Divestiture requirements as a tool for competition policy. A case from the Swedish beer market

SoFiE Financial Econometrics Spring School

The SoFiE (Society for Financial Econometrics) Financial Spring School is an annual week-long research-based course for Ph.D. students and new faculty in financial econometrics. It was held in Brussels, in the venue of the National Bank of Belgium, on June 1-5, 2015. It is jointly sponsored by CORE, FINS@VUB, Fondation Louvain, KU Leuven, the Louvain School of Management Research Institute, the Natio-

nal Bank of Belgium, TreeTop AM and Universté libre de Bruxelles. The 2015 lecturers were Professors Patrick Gagliardini and Eric Renault (current President of SoFiE). The participants had a chance to make short presentations of their work related to the topics of the lectures.

June 1, 2015

LECTURE 1

▶ Eric Renault, Brown University, Providence (RI), USA
The role of stochastic volatility in option pricing

June 2, 2015

LECTURE 2

▶ Patrick Gagliardini, Università della Svizzera, Lugano, Italy and Swiss Finance Institute, Switzerland
Non-linear state-space models (Part I)

PRESENTATIONS OF THE PARTICIPANTS

▶ Tsu-Han Lin, University of East Anglia, Norwick, United Kingdom
Extracting implied risk-neutral densities from S&P 500 index option prices
▶ Frédéric Vrins, CORE, UCL, Belgium
The Φ-martingale
▶ Juan-Pablo Ortega, Université de Franche-Comté, Besançon, France
Non-Gaussian GARCH option pricing models and their diffusion limits
▶ Ioannis Papantonis, Aristotle University of Thessaloniki, Greece
GARCH option pricing models: Evidence from joint likelihood estimations
▶ Guanda-Alexandra Detmers, Freie Universität Berlin, Germany
The FOMC's dot projections. Disagreement in forward guidance
▶ Jason Cen, Cass Business School, London, United Kingdom
Switching risk off: FX correlation and risk premia

June 3, 2015

LECTURE 3

▶ Eric Renault, Brown University, Providence (RI), USA
Extensions of the generalized method of moments to accommodate latent variables

PRESENTATIONS OF THE PARTICIPANTS

▶ Xi Fu, Lancaster University, United Kingdom
Asymmetric effects of volatility risk on stock returns: Evidence from VIX and VIX futures
▶ Vera Zhao, Lancaster University, United Kingdom
Duration-based volatility estimators and forecast evaluation
▶ Andrei Lalu, Universiteit van Amsterdam, The Netherlands
Asset returns with self-exciting jumps: Option pricing and estimation with a continuum of moments
▶ Maria Grith, Humboldt Universität Berlin, Germany
Reference dependent preferences and the empirical pricing kernel puzzle

June 4, 2015

LECTURE 4

▶ Patrick Gagliardini, Università della Svizzera, Lugano, Italy and Swiss Finance Institute, Switzerland
Non-linear state-space models (Part II)
Nonparametric and semiparametric method in option pricing (Part I)

PRESENTATIONS OF THE PARTICIPANTS

▶ Marco Menner, Universität Konstanz, Germany
The Ross recovery theorem. An empirical investigation

- Carlo Sala, Università della Svizzera, Lugano, Italy
  A Bayesian non parametric estimation of the conditional physical measure and its use for the investigation of the pricing kernel mo-motonicity
- Raffaele Corvino, Cass Business School, London, United Kingdom
  Default risk premium in credit and equity market. A new approach for structural model estimation
- Xin Zhang, Vrije Universiteit Amsterdam, The Netherlands
  Systemic downside risk and the term structure of CDS spreads
- Jeroen Dalderop, University of Cambridge, United Kingdom
  Nonparametric state-price density estimation using high frequency data
- Erwin Hansen, Universidad de Chile, Santiago, Chile
  Time-varying investors preferences implied by option prices under regime switching

June 5, 2015

LECTURE 5

- Patrick Gagliardini, Università della Svizzera, Lugano, Italy and Swiss Finance Institute, Switzerland
  Nonparametric and semiparametric method in option pricing (Part II)
- Eric Renault, Brown University, Providence (RI), USA
  Asymmetries, long memory and investors' preferences in option prices

PoRESP Summer School on "Anti-poverty Policies & Individual Responses"

A PoRESP Summer School on "Anti-Poverty Policies & Individual Responses" was held in Brussels on July 6-9, 2015. The lectures covered a variety of topics on poverty in developed and developing countries. There was a particular focus on the social determinants of poverty, the effects of poverty and economic inequality on human development and functioning, and on anti-poverty policies (their evaluation and heterogeneous effects). The Summer School was comprised of lectures by the keynote speakers spread over four days. Room was given for around 25 presentations by PhD students and young scholars during contributed or poster sessions. This event was funded by the European Research Council under the European Union's Seventh Framework Program (FP7/2007-2013). It took place at Fondation Universitaire in Brussels.

July 6, 2015

KEYNOTE LECTURE 1
Chair: Maurice Queyranne, CORE, UCL, Belgium

- Martin Ravallion, Georgetown University, Washington (DC), USA
  Social policies (Part 1)

KEYNOTE LECTURE 2
Chair: Maurice Queyranne, CORE, UCL, Belgium

- Martin Ravallion, Georgetown University, Washington (DC), USA
  Social policies (Part 2)

KEYNOTE LECTURE 3
Chair: Frédéric Vermeulen, KU Leuven, Belgium

- Martha E. Wadsworth, Pennsylvania State University (PA), USA
  The effects of poverty and inequality on health and development

CONTRIBUTED SESSION 1: POVERTY MEASUREMENT
Chair: Frédéric Vermeulen, KU Leuven, Belgium

- Benoit Decerf, CORE, UCL, Belgium
  Income poverty measures: Beyond the absolute and relative approaches
- Mousumi Das, Indira Gandhi Institute of Development Research, Maharashtra, India
  Pursuit of food security policies in India: A risk and vulnerability assessment
- Iryna Kyzyma, Luxembourg Institute of Socio-Economic Research, Esch-sur-Alzette, Luxembourg
  The duration of experiencing poverty (income below the line) in the US since 1980

July 7, 2015

KEYNOTE LECTURE 4
Chair: Elena Mattana, CORE, UCL, Belgium

▶ Martin Ravallion, Georgetown University, Washington (DC), USA
Poor area development programs

KEYNOTE LECTURE 5
Chair: Elena Mattana, CORE, UCL, Belgium

▶ Martha E. Wadsworth, Pennsylvania State University (PA), USA
Poverty: A wellspring of chronic stress

KEYNOTE LECTURE 6
Chair: Philipp Verwimp, Université libre de Bruxelles, Belgium

▶ Martha E. Wadsworth, Pennsylvania State University (PA), USA
Functional adaptations to poverty and implications for intervention

CONTRIBUTED SESSION 2: DETERMINANTS OF POVERTY
Chair: Philip Verwimp, Université libre de Bruxelles, Belgium

▶ Marion Mercier, Université libre de Bruxelles, Belgium
Violence in the past and welfare today: Evidence from Burundi
▶ Jérémie Gross, Université de Namur, Belgium
Activation of food markets and food security: Impact of cereal banks in a remote area
▶ Claudia Hupkau, CORE and London School of Economics, United Kingdom
Fertility and labor supply: New evidence from the UK
▶ Zuhumnan Gabriel Dapel, Université libre de Bruxelles, Belgium
Analysing three decades of poverty mobility in Nigeria: The "trapped", the "freed" and never "trapped"

July 8, 2015

KEYNOTE LECTURE 7
Chair: François Maniquet, CORE, UCL, Belgium

▶ Marianne P. Bitler, University of California at Irvine (CA), USA
Effects on poverty of safety net and education policies

KEYNOTE LECTURE 8
Chair: François Mainiquet, CORE, UCL, Belgium

▶ Marianne P. Bitler, University of California at Irvine (CA), USA
Effects on poverty of safety net and education policies

KEYNOTE LECTURE 9
Chair: Laurens Cherchye, KU Leuven, Belgium

▶ Marc Gurgand, Paris School of Economics, France
Why is demand for education a function of social origin and parental income?

CONTRIBUTED SESSION 3: SOCIAL PROTECTION
Chair: Laurens Cherchye, KU Leuven, Belgium

▶ Jose Ricardo Rubio Valverde, London School of Economics, United Kingdom
The effect of non-contributory pensions and the health and welfare of the elderly poor in Columbia
▶ Louisa Camille Ranoa Poco, University of the Philippines Diliman, Quezon City, Philippines
Evaluating the impact of Pantawid Pamilya on birth weight

POSTER SESSION

- Kseniya Aʙᴀɴᴏᴋᴏᴠᴀ, Higher School of Economics, Moscow, Russia
  The effect of adjustment for household size and composition and poverty estimates in Russia
- Sinem Bᴀs, CORE, UCL, Belgium
  Poverty measurement with heterogeneous preferences
- Aditi Dɪᴍʀɪ, CORE, UCL, Belgium
  Household composition & women empowerment: Living with in-laws in India
- José Fɪɢᴜᴇʀᴏᴀ, Universiteit Gent, Belgium
  A simple empirical test for equalizing opportunities with an application to progress
- Pauline Gʀᴇ́ɢᴏɪʀᴇ-Mᴀʀᴄʜᴀɴᴅ, Paris School of Economics, France
  The impact of adverse events and poverty on household over indebtedness. Evidence from the French experience
- Nastassia Lᴇᴄᴢsᴢɪɴsᴋᴀ, Université libre de Bruxelles, Belgium
  Professional identity, bribery and public device delivery. Evidence from a lab-in-the-field experiment in Burundi
- Dirk Nᴇᴜᴍᴀɴɴ, CORE, UCL, Belgium
  Well-being poverty and labor income taxation
- Viola Wᴇʀɴᴇʀ, Universität Zürich, Switzerland
  Social pension development in India and the well-being of elderly poor and their families

July 9, 2015

KEYNOTE LECTURE 10
Chair: Jean Hɪɴᴅʀɪᴋs, CORE, UCL, Belgium

- Marianne P. Bɪᴛʟᴇʀ, University of California at Irvine (CA), USA
  The effects on poverty of safety net and education policies

KEYNOTE LECTURE 11
Chair: Jean Hɪɴᴅʀɪᴋs, CORE, UCL, Belgium

- Marc Gᴜʀɢᴀɴᴅ, Paris School of Economics, France
  Improving information and parental involvement in school

KEYNOTE LECTURE 12
Chair: Joniada Mɪʟʟᴀ, CORE, UCL, Belgium

- Marc Gᴜʀɢᴀɴᴅ, Paris School of Economics, France
  School policies for deprived students

CONTRIBUTED SESSION 4: EDUCATION
Chair: Joniada Mɪʟʟᴀ, CORE, UCL, Belgium

- Fan Lɪ, KU Leuven, Belgium
  The impact of conditional cash transfers on the matriculation of junior high school students into rural China's high schools
- Ababacar Gᴜᴇʏᴇ, Université d'Auvergne, Clermont-Ferrand, France
  School attendance decision. Estimation of peer effects from same group students
- Mery Fᴇʀᴀɴᴅᴏ, CORE, UCL, Belgium
  Educational outcomes of minorities. The impact of the first African-American governor in the US
- Hany Aʙᴅᴇʟ-Lᴀᴛɪꜰ, Swansea University, United Kingdom
  The estimation of the productivity and education evolution in rapidly growing African countries. Use of household surveys and labor force surveys in those countries.

DOCTORAL WORKSHOPS

The doctoral workshops provide a research forum where the members of the Doctoral Program in Economics at UCL have the opportunity to present part of their completed or ongoing research. Even though presentations are reserved for doctoral students, access to the workshop is open to a larger public. Professors and researchers of the department and from partner institutions are invited to attend all sessions. Doctoral students from UCL Mons, Université de Namur, Université Saint-Louis, Bruxelles, Université libre de Bruxelles, Université de Liège, Unversiteit Gent and KU Leuven are kindly invited to attend the sessions and present their research.

WINTER SESSION 2015, UNIVERSITÉ DE NAMUR, BELGIUM

January 22, 2015

JOB MARKET SESSION I

▶ Manuel FÖRSTER, Université Saint-Louis, Belgium
Strategic communication in social networks

PARALLEL SESSION: MACRO & FINANCE
Chair: Sophie BÉREAU, CORE, UCL, Belgium

▶ Pablo AGUILAR, IRES, UCL, Belgium
The role of term structure in an estimated DSGE model with learning (Joint with Jesús VASQUEZ)
▶ Françoise DELMEZ, Université de Namur, Belgium
Joblessness and the shape of recoveries: Exploring the role of financial crises and of the labour market characteristics
▶ Cyrille DOSSOUGOIN, CORE, UCL, Belgium
Spillover effect in sovereign markets: A spatial econometrics approach (Joint with Nicolas DEBARSY and Jean-Yves GNABO)

PARALLEL SESSION: DEVELOPMENT I
Chair: Renate HARTWIG, Université de Namur, Belgium

▶ Aditi DIMRI, CORE, UCL, Belgium
Household composition and women empowerment: Living with in-laws in India
▶ Nastassia LESZCZYNSK, Université libre de Bruxelles, Belgium
Self-identity, bribery and unfairness: Evidence from a lab-in-the-field experiment in Burundi
▶ Giulia CAMILOTTI, Université de Namur, Belgium
Interventions to stop female genital cutting and the evolution of the custom: Evidence from age at cutting in Senegal

PARALLEL SESSION: ECONOMIC THEORY
Chair: Eric TOULEMONDE, Université de Namur, Belgium

▶ Sinem BAS, CORE, UCL, Belgium
Multidimensional inequalities and generalized quantile function (Joint with Philippe BICH and Alain CHATEAUNEUF)
▶ Guzman OURENS, IRES, UCL, Belgium
The long-term impact of trade with firm heterogeneity
▶ Valeria FORLIN, CORE, UCL, Belgium
How competition determines the success of a quality label

JOB MARKET SESSION II

▶ Elias CARRONI, Université de Namur, Belgium
Competitive behaviour-based price discrimination with asymmetric firms

PARALLEL SESSION: DEVELOPMENT II
Chair: Jean-Marie BALAND, Université de Namur, Belgium

▶ Lara COCKX, KU Leuven, Belgium
Public spending on education in resource-rich countries: Is there a curse? (Joint with Nathalie FRANCKEN)
▶ Anand SHRIVASTAVA, Cambridge University, United Kingdom
Civil conflict with rising wages and increasing state capacity: Theory and application to the maoist insurgency in India
▶ Iryna KYZYMA, CEPS, Belgium
Behind a stable poverty rate: Changes in the duration of poverty episodes in the United States since the mid-1980s

PARALLEL SESSION I: LABOUR
Chair: Bruno VAN DER LINDEN, IRES, UCL, Belgium

▶ Yannick THUY, Universiteit Gent, Belgium
Working time reductions at the end of the career and employment (Joint with Bart COCKX and Andrea ALBANESE)
▶ Elise KERVYN, Université Saint-Louis, Belgium
The effects of globalization on the informal economy
▶ Andrea ALBANESE, Universiteit Gent, Belgium
The effects of employers' wage subsidies on older workers' employment: A natural experiment (Joint with Bart COCKX)

PARALLEL SESSION: APPLIED ECONOMETRICS

Chair: /

- ▶ Elisa Rɪᴢᴢᴏ, IRES, UCL, Belgium
  The dynamics of demographic transition in Sub-Saharan Africa: An econometric analysis
- ▶ Gilles Mᴇʀᴄᴋx, Université de Namur, Belgium
  Buyer-supplier relationship, buyer's resiliency and supply disruption: An empirical study (Joint with Aadhaar Cʜᴀᴛᴜʀᴠᴇᴅɪ)
- ▶ Pierre Pᴇᴄʜᴇʀ, IRES, UCL, Belgium
  Ethnic inclusiveness of the central state coalition and economic growth in Sub-Saharan Africa

KEYNOTE SESSION

- ▶ Bruno Vᴀɴ Dᴇʀ Lɪɴᴅᴇɴ, IRES, UCL, Belgium
  Unemployment, Redistribution, and the Working Poors

Sᴘʀɪɴɢ Sᴇssɪᴏɴ 2015, CORE, UCL, Bᴇʟɢɪᴜᴍ

May 5, 2015

JOB MARKET PRESENTATION: INTERNATIONAL TRADE

- ▶ Sotiris Bʟᴀɴᴀs, IRES, UCL, Belgium
  Knowledge transfer, knowledge expropriation, and intra-firm trade

PARALLEL SESSION: EDUCATION ECONOMICS

Chair: Corinna Gʜɪʀᴇʟʟɪ, IRES, UCL, Belgium

- ▶ Liana-Sabina Lᴜɴᴄᴀsᴜ, CORE, UCL, Belgium
  Nonparametric estimation of efficiency frontiers with noisy data: An application to Colombian universities
- ▶ Deni Mᴀᴢʀᴇᴋᴀj, KU Leuven, Belgium
  Modularization in secondary vocational education and training: A quasi-experimental design in Flanders
- ▶ Denni Tᴏᴍᴍᴀsɪ, Université libre de Bruxelles, Belgium
  How cash transfers improve child development

PARALLEL SESSION: MACROECONOMICS AND ECONOMETRICS

Chair: Rigas Oɪᴋɴᴏᴍᴏᴜ, IRES, UCL, Belgium

- ▶ Rytis Bᴀɢᴅᴢɪᴜɴᴀs, CORE, UCL, Belgium
  Dynamic factor modelling for Belgian economy
- ▶ Juan Eǫᴜɪᴢᴀ-Gᴏɴɪ, Université libre de Bruxelles, Belgium
  Quantifying fiscal insurance in the Euro area
- ▶ Alice Sᴇʀᴠᴀɪs, CORE, UCL, Belgium and KU Leuven, Belgium
  Financial frictions in the interbank market

PARALLEL SESSION: INTERNATIONAL TRADE & DEVELOPMENTS

Chair: Mathieu Pᴀʀᴇɴᴛɪ, CORE, UCL, BELGIUM

- ▶ Lasha Cʜᴏᴄʜᴜᴀ, Bielefeld Graduate School of Economics and Management, Germany
  Endogenous trade policy in the presence of lobbying and heterogeneously ignorant voters
- ▶ Marco Dᴇʟᴏɢᴜ, Université de Luxembourg, Luxembourg
  On the effectiveness of infrastructure policies in developing countries
- ▶ Koen Bʀᴇᴇᴍᴇʀsᴄʜ, KU Leuven, Belgium
  Competition and product mix adjustment of multi-product exporters: Evidence from Belgium

PARALLEL SESSION: GAME THEORY & BEHAVIOURAL ECONOMICS

Chair: Eve Rᴀᴍᴀᴇᴋᴇʀs, CORE, UCL, Belgium

- ▶ David Gᴏɴᴢᴀʟᴇᴢ,
  Non take up and behavioral decision making
- ▶ John Nᴇᴠᴇ, Université Saint Louis, Bruxelles, Belgium
  The median discourse of a newspeak
- ▶ Anthony Bᴇʟʟᴏғᴀᴛᴛᴏ, LSM, UCL, Belgium
  To what extent are MiFID tests informative?

PARALLEL SESSION: POLITICAL ECONOMY
Chair: Véronique Gilles, CORE, UCL, Belgium

- Mery Ferrando, CORE, UCL, Belgium
  Aspirations of minorities: The impact of politicians on educational outcomes
- Andras Gregor, CORE, UCL, Belgium
  Intergovernmental transfers and the political competition in Hungary
- Evgeniia Mikhalkova, IRES, Belgium
  Political budget cycles in Russian regions: Using parliament elections 2001-2014

PARALLEL SESSION: APPLIED ECONOMETRICS
Chair: Muriel Dejemeppe, IRES, UCL, Belgium

- Andrea Albanese, Universiteit Gent, Belgium
  Reforming the apprenticeship contract in Italy on the job training and raising the age eligibility
- Thu Hien Dao, IRES, UCL, Belgium
  Geographic, macroeconomic and behavioral drivers of the migration transition
- Eva Van Belle, Universiteit Gent, Belgium
  Waiting longer before claiming unemployment benefits. Does it increase job finding?

PARALLEL SESSION: WELFARE ECONOMICS
Chair: Olivier Malay, IRES, UCL, Belgium

- Benoit Decerf, CORE, UCL, Belgium
  A new method to compare manipulable mechanisms, with applications to school choice
- Thomas Gautier, IRES, UCL, Belgium
  Fairness, discrimination and networks
- Louis Larue, IRES, UCL, Belgium
  Ethical challenges of complementary currencies

May 6, 2015

JOB MARKET PRESENTATION: POLITICAL ECONOMY

- Anand Shrivastava, Université de Namur, Belgium and University of Cambridge, United Kingdom
  Civil conflict with rising wages and increasing state capacity: Theory and application to the Maoist insurgency in India

PARALLEL SESSION: MACROECONOMICS
Chair: Paula Gobbi, IRES, UCL, Belgium

- Yu Sun, IRES, UCL, Belgium
  Model predictive climate policy under uncertainty
- Andrea Pirrone, CORE, UCL, Belgium
  Liquidity problems and growth implications, a reconsideration of pension schemes role
- Eric Roca Fernandez, IRES, UCL, Belgium
  Women labour force participation

PARALLEL SESSION: ECONOMETRICS
Chair: Arnaud Dufays, CORE, UCL, Belgium

- Luca Barbaglia, IRES, UCL, Belgium
  Dynamic interactions between argricultural and energy commodities: A multivariate approach
- Simone Martelli, CORE, UCL, Belgium
  Greenhouse gas emissions in the residential sector. Evidence from Germany
- Shanshan Wang, IRES, UCL, Belgium
  Measure of serial extremal dependence in time series and their estimation

PARALLEL SESSION: DEVELOPMENT ECONOMICS 1
Chair: Frédéric Docquier, IRES, UCL, Belgium

- Pierre Pecher, IRES, UCL, Belgium
  Challenging legal origin theory. A panel data empirical on access to justice and growth

- Denni TOMMASI, Université libre de Bruxelles, Belgium
  Street vendors, incentives and self-regulation: A field study in urban India

PARALLEL SESSION: DEVELOPMENT ECONOMICS 2
Chair: William PARIENTÉ, IRES, UCL, Belgium

- Bertrand ACHOU, IRES, UCL, Belgium and Paris School of Economics, France
  Disability in retirement, home production and informal insurance between spouses
- Sinem BAS, CORE, UCL, Belgium and Université Paris 1 Panthéon Sorbonne, France
  Poverty measurement with heterogeneous preferences
- Joaquin MORALES, Université de Namur, Belgium
  Encouraging private ownership of public goods: Theory and evidence from Belgium

CORE-ILSM DOCTORAL INTENSIVE COURSE

As the Belgian member of the CEMS network, the Louvain School of Management and CESAM are actively participating in the doctoral program of the CEMS partnership. This year, CESAM jointly organized its regular Ph.D. courses on "Market Liquidity" together with the National Bank of Belgium (NBB), the Center for Operations Research and Econometrics (CORE) and the KU Leuven Finance Department on June 10-12, 2015. The three-day intensive course was taught by Professors Thierry Foucault and Marco Pagano. It took place at the NBB in Brussels. The participants also got the possibility to present their work in contributed sessions.

BROWN BAG SEMINAR SERIES

A noteworthy initiative of the junior researchers is the launching in October 2014 of a CORE Brown Bag seminar series, where junior researchers from CORE, UCL, and occasionally from other institutions, present their current work or job market paper and obtain invaluable feedback in an attentive and friendly atmosphere. Sixteen seminar presentations were held in 2014-2015:

- October 14, 2014. Mery FERRANDO, CORE, UCL, Belgium
  Cash transfers and school outcomes: Evidence from Uruguayan administrative data

- October 28, 2014. Justin DELLOYE, CORE, UCL, Belgium
  3D morphodynamics of a developers-conducted urban densification

- November 12, 2014. Stephane BOUCHE, CORE, UCL, Belgium
  Discounting, consumption externalities and growth

- November 16, 2014. Ignacio ARAVENA, CORE, UCL, Belgium
  Efficiency losses of zonal network management under large-scale renewable energy integration in the Central Western European system

- December 10, 2014. Valeria FORLIN, CORE, UCL, Belgium
  How competition determines the success of an eco-label

- December 17, 2014. Andras GREGOR, CORE, UCL, Belgium
  Normative transfers as political instruments: The case of Hungary

- January 28, 2015. Guzman OURENS, IRES, UCL, Belgium
  The long-term effects of trade in an asymmetric world

- February 11, 2015. Benoit DECERF, CORE, UCL, Belgium
  Income poverty measures with relative poverty lines

- February 25, 2015. Joël MACHADO, IRES, UCL, Belgium
  Return intention and migrant's behaviour

- March 11, 2015. Elena MATTANA, CORE, UCL, Belgium
  A dynamic quantitative macroeconomic model of bank runs

- March 25, 2015. Joniada MILLA, CORE, UCL, Belgium
  Nature or nurture in tertiary education attendance? Intergenerational implications of the Vietnam-Era lottery

- April 1, 2015. Alexandre OUNNAS, IRES, UCL, Belgium
  Downward occupational mobility and unemployment

- April 29, 2015. Aditi DIMRI, CORE, UCL, Belgium
  Household composition & women empowerment: Living with in-laws in India

- May 20, 2015. Bertrand ACHOU, Paris School of Economics, France and Università Ca' Foscari Venezia, Italy
  Sectoral productivity, collateral constraints, and housing markets

- June 10, 2015. Corinna GHIRELLI, IRES, UCL, Belgium
  Scars of early non-employment in a rigid labour market

- June 17, 2015. Véronique GILLE, CORE, UCL, Belgium
  Educational outcomes of minorities: The role of politicians

4

SCIENTIFIC EXCHANGES AND COLLABORATIONS

► RESEARCH VISITORS

► SCIENTIFIC MEETINGS

► WEEKLY CORE SEMINARS

► READING GROUPS AND WORKSHOPS

► PARTICIPATION OF CORE MEMBERS IN MEETINGS ORGANIZATION

► CORE MEMBERS INVITED TO CONFERENCES AND SEMINARS

SCIENTIFIC EXCHANGES AND COLLABORATIONS

RESEARCH VISITORS

Associate Fellows

Associate Fellows are scholars working at CORE on a regular weekly basis and are assigned an office for a predefined time period:

- Daniele CATANZARO, ILSM Mons, UCL, Belgium
- Koen DECANCQ, Universiteit Antwerpen, Belgium
- Jean-Charles DELVENNE, Ecole Polytechnique de Louvain, UCL, Belgium
- Claire DUJARDIN, Institut Wallon de l'Evaluation de la Prospective et de la Statistique, Namur, Belgium
- Axel GAUTIER, Université de Liège, Belgium
- Leonardo IANIA, ILSM and National Bank of Belgium
- Jan JOHANNES, ISBA, UCL, Belgium
- Stéphane LAMBRECHT, Université de Valenciennes et du Hainaut-Cambrésis, France
- Pascal MOSSAY, University of Reading, United Kingdom
- Mikael PETITJEAN, ILSM, UCL, Belgium
- Joe THARAKAN, Université de Liège, Belgium
- Dirk VAN DE GAER, Universiteit Gent, Belgium
- Wouter VERGOTE, Université Saint-Louis, Bruxelles, Belgium
- Frederic VRINS, ILSM Mons, UCL, Belgium

Research Associates

Research Associates are scholars visiting CORE on a regular yearly basis:

- Francis BLOCH, Ecole Polytechnique, Paris, France
- Philippe DESCHAMPS, Université de Fribourg, Switzerland
- Johanna GOERTZ, University of Guelph, Canada
- Jean-Jacques HERINGS, Universiteit Maastricht, The Netherlands
- Marie-Louise LEROUX, Université du Québec à Montréal, Canada
- Dunia Lopez PINTADO, Universidad Pablo de Olavide, Seville, Spain
- Juan MORENO TERNERO, Universidad Pablo de Olavide, Seville, Spain
- Dimitri PAOLONI, Università degli Studi di Sassari, Italy
- Guillaume ROELS, University of California, Los Angeles (CA), USA
- Ernesto SAN MARTIN, Pontificia Universidad Católica de Chile, Santiago, Chile
- Jose J. SEMPERE MONERRIS, Universidad de Valencia, Spain
- Shin-Huei WANG, National Tsing Hua University, Hsinchu City, Taiwan

Short-term Visitors

In addition to the longer stays of the visiting faculty and research fellows, CORE benefited from the visit of a number of scholars whose stays ranged from a few days to a few months. Among them:

- Lancelot Henry de FRAHAN, University of Chicago, USA
- Federico DE STEFANO, BPS & Banco Popolare di Sondrio, Italy
- Pierre FRANKHAUSER, Université de Franche Comté, Besançon, France
- Alexander GASNIKOV, Moscow Institute of Physics and Technology, Russia
- Emili GRIFELL-TATJE, Universitat Autònoma de Barcelona, Spain
- Paul GRIGAS, MIT, Cambridge (MA), USA
- Lyudmila GRYGORYEVA, Université de Franche Comté, Besançon, France
- Guoyong GU, Nanjing University, China
- Roghayeh HAJIZADEH, University of Tabriz, Iran
- Christophe HURLIN, Université d'Orléans, France
- Daniel KOCH, University of Lancaster, United Kingdom
- Marion LETURCQ, INED, Paris, France
- Jacopo MARCOCCIA, Universita di Roma "La Sapienza", Italy
- Cyrille MEDARD DE CHARDON, Université du Luxembourg, Luxembourg
- Luca MENCARELLI, LIX, Laboratoire d'Informatique de l'Ecole Polytechnique, France
- Ion NECOARA, Universitatea Politehnica din Bucuresti, Bucharest, Romania
- Yukihiro NISHIMURA, Osaka University, Japan
- Giorgia OGGIONI, Università degli Studi di Bergamo, Italy
- Juan Pablo ORTEGA, Université de Franche Comté, Besançon, France
- Alain PHOLO BALA, University of Johannesburg, Africa
- Paolo PIACQUADIO, University of Oslo, Norway
- Maria DEL MAR RACIONERO, Australian National University, Australia
- Erick RENGIFO, Fordham University, New York (NY), USA
- Jean-Philippe RICHARD, University of Florida, Gainesville (FL), USA
- Margarita SAMARTIN, Universidad Carlos III de Madrid, Spain
- Andreas SILVESTRINI, Banco d'Italia, Italy
- Natalia SOLDATENKOVA, Bonn Graduate School of Economics, Germany
- Takatoshi TABUCHI, University of Tokyo, Japan

▸ Filip USHCHEV, National Research University Higher School of Economics, Moscow, Russia

▸ Martin VANDERLINDEN, Vanderbilt University, Nashville (TN), USA

SCIENTIFIC MEETINGS

ERSA-CORE INTERNATIONAL WORKSHOP: THEORETICAL & EMPIRICAL ANALYSIS OF LABOR MARKETS

The idea of the workshop was to gather three recognized researchers who made inidividual presentations on a policy relevant topic, and then interacted with policy-makers from international and Belgian institutions during a roundtable. The participants discussed the interactions between the local, national and even supra-national levels of government to develop policies fostering local growth and employment. The workshop took place in Louvain-la-Neuve on October 21, 2014.

Program

▸ Philippe CHEVALIER, CORE, UCL, Belgium, Jouke VAN DIJK, ERSA President, Chair of the Workshop and Jacques-François THISSE, CORE, UCL, Belgium
Welcome and introduction speeches

▸ Bruno VAN DER LINDEN, IRES, UCL, Belgium
The reform of the Belgian labour market policies

▸ Yves ZENOU, Stockholms Universitet, Sweden
The relationship of networks and labour market

▸ Andres RODRIGUEZ-POSE, London School of Economics, United Kingdom
The interaction between regional policies and labour market outcomes

▸ General Discussion: Yves ZENOU, Stockholms Universitet, Sweden, Andres RODRIGUEZ-POSE, London School of Economics, United Kingdom, Jouke VAN DIJK, Universiteit Groningen, The Netherlands, Alexander LEMBCKE, OECD, Damiaan PERSYN, European Commission, DG JRC-IPTS, and Jorg PESCHENER, DG Employment, Employment Analysis

▸ Jacques THISSE, CORE, UCL, Belgium and Jouke VAN DIJK, Universiteit Groningen, The Netherlands
Conclusion and closure

WINTER SCHOOL & WORKSHOP "NETWORKS IN ECONOMICS AND FINANCE"

As part of the research agenda of the ARC project on "Financial Complexity", the CeReFiM and naXys from the Université de Namur, CORE, ILSM from UCL and MISC (Maison Interdisciplinaire des Systèmes Complexes) from the Université d'Orléans, jointly organized their first Winter School and Workshop on "Networks in Economics and Finance". Both were held at LSM (UCL), on December 1-5, 2014.

The main objective was to gather researchers interested in the theoretic and econometric modelling of interacting agents behaviors, complexity and networks, over four days of lectures ended by one workshop day where scholars could present their ongoing work on the broad topic with an emphasis on applications in the fields of economics and finance.

See for the full program.

17ᵀᴴ CEMS WORKSHOP ON "LOGISTICS AND SUPPLY CHAIN MANAGEMENT"

The 17th CEMS workshop on Logistics and Supply Chain Management took place at Université Saint-Louis, Brussels on December 3, 2014. This workshop has now been in existence for 10 years and its purpose is to present ongoing research from PhD students and postdocs in logistics and supply chain management. The objective is to present to fellow researchers the state of the art and current problems being tackled. As the audience is formed by other researchers and professors, the content is mostly composed of presentations and high calibre but relaxed discussions.

Program

▸ Bart JOURQUIN, Louvain School of Management, UCL, Mons, Belgium
The NODUS multimodal freight network model

▸ Michael BECKER-PETH, Universität Köln, Germany
Alternative incentives in inventory management. How do performance metrics affect inventory decisions?

▸ MANUEL HERRERA RODRIGUEZ, Altagracia Consultores, S.L.P., Las Palmas, Spain
Vessel capacity restrictions in the fleet deployment problem. An application to Panama canal

▸ Pierre-Yves MISTIAEN, LSM, UCL, Belgium
A resolution of an express shipment service network design with branch and price

▸ Masoud MIRZAEI, Rotterdam School of Management, Universiteit Rotterdam, The Netherlands
Modeling load retrievals in puzzle-based storage systems

BEED 2015: 8ᵀᴴ Belgian Environment Economics Day

The 8th Belgian Environmental Economics Day was organized at CORE on February 5, 2015 by Thierry Bréchet and Paul Belleflamme on behalf of the Lhoist Berghmans Chair in Environmental Economics and Management, but also in close collaboration with Johan Eyckmans and Sandra Rousseau (KU Leuven), Steven Van Passel (Universiteit Hasselt) and Tom Verbeke (KU Leuven and Universiteit Gent). BEED offers an opportunity to researchers in the areas of environmental, resource and ecological economics from universities, university colleges or research institutes in Belgium to share and discuss their work. It is an academic meeting open to all interested stakeholders (academics, public servants, consultants, students, etc.). It is also an intermediate platform between individual researchers and international professional associations (European Association of Environmental and Resource Economists EAERE, International Society of Ecological Economics ISEE, …).

KEYNOTE SESSION

▶ Vincent Van Steenberghe, Belgian Federal Ministry for the Environment and ICHEC, Bruxelles, Belgium
Managing the transition of Belgium towards a low carbon society by 2050

SESSION 1

▶ Ingmar Schumacher, IPAG Business School, Paris, France
How beliefs influence the willingness to contribute to prevention expenditure
▶ Rob Hoogmartens, Centre for Environmental Sciences, Hasselt University, Belgium
Future perspectives on sand extraction in Flanders, a simulation using dynamic optimisation
▶ Valeria Forlin, CORE, UCL, Belgium
How competition determines the success of a quality label

SESSION 2

▶ Julien Jacqmin, LAMETA, Université de Montpellier, France
Renewable and non-renewable intermittent energy sources: Friends and foes?
▶ Simone Martelli, CORE, UCL, Belgium
Individual commitment or local alliances for climate change mitigation? Evidence from voting behaviour in Italy
▶ Sylvie Daniels, Centre for Environmental Sciences, Hasselt Universiteit, Belgium
Dynamic ecological-economic modeling to quantify the market value losses attributed to the absence of natural predators in Belgian pear production

SESSION 3

▶ Frank Venmans, EQUIPE, Université de Mons, Belgium
The effect of over-allocation and price uncertainty on investments under the EU-ETS
▶ Maarten Dubois, KU Leuven, Belgium
Environmental impact of housing : Ineffective renovation subsidies vs. efficient support for demolition
▶ Vincenzo Verardi, CRED, Université de Namur, Belgium
Measuring the impact of multiple air-pollution agreements on global CO_2 emissions

Workshop on Industrial Organization in the Digital Economy

Axel Gautier (CORE, UCL and Université de Liège, Belgium) and Paul Belleflamme (CORE and LSM, UCL, Belgium) organized a workshop on "Industrial Organization in the Digital Economy". This two-day workshop took place in Liège on March 6-7, 2015. The workshop was targeted at Ph.D. students and young postdoctoral scholars.

March 6, 2015

SESSION 1: PRICING ON THE INTERNET
Chair: Axel Gautier, CORE, UCL and HEC School of Management, Université de Liège, Liège Competition and Innovation Institute, Belgium

▶ Sébastien Broos, HEC School of Management, Université de Liège, Liège Competition and Innovation Institute, Belgium
Competing one-way essential complements: The forgotten side of net neutrality
▶ Elias Carroni, Université de Namur, Belgium
Pricing in social networks under limited information
▶ Jin Huang, CEMFI, Madrid, Spain
Should Google profit like a taxi driver?

SESSION 2: ON-LINE PRODUCTION
Chair: Eric TOULEMONDE, Université de Namur, Belgium

- Luis AGUIAR, IPTS, European Commission, Sevilla, Spain
  Online copyright enforcement, consumer behavior, and market structure
- Niklas DÜRR, Zentrum für Europäische Wirtschaftsforschung GmbH (ZEW), Mannheim, Germany
  Exploring niche competition and the timing of entry: The case of the motion picture industry
- Ananya SEN, Toulouse School of Economics, France
  Clicks and editorial decisions: How does popularity shape online news coverage?

PLENARY SESSION 1
Chair: Paul BELLEFLAMME, CORE, UCL, Belgium

- Nicolas PETIT, Université de Liège and Liège Competition and Innovation Institute, Belgium
  Antitrust in high tech markets: The challenge of policing "moligopolists"

SESSION 3: IP AND ANTITRUST POLICY IN THE DIGITAL ECONOMY
Chair: Jacques CRÉMER, Toulouse School of Economics, France

- Aleksandra BOUTIN, ECARES, Université libre de Bruxelles, Belgium
  Screening for good patent pools through price caps on individual licences
- Germain GAUDIN, DICE, Universität Düsseldorf, Germany
  On the antitrust economics of the electronic books industry
- Carlotta MARIOTTO, Ecole Nationale Supérieure des Mines de Paris et Centre d'Economie Industrielle (CERNA), Paris, France
  Double internalization and interchange fees bias
- Safari KASIYANTO, Universiteit Tilburg, The Netherlands
  Understanding the battle in ruling the interchange fees of card networks

March 7, 2015

SESSION 4: STRATEGIC INVESTMENTS AND MARKET STRUCTURE
Chair: Paul BELLEFLAMME, CORE, UCL, Belgium

- Wynne LAM, CORE, UCL and HEC School of Management, Université de Liège, Liège Competition and Innovation Institute, Belgium
  Attack-deterring and damage-control investments in cybersecurity
- X. LIU, Toulouse School of Economics, France
  Targeted advertising and entry
- Tim BRÜHN, Justus-Liebig-Universität Gießen, Germany
  The value of user-specific information for two-sided matchmakers
- Rodrigo MONTES, Toulouse School of Economics, France
  Imperfect competition, information, and privacy

PLENARY SESSION 2
Chair: Axel GAUTIER, HEC School of Management, Université de Liège, Liège Competition and Innovation Institute, and CORE, UCL, Belgium

- Jacques CRÉMER, Toulouse School of Economics, France
  Analyzing competition for the market in internet markets

INTERNATIONAL MEQIN CONFERENCE ON WELL-BEING

On March 18, CORE hosted the Brain/MEqIn international conference on well-being. The first half of the day was devoted to the presentation of the survey questionnaire to the members of the follow-up committee. This committee is composed of members of Belgian administrations interested in the project, and of scientists. The survey questionnaire aims at collecting data on the different dimensions of well-being (health, job, consumption, time use, housing and social relations) as well as eliciting data about the way people trade off among the different dimensions. The questionnaire should be administered next fall to a sample of about 4000 Belgian adults. The second part of the day was devoted to three talks on the empirical measurement of well-being.

PROGRAM

- Discussion about the questionnaire: Brief presentation of the overall structure; brief presentation of the different modules; presentation of the new questions, the ones that need to be pretested
- Presentation of the sampling method, including the oversampling

- Marc FLEURBAEY, Princeton University (PA), USA
  What do happiness data mean? Evidence from a survey of the respondents
- Olivier BARGAIN, Aix-Marseille School of Economics, Aix-Marseille Université, France
  Back To Bentham: Should we? Large-scale comparison of decision versus experienced Utility for income-leisure preferences
- Stéphane LUCHINI, Aix-Marseille School of Economics, Aix-Marseille Université, France
  On the mechanisms of preference revelation

18TH CEMS WORKSHOP ON LOGISTICS AND SUPPLY CHAIN MANAGEMENT

The 18th CEMS workshop on Logistics and Supply Chain Management took place at Université Saint-Louis, Brussels, on April 30, 2015. This workshop has now been in existence for 10 years and has the purpose to present the ongoing research of Ph.D. students and postdocs in logistics and supply chain management. The objective is to present to fellow researchers the state of the art and current problems being tackled. As the audience is formed by other researchers and professors, the content is mostly composed of presentations and high calibre but relaxed discussions.

PROGRAM

- Xavier BRUSSET, ESSCA, Paris, France
  Assessing and hedging weather-sensitive sales: A case study
- Xishu LI, Rotterdam School of Management, Erasmus Universiteit, Rotterdam, The Netherlands
  Competitive fleet investment under uncertainty
- Paul CHATELAIN, LSM, UCL, Belgium
  The help of the OR to deal with the airport's noise problematic: Modelisation of a fair distribution of flyover
- Tim LAMBALLAIS TESSENSOHN, Rotterdam School of Management, Erasmus Universiteit, Rotterdam, The Netherlands
  Estimating performance in a mobile fulfillment system
- Debjit ROY, Rotterdam School of Management, Erasmus University, The Netherlands
  Analysis of static vs. dynamic batching in order-pick operations

ECORES SUMMER SCHOOL ON MARKET POWER

On May 26-29, 2015, ECORES organized its biannual summer school. The school was hosted by ECARES at Université libre de Bruxelles. Economic models that incorporate market power resemble actual market interactions more closely. As a result, they are more directly testable and provide a useful framework for empirical work. The invited speakers had been instrumental in conducting and motivating structural empirical analysis.

SoFiE Financial Econometrics Spring School

The SoFiE (Society for Financial Econometrics) Financial Spring School is an annual week-long research-based course for Ph.D. students and new faculty in financial econometrics. It was held in Brussels, in the venue of the National Bank of Belgium, on June 1-5, 2015. It is jointly sponsored by CORE, FINS@VUB, Fondation Louvain, KU Leuven, the Louvain School of Management Research Institute, the National Bank of Belgium, TreeTop AM and Universté libre de Bruxelles. The 2015 lecturers were Professors Patrick GAGLIARDINI and Eric RENAULT (current President of SoFiE). The participants had a chance to make short presentations of their work related to the topics of the lectures.

New Paths in Time Series Econometrics

This one-day workshop held at CORE on June 5, 2015 was sponsored by ARC Project 12/17-045 "Stochastic Modelling of Dependence: Systems under Stress", the FNRS and CORE, UCL.

Program

- Rainver VON SACHS, ISBA, UCL, Belgium
  Data-driven shrinkage of the spectral density matrix of a high-dimensional times series
- Hernando OMBAO, University of California, Irvine (CA), USA
  Multi-scale factor analysis of high dimensional time series
- Rytis BAGDZIUNAS, CORE, UCL, Belgium
  Asymptotics and non-linear estimation in functional instrumental linear regression
- Christian HAFNER, CORE and ISBA, UCL, Belgium
  A new approach to high-dimensional volatility modelling
- Daniel KOCH, CORE, UCL, Belgium
  Multiscale methods for the analysis of high dimensional locally stationary time series (Public Ph.D. Defense)

PoRESP Summer School on "Anti-poverty Policies & Individual Responses"

A PoRESP Summer School on "Anti-Poverty Policies & Individual Responses" was held in Brussels on July 6-9, 2015. The lectures covered a variety of topics on poverty in developed and developing countries. There was a particular focus on the social determinants of poverty, the effects of poverty and economic inequality on human development and functioning, and on anti-poverty policies (their evaluation and heterogeneous effects). The Summer School was comprised of lectures by the keynote speakers spread over four days. Room was given for around 25 presentations by PhD students and young scholars during contributed or poster sessions. This event was funded by the European Research Council under the European Union's Seventh Framework Program (FP7/2007-2013). It took place at Fondation Universitaire in Brussels.

WEEKLY CORE SEMINARS

ECONOMETRICS SEMINARS

▸ September 29, 2014. Yann Bramoulle, Aix-Marseille School of Economics, France
Altruism in networks
(Joint with Economics seminar)

▸ October 6, 2014. Dennis KRISTENSEN, University College London, United Kingdom
Nonparametric identification and estimation in simultaneous equations

▸ October 13, 2014. Christopher CROUX, KU Leuven, Belgium
Sparse cointegration analysis in high dimensions

October 20, 2014. Manuela BRAIONE, CORE, UCL, Belgium
Forecasting comparison of long term component dynamic models for realized covariance matrices

October 27, 2014. Mehmet PINAR, Edge Hill University, Ormskirk, United Kingdom
Robust weighting schemes of multidimensional poverty attributes

▸ November 3, 2014. Marco D'ERRICO, Universität Zürich, Switzerland
Inequality measures and network theory: A unified perspective
(Joint with Economics seminar)

▸ November 17, 2014. Mathias REYNAERT, KU Leuven, Belgium
Abatement strategies and the cost of environmental regulation: Emission standards on the European car market.

▸ November 24, 2014. Eric EISENSTAT, University of Bucharest, Romania
Large Bayesian VARMAs

▸ January 19, 2015. Marco VAN DER LEIJ, Erasmus Universiteit Rotterdam, The Netherlands
Do correlated markets have more volatility spillovers?
(Joint with LSM Finance seminar)

▸ February 9, 2015. Philip KETZ, Brown University, Providence (RI), USA
Testing near or at the boundary of the parameter space

▸ February 16, 2015. Peter M. ROBINSON, London School of Economics, United Kingdom
Efficient inference on fractionally Integrated panel data models with fixed effects

▸ February 17, 2015. Marinho BERTANHA, Stanford University, Stanford (CA), USA
Regression discontinuity with many thresholds

▸ February 23, 2015. Giuseppe STORTI, Università degli Studi di Salerno, Italy
Least squares estimation for GARCH (1,1) model with heavy tailed errors
(Joint with LSM Finance seminar)

▸ March 2, 2015. Cecilia MANCINI, Università degli studi di Firenze, Italy
Convergence rate of the truncated realized covariance when prices have infinite variation jumps

▸ March 9, 2015. Arnaud DUPUYS, Luxembourg Institute of Socio-Economic Research, Luxembourg
Migration in China: To work or to wed?

▸ March 16, 2015. Monica BILLIO, Università Ca' Foscari Venezia, Italy
Sovereign, bank and insurance credit spreads: Connectedness and system networks
(Joint with LSM Finance seminar)

▸ April 20, 2015. Philippe DESCHAMPS, Université de Fribourg, Switzerland
Alternative formulations of the leverage effect in a stochastic volatility model with asymmetric heavy-tailed errors

▸ April 27, 2015. Clifford LAM, London School of Economics, United Kingdom
One-step regularized spatial weight matrix and fixed effects estimation with instrumental variables

▸ May 4, 2015. Christophe HURLIN, Université d'Orléans, France
Risk measure inference
(Joint with LSM Finance seminar)

▸ May 4, 2015. Erick W. RENGIFO, University of New York (NY), USA
Currency option trading strategies as an alternative to central bank spot market interventions

▸ May 18, 2015. Xiaodong LIU, University of Colorado, Boulder (CO), USA
GMM identification and estimation of peer effects in a system of simultaneous equations
(Joint with LMS Finance seminar)

▶ June 1, 2015. Taisuke Oᴛsu, London School of Economics, United Kingdom
Extending the scope of cube root asymptotics
(Joint with ISBA seminar)

▶ June 12, 2015. Alfred Gᴀʟɪcʜoɴ. Sciences Po, Paris, France
Vector quantile regression
(Joint with ISBA seminar)

▶ June 15, 2015. Maria Kᴀʟʟɪ. Canterburry Christchurch University, United Kingdom
Bayesian nonparametric VAR

ECONOMICS SEMINARS

▶ September 22, 2014. Johanna Wᴀʟʟᴇɴɪᴜs, Stockholm School of Economics, Sweden
Retirement, home production and labor supply elasticities

▶ September 29, 2014. Yann Bʀᴀᴍoᴜʟʟᴇ, Aix-Marseille School of Economics, France
Altruism in networks
(Joint with Econometrics seminar)

▶ October 6, 2014. Véronique Gɪʟʟᴇ, CORE, UCL, Belgium
How to get a job in the public sector? The role of local politics and caste networks in affirmative action programs in India

▶ October 13, 2014. Markus Rᴇɪsɪɴɢᴇʀ, WHU – Otto Beisheim School of Management, Vallendar, Germany
Vertical integration, foreclosure, and productive efficiency

▶ October 20, 2014. Matthias Kʀᴇᴅʟᴇʀ, Universidad Carlos III de Madrid, Spain
Evaluating long-term-care policy options, taking the family seriously

▶ October 27, 2014. Andras Nɪᴇᴅᴇʀᴍᴀʏᴇʀ, Universität Mannheim, Germany
Optimal percentage fees

▶ November 3, 2014. Marco D'Eʀʀɪco, Universität Zürich, Switzerland
Inequality measures and network theory: A unified perspective
(Joint with Econometrics seminar)

▶ November 10, 2014. Gergely Csoʀʙᴀ, Central European University, Budapest, Hungary
Does one more or one less mobile operator affect prices? A comprehensive ex-post evaluation of entries and mergers in European mobile telecommunication markets

▶ November 24, 2014. Manuel Gᴀʀcɪᴀ-Sᴀɴᴛᴀɴᴀ, ECARES, Université libre de Bruxelles, Belgium
Competition and the welfare gains from transportation infrastructure: Evidence from the golden quadrilateral of India

▶ February 9, 2015. Silvia Gᴀʟʟɪ, CORE, UCL, Belgium
Stories from the frontier

▶ February 16, 2015. Wing Man Wynne Lᴀᴍ, CORE, UCL, and Université de Liège, Belgium
Switching costs in two-sided markets

▶ February 23, 2015. Lionel Dᴇ Boɪsᴅᴇꜰꜰʀᴇ, Université de Pau and

Université Paris 1 Panthéon-Sorbonne, France
Price revelation and existence of financial equilibrium with incomplete markets and private beliefs

▶ March 2, 2015. Irma Cʟoᴛs-Fɪɢᴜᴇʀᴀs, Universidad Carlos III de Madrid, Spain
Path-breakers? Women's electoral success and future political participation

▶ March 9, 2015. Rita Gɪɴjᴀ, Uppsala Universitet, Sweden
Equilibrium labor markets effects of non-contributory health insurance: Evidence from Mexico

▶ March 16, 2015. Matan Tsᴜʀ, Universität Wien, Austria
Financial contracts and bargaining

▶ March 30, 2015. Gerald Wɪʟʟᴇᴍᴀɴ, Universität Bielefeld, Germany
Unequal gains, prolonged pain: Dynamic adjustment costs and protectionist overshooting

▶ April 20, 2015. Debasis Mɪsʜʀᴀ, Indian Statistical Institute, Delhi, India
Local incentive compatibility with transfers

▶ April 27, 2015. Antonio Cᴀʙʀᴀʟᴇs, University College London, United Kingdom
Which club should I attend, dad?: Targeted socialization and production

▶ May 4, 2015. Ferdinand Rᴀᴜcʜ, Oxford University, United Kingdom
Resetting the Urban Network

▶ May 5, 2015. Ivar Eᴋᴇʟᴀɴᴅ, Université Paris Dauphine, France
A simple model for commodity markets
(Joint with Operations Research seminar)

▶ May 11, 2015. Bernard Sɪɴcʟᴇʀ-Dᴇsᴀɢɴᴇ, Chaire d'économie internationale et de gouvernance, HEC Montréal, Canada
The prudent principal

▶ May 18, 2015. Ed Hoᴘᴋɪɴs, University of Edinburgh, Scotland
Inequality, gender and risk-taking behaviour

▶ June 1, 2015. Sebastian Fɪɴᴅᴇɪɴsᴇɴ, Universität Mannheim, Germany
Designing efficient college and tax policies

▶ June 2, 2015. Vladimir Sʜɪᴋʜᴍᴀɴ, CORE, UCL, Belgium
Non-tâtonnement price adjustment based on convex analysis
(Joint with Operations Research seminar)

▶ June 15, 2015. Sabina Aʟᴋɪʀᴇ, University of Oxford, United Kingdom
Multidimensional poverty measurement and analysis

OPERATIONS RESEARCH SEMINARS

▶ October 7, 2014. Gustavo Aɴɢᴜʟo, CORE, UCL, Belgium
Forbidden vertices

▶ October 14, 2014. André Luiz Dɪɴɪz, Centro de Pesquisas de Energia Elétrica, Rio de Janeiro, Brazil
Two-level risk-averse SDDP strategy for secure multivariate reservoir storage levels applied to long term hydrothermal generation planning

▶ October 21, 2014. Jean-Philippe RICHARD, University of Florida, Gainesville (FL), USA
Cutting planes and convexification techniques for linear complementarity constraints

▶ October 28, 2014. Daniele CATANZARO, LSM, UCL, Belgium
A catalog of integer linear programming formulations for the job sequencing and tool switching problem

▶ November 25, 2014. Ion NECOARA, University Polytehnica of Bucharest, Romania
Coordinate descent methods for I0-regularized convex optimization problems

▶ December 9, 2014. Neil OLVER, Centrum Wiskunde & Informatica, Amsterdam, The Netherlands
Adaptivity in opportunistic communication networks

▶ December 16, 2014. Cornelius ROOS, Technische Universiteit Delft, The Netherlands
On Chubanov's algorithm for solving the linear feasibility problem

▶ February 10, 2015. Luca MENCARELLI, Ecole Polytechnique, Palaiseau, France
A multiplicative weights update algorithm for polynomial MINLP

▶ February 24, 2015. Halil ŞEN, Sabancı University, Istanbul, Turkey
A strong formulation for minsum scheduling problems on unrelated parallel machines

▶ March 3, 2015. Marco MOLINARO, Technische Universiteit Delft, The Netherlands
How good are sparse cutting-planes?

▶ March 5, 2015. Dan GARBER, Technion, Israel Institute of Technology, Haifa, Israël
Projection-free learning and optimization

▶ March 10, 2015. Alexander VINEL, University of Iowa, Iowa City, USA
Mathematical programming methods for stochastic optimization methods with a class of risk measures

▶ March 24, 2015. Ralf WERNER, Universität Augsburg, Germany
Robust multiobjective optimization

▶ March 26, 2015. Iva RASHKOVA, London Business School, United Kingdom
Public multi-product health procurement: The dynamic inventory budget allocation problem

▶ April 21, 2015. Stein W. WALLACE, Norwegian School of Economics, Bergen, Norway
Structured stochastic integer programs: Understanding the effects of uncertainty

▶ April 28, 2015. Tomas BAJBAR, Karlsruhe Institute of Technology, Germany
Global polynomial diffeomorphisms, coercive polynomials and Newton polytopes

▶ May 5, 2015. Ivar EKELAND, Université Paris Dauphine, France
A simple model for commodity markets
(Joint with Economics seminar)

▶ May 26, 2015. Diego Moran, Virginia Polytechnic Institute and State University, Blacksburg (VA), USA
On the polyhedrality of the T-branch closure

▶ June 2, 2015. Vladimir SHIKHMAN, CORE, UCL, Belgium
Non-tâtonnement price adjustment based on convex analysis
(Joint with Economics seminar)

WELFARE ECONOMICS SEMINARS

▶ September 22, 2014. Véronique GILLE, CORE, UCL, Belgium
Stigma in affirmative action application? Evidence from quotas in education in India

▶ September 29, 2014. Benoit DECERF, CORE, UCL, Belgium
Purification theorem for equilibria with ambiguous randomisation strategies

▶ October 6, 2014. Kevin SPIRITUS, KU Leuven, Belgium
Optimal capital income taxation and heterogeneous returns

▶ October 13, 2014. Aditi DIMRI, CORE, UCL, Belgium
Gender ratio and household behaviour

▶ October 20, 2014. Toon VANHEUKELOM, KU Leuven, Belgium
Efficiency versus equity? 20 years of tax-benefit reforms in Belgium

▶ October 20, 2014. Yukihiro NISHIMURA, Osaka University, Japan
Tax leadership and investment competition

▶ November 10, 2014. Bertrand ACHOU, Université Paris 1 Panthéon-Sorbonne, Paris School of Economics, France and Università Ca' Foscari Venezia, Italy
Disability and home production in retirement: A life-cycle perspective

▶ November 17 2014. Tom TRUYTS, Université Saint-Louis, Bruxelles and CORE, UCL, Belgium
Auctions with prestige motives

▶ November 21 2014. Paolo PIACQUADIO, Universitetet Oslo, Norway
Fair intergenerational utilitarianism: Risk, its resolution over time, and discounting

▶ January 19, 2014. Manuel FÖRSTER, Université Saint-Louis, Bruxelles, Belgium
Strategic communication in social networks

▶ January 26, 2014. Henry TULKENS, CORE, UCL, Belgium
Internal vs. core coalitional stability in the environmental externality game: A reconciliation

▶ February 2, 2015. Mery FERRANDO and Véronique Gille, CORE, UCL, Belgium
Aspirations for education: The impact of politicians on young people

▶ February 9, 2015. Dirk VAN DE GAER, Universiteit Gent and CORE, UCL, Belgium
Measurement of inequality of opportunity based on counterfactuals

▸ February 16, 2015. Victoria BARHAM, Ottawa University, Canada
Primus inter pares: Welfare-ranking of equally cost-effective alternatives

▸ March 9, 2015. Benoit DECERF, CORE, UCL, Belgium
Paper review: O. Kesten, *School choice with consent, Quarterly Journal of Economics*, 2010

▸ March 16, 2015. Gilles GRANDJEAN, Université Saint-Louis, Bruxelles, Belgium
Network formation among rivals

▸ April 20, 2015. Benoit DECERF, CORE, UCL, Belgium
A new method to compare manipulable mechanisms, applied to school choice

▸ May 11, 2015. Erwin OOGHE, KU Leuven, Belgium
Can wage policies enhance redistribution?

▸ May 18, 2015. Géraldine THIRY, IRES, UCL, Belgium
The inclusive wealth index

▸ June 15, 2015. Suman SETH, University of Oxford, United Kingdom
Measuring destitution in developing countries: An ordinal approach for identifying linked subset of multidimensionally poor

▸ June 22, 2015. Sinem BAS, CORE, UCL, Belgium
Poverty measurement with heterogeneous preferences

▸ June 29, 2015. François MANIQUET, CORE, UCL, Belgium
Fairness and well-being measurement

BROWN BAG SEMINARS

READING GROUPS AND WORKSHOPS

READGING GROUP IN ECONOMETRICS

▸ November 4, 2014, Sophie BÉREAU & Joniada MILLA
Identification of Peer Effects Through Social Networks
Bramoulle, Y., Djebbari, H. and B. Fortin (2013), *Journal of Econometrics* 150, 41-55.

▸ November 25, 2014 - Evgeniia MIKHALKOVA
Estimating the Structure of Social Interactions Using Panel Data
Manresa, E. (2014), mimeo.

▸ February 3, 2015 - Monalisa Sen
Identification and Estimation of Econometric Models with Group Interactions, Contextual Factors and Fixed Effects
Lee, J. (2007), Journal of Econometrics 140, 333-374.

▸ March 3, 2015 - Jean-Charles WIJNANDTS
On the Network Topology of Variance Decompositions: Measuring the Connectedness of Financial Firms
Diebold, F.X. and K. Yilmaz (2014), Journal of Econometrics 182, 119-134.

▸ May 19, 2015, Luca BARBAGLIA
Who's Who in Networks. Wanted: The Key Player
Ballester, C., Calvo-Armengol, A. and Y. Zenou (2006), *Econometrica* 74(5), 1403-1417.

▸ June 23, 2015 - Cyrille DOSSOUGOIN
A Spatial Model for Multivariate Lattice Data
Sain, S.R. and Cressie (2007), *Journal of Econometrics* 140, 226-259.

CHAIR LHOIST BERGHMANS WORKSHOPS

▸ December 18, 2014, Vincent VAN STEENBERGHE, SPF Santé publique, Sécurité de la chaîne alimentaire et environnement, Belgium et Pascal VERMEULEN, Climact, Belgium
La transition de la Belgique vers une société bas carbone : Où en sommes-nous ?

▸ March 5, 2015, Christian DE PERTHUIS, Chaire Economie du Climat, Université Paris-Dauphine, France
Comment crédibiliser un accord climatique avec les instruments économiques ?

▸ April 28, 2015, Mirabelle MUULS, Imperial College Business School and Grantham Institute for Climate Change, London, United Kingdom
Le marché européen de permis CO_2 dix ans après : Qu'en retirons-nous?

▸ May 28, 2015, Thierry BRÉCHET, CORE, UCL, Belgium et Dominique SIMON, DG04, Région Wallonne, Namur, Belgium
Transition énergétique et territoire : Une exploration prospective en Région wallonne

2015 IMMAQ WORKSHOP ON PENSION AND AGEING
Pension and ageing are for sure among the most important macroeconomic challenges of the next decades. In many countries, including Belgium, populations are rapidly ageing, due to the combined effect of decreasing fertility rates and increasing life expectancy. This demographic evolution, but also other social end economic evolutions, will in the long run lead to major financial problems for our social security system and other insurance mechanisms. These important questions were at the heart of this IMMAQ workshop on pension and ageing that took place on January 27, 2015.

Program

- ▶ Pierre PESTIEAU, CORE, UCL and CREPP, Université de Liège, Belgium
  Can all Belgians afford to get old?
- ▶ Jennifer Alonso GARCIA, ISBA, UCL, Belgium
  Automatic balancing mechanisms for notional defined contribution accounts in the presence of uncertainty
- ▶ Vincent VANDENBERGHE, IRES, UCL, Belgium
  Ageing and employability. Evidence from Belgian firm-level data
- ▶ Pierre DEVOLDER, ISBA, UCL, Belgium
  Optimal mix between pay as you go and funding in public pension schemes
- ▶ Bertrand ACHOU, IRES, UCL, Belgium, Panthéon-Sorbonne, Paris School of Economics, France and Università Ca' Foscari Venezia, Italy
  Long-term car insurance, housing demand and decumulation
- ▶ Erik SCHOKKAERT, CORE, UCL and KU Leuven, Belgium
  A pension system with points as an instrument to implement intergenerational and intragenerational justice
- ▶ General discussions and conclusions

PARTICIPATION OF CORE MEMBERS IN MEETINGS ORGANIZATION

- ▶ **3L (Lille-Louvain-Leuven) Finance Research Workshop,** Brussels, Belgium, October 2014
  CORE organizer: Mikael PETITJEAN
- ▶ **Nederlandse Economen Dag**, Amsterdam, The Netherlands, October 2014
  CORE member of the Committee of Recommendation: Jean-Jacques HERINGS
- ▶ **UECE Lisbon Meetings 2014 - Game Theory and Applications**, Lisboa, Portugal, November 2014
  CORE organizers: Ana MAULEON and Vincent VANNETELBOSCH
- ▶ **2014 Annual Meeting of the Decision Sciences Institute**, Tampa (FL), USA, November 2014
  European ambassador: Constantin BLOME
- ▶ **9th Workshop on Economic Design and Institutions**, Brussels, Belgium, December 2014
  CORE organizers: Ana MAULEON and Vincent VANNETELBOSCH
- ▶ **20th Coalition Theory Network Workshop**, Fondazione Eni Enrico Mattei, Venice, Italy, March 2015
  CORE organizer: Ana MAULEON and Vincent VANNETELBOSCH
- ▶ **Brussels Spring Workshop: Flexibility for the Electricity Transmission Grid**, Brussels, Belgium, April 2015
  CORE organizer: Arnaud LATIERS
- ▶ **12th International Conference on the European Energy Market, EEM15**, Lisbon, Portugal, May 2015
  CORE member of the scientific committee: Per AGRELL
- ▶ **Labor markets in the macroeconomy: A tribute to Henri Sneessens**, Louvain-la-Neuve, Belgium, May 2015
  CORE organizer: David DE LA CROIX
- ▶ **3L (Lille-Louvain-Leuven) Finance Research Workshop,** Brussels, Belgium, May 2015
  CORE organizer: Mikael PETITJEAN
- ▶ **14th Journées Louis-André Gérard-Varet,** Aix-en-Provence, France, June 2015
  CORE members of the scientific committee: Claude D'ASPREMONT, Jean HINDRIKS and Pierre PESTIEAU
- ▶ **India Research Group Conference**, Paris School of Economics, France, June 2015
  CORE organizers: Aditi DIMRI and Véronique GILLE
- ▶ **Society of Financial Econometrics Spring School on Econometrics of Option Pricing**, National Bank of Belgium, June 2015
  CORE organizer: Leonardo IANIA
- ▶ **14th European Workshop on Efficiency and Productivity Analysis,** Helsinki, Finland, June 2015
  CORE member of the scientific committee: Léopold SIMAR
- ▶ **Workshop on the Econometrics and Statistics of Efficiency Analysis: Recent Development and Perspectives**, Università del Salento, Lecce, Italy, June 2015
  CORE member of the scientific committee: Léopold SIMAR
- ▶ **PET 15 Public Economic Theory Conference**, Université de Luxembourg, Luxembourg, July 2015
  CORE members of the program committee: Ana MAULEON and Vincent VANNETELBOSCH

CORE MEMBERS INVITED TO CONFERENCES AND SEMINARS

PER AGRELL

- ▶ *Advanced supplier parks: The case of a smart*
  JCAL Conference 2014, Feluy, Belgium, October 2014
- ▶ *Supply chain coordination investments*
  2014 Informs Annual Meeting, San Francisco (CA), USA, November 2014

▶ *The efficiency of the regulation for horizontal mergers among electricity distribution operators in Norway*
International Conference on the European Energy Market EEM15, Lisbon, Portugal, May 2015

▶ *On the stationarity of heterogeneity in production technology*
International Workshop 2015 Santander Chair of Efficiency and Productivity, Elche, Spain, June 2015

ABDELRAHAMAN ALY

▶ *Securely solving classical network flow problems*
International Conference on information Security and Cryptology 2014, Seoul, South Korea, December 2014

GUSTAVO ANGULO

▶ *On a semicontinuous relaxation of fixed-charge network flow problems*
Virginia Tech, Blacksburg (VI), USA, November 2014

IGNACIO ARAVENA SOLIS

▶ *A column-and-constraint generation heuristic for strict-linear-pricing in an electricity pool*
21st COMEX Belgian Mathematical Programming Workshop, La-Roche-en-Ardenne, Belgium, April 2015

▶ *Sub-hourly optimization effects in the European power grid under deep renewable energy integration*
International Symposium on Mathematical Programming, Pittsburgh (PA), July 2015

SINEM BAS

▶ *Multidimensional inequalities and generalized quantile functions*
Doctoral Workshop, UNamur, Belgium, January 2015

LUC BAUWENS

▶ *The contribution of structural break models to forecasting macroeconomic series*
University of Johannesburgh, Afrique du Sud, October 2014

▶ *Forecasting comparison of long term component models for realized covariance matrices*
25th EC2 meeting: Advances in Forecasting, Barcelona, Spain, December 2014
SKEMA Business School, Lille, France, January 2015
Universita Ca Foscari, Venice, Italy, February 2015
National Taiwan University, Taipei, Taiwan, March 2015
Academica Sinica, Taipei, Taiwan, March 2015
Workshop on New Developments in Modeling and Predicting Extreme Matrices, Marseille, France, May 2015

PAUL BELLEFLAMME

▶ *Price information in two-sided markets*
6th Workshop on the Economics of ICTs, Evora, Portugal, October 2014

▶ *Forecasting comparison of long term component models for realized covariance matrices*
25th EC2 meeting: Advances in Forecasting, Barcelona, Spain, December 2014

▶ *Competition between asymmetric two-sided platforms*
SEEK - Digital Economy Workshop, Turin, Italy, June 2015

▶ *Comprendre les stratégies des plateformes de crowdfunding*
Chaire " Valeurs et Politiques des Informations Personnelles ", Telecom ParisTech, France, July 2015

CONSTANTIN BLOME

▶ *Supply chain due diligence: An exploratory case study of adoption of conflict mineral management*
2nd EUROMA Sustainable Operations and SC Forum, Barcelona, Spain, March 2015

▶ *The combined effect of trust and dependence on supplier innovativeness*
European DSI Conference, Tarmina, Italy, May-June 2015

▶ *The dark side of buyer power: Supplier exploitation and the role of ethical climates*
Society for Business Ethics Annual Conference, Vancouver, Canada, August 2015

MANUELA BRAIONE

▶ *Forecasting MFI interest rates using the MIDAS*
1st International Conference in Applied Theory, Macro and Empirical Finance, University of Macedonia, Thessaloniki, Greece, April 2015

▸ *On the estimation of the MMReDCC model in high dimension*
GREQAM, Aix-Marseille, May 2015

▸ *Forecasting comparison of long term component dynamic models for realized covariance matrices*
CREATES, Aarhus, Denmark, June 2015

DANIELE CATANZARO

▸ *Classifying the progression of ductal carcinoma from single-cell sample data: A case study*
De Duve Institute, UCL, Belgium, February 2015

▸ *Improved integer linear programming formulations for the job sequencing and tool switching problem*
22nd International Symposium on Mathematical Programming, Pittsburgh (PA), USA, July 2015

PHILIPPE CHEVALIER

▸ *Group buying platforms: Leveraging the online crowd effect*
National University of Singapore, Singapore, November 2014

▸ *Horizontal collaboration and fairness*
2014 Informs Annual Meeting, San Francisco (CA), USA, November 2014

▸ *Taking forecast reliability into account for scheduling*
POMS Annual Meeting, Washington (DC), USA, May 2015

CLAUDE D'ASPREMONT

▸ *Oligopolistic vs. monopolistic competition: Do intersectoral effects matter?*
Universiteit Antwerpen, Belgium, November 2014
University of Glasgow, United Kingdom, May 2015
15th SAET Conference on Current Trends in Economics, University of Cambridge, United Kingdom, July 2015

▸ *Efficient Bayesian mechanism: A review*
UECE Lisbon Meeting in Game Theory, Lisboa, Portugal, November 2014

▸ *Revealed preference analysis of semi-cooperative household behavior*
PET 15 Public Economic Theory Conference, Université de Luxembourg, Luxembourg, July 2015

JULIO DÁVILA

▸ *Public domain*
Kyoto Institute for Economic Research, University of Kyoto, Japan, April 2015
Universidade Católica Portuguesa, Lisboa, Portugal, April 2015
15th SAET Conference on Current Trends in Economics, University of Cambridge, United Kingdom, July 2015

KOEN DECANCQ

▸ *Assortative matching and long-term trends in US household earning inequality*
INFO-METRICS 5th Conference, Washington (DC), USA, October 2014

▸ *Multidimensional poverty and individual preferences*
University of Southern Denmark, Odense, Denmark, November 2014

BENOIT DECERF

▸ *Income poverty measures: Beyond the absolute and relative approaches*
Universiteit Antwerpen, Belgium, March 201
Chaire Hoover, UCL, Belgium, March 2015
Summer Meeting of Young Economists, Universiteit Gent, Belgium, May 2015
KU Leuven, Belgium, June 2015

DAVID DE LA CROIX

▸ *Knowledge transmission, apprenticeship and technological progress in pre-industrial economy*
Universität Konstanz, Germany, October 2014
University of St Andrews, Fife, United Kingdom, October 2014
Christmas Meeting of Belgian Economists, IRES, UCL, Belgium, December 2014
Université Saint-Louis, Bruxelles, Belgium, May 2015

▸ *Development policies when accounting for the extensive margin of fertility*
Simon Fraser University, Vancouver, Canada, November 2014

University of Washington, Seattle (WA), USA, November 2014

University of Oregon, Eugene (OR), November 2014

KU Leuven, Belgium, December 2014

CIREQ, Université de Montréal, Canada, March 2015

CEAR-HCEO-MOVE Workshop on Family Economics, Barcelona GSE Summer Forum, Spain, June 2014

Workshop "Families and the Macroeconomy", Mannheim, Germany, June 2015

▶ *The longevity of famous people from Hammurabi to Einstein*

University of Berkeley (CA), USA, November 2014

University of California, Los Angeles (CA), February 2015

Poznań University of Economics, Poland, May 2015

▶ *Religions, fertility, and growth in South-East Asia*

GREQAM, Aix-Marseille, France, January 2015

University of California, Los Angeles (CA), February 2015

▶ *Does fertility react to economic incentives, and does it matter?*

Poznań University of Economics, Poland, May 2015

▶ *Did longer lives buy economic growth ? From Malthus, to Lucas and Ben Porath*

Labor Markets in the macroeconomy: A Tribute to Henri Sneessens, IRES, UCL, Belgium, May 2015

JEAN-CHARLES DELVENNE

▶ *Effects of burstiness on diffusion in temporal networks*

NetSci 2015, Zaragoza, Spain, June 2015

JULIEN DEWEZ

▶ *Geometric lower bounds on the nonnegative rank and application to the extension complexity of polytopes (poster presentation)*

IAP Dysco Study Day, Liège, Belgium, May 2015

ICTEAM Young Researchers Day, Modave, Beligum, May 2015

ADITI DIMRI

▶ *Patrilocality norm & household desicion-making: Does the presence of in-laws affect married women in India*

Paris School of Economics, France, October 2014

Social Norms and Institutions Conference, ETH, Zürich, Switzerland, May 2015

Cyrille Dossougoin

▶ *Measuring spillover effects in finance: A dynamic spatial econometrics approach*

UNamur, Belgium, January 2015

▶ *Assessing the role of transmission channels in sovereign risk: A spatial econometrics approach*

University of Orléans, France, June 2015

ARNAUD DUFAYS

▶ *Sparse change-point models*

ENSAE, Paris, France, September 2014

Université Paris 1 Panthéon-Sorbonne, Paris, France, October 2014

ESOBE, ESSEC Business School, Paris, France, November 2014

▶ *Infinite-state Markov-switching for dynamic volatility*

Carleton University, Ottawa, Canada, January 2015

▶ *Modèle de Markov à états infinis pour volatilité dynamique*

Université Laval, Québec, Canada, January 2015

MERY FERRANDO

▶ *Educational outcomes of minorities: The impact of politicians*

Paris School of Economics, France, May 2015

Chaire Hoover, UCL, Belgium, March 2015

VALERIA FORLIN

▶ *How competition determines the success of an eco-label*

6th EAAE PhD Workshop, Roma Tre Università degli Studi, Italy, May 2015

3rd International Ph.D. Meeting of Thessaloniki in Economics, University of Macedonia, Thessaloniki, Greece, June 2015
PET 15 Public Economic Theory Conference, Université de Luxembourg, Luxembourg, July 2015

ZENGYUAN GAO

▶ *Embedding, auxiliary, and mis-specification*
ISBA, UCL, Belgium, October 2014
▶ *Minimum integrated distance estimation for simultaneous equations*
ULB, Bruxelles, Belgium, October 2014
North American Econometric Society Meeting, Boston (MA), USA, January 2015
11th World Congress of the Econometric Society, Montréal, Canada, August 2015

JEAN GABZEWICZ

▶ *Migration: A fortune or a misfortune for the natives?*
Università Bergamo, Italy, May 2015
Universidade do Porto, Portugal, May 2015

VÉRONIQUE GILLE

▶ *How to get a job in the public sector? The role of local politics and caste networks in affirmative action programs in India*
CEREC Workshop in Economics, Université Saint-Louis, Brussels, Belgium, October 2014
Paris School of Economics, France, June 2015
30th Annual Congress of the European Economic Association, Mannheim, Germany, August 2015
▶ *Does the identity of leaders matter for education? Evidence from the first black governor in the US*
Paris School of Economics, France, May 2015

FRANÇOIS GLINEUR

▶ *Exact worst-case performances of first-order methods for smooth convex optimization*
4th IMA Conference on Numerical Linear Algebra and Optimization, Birmingham, United Kingdom, September 2014
▶ *Computing upper and lower bounds on the nonnegative rank*
5th Cargese Workshop on Combinatorial Optimization, Cargesa, Corsica, September 2014
▶ *Assessing the performance of first-order algorithms: A convex optimization approach*
Université de Liège, Belgium, December 2014
▶ *Extension complexity bounds for polygons: Numerical factorizations and conjectures*
Dagstuhl Seminar on Limitations of Convex Programming: Lower Bounds on extended formulations and factorization ranks, Leibniez-Zentrum für Informatik, Dagstuhl, Germany, February 2015
▶ *Computing lower and upper bounds on the extension complexity of polytopes*
University of Edinburgh, United Kingdom, May 2015
Paths, Pivots, and Practice: The Power of Optimization Conference, Montréal, Canada, June 2015
▶ *Smooth strongly convex interpolation and exact worst-case performance of first-oder methods*
Optimization and Big Data 2015, Workshop, Trek and Colloquium, University of Edinburgh, United Kingdom, May 2015
International Symposium on Mathematical Programming, Pittsburgh (PA), July 2015

OSWALDO GRESSANI

▶ *Endogenous quantal response equilibrium in normal form games*
PET 15 Public Economic Theory Conference, Université de Luxembourg, Luxembourg, July 2015

CHRISTIAN HAFNER

▶ *A new approach to high-dimensional volatility modelling*
8th International Conference on Computational and Financial Econometrics, Università degli Studi di Pisa, Italy, December 2014

ADEL HATAMI-MARBINI

▶ *Evaluating the performance and ranking of DMUs: A fuzzy bounded DEA approach*
Joint Symposium on 44th International Conference on Computers and Industrial Engineering and 9th International Symposium on Intelligent Manufacturing and Service Systems, Istanbul, Turkey, October 2014
▶ *A fully fuzzified two-stage DEA*
2014 Informs Annual Meeting, San Francisco (CA), USA, November 2014

- *The use of data envelopment analysis in evaluating performance of international e-government services*
  9th International Conference on E-Commerce in Developing Countries, Isfahan, Iran, April 2015
- *A multiple criteria data envelopment analysis approach to a two-stage process*
  14th European Workshop on Efficiency and Productivity Analysis, Helsinki, Finland, June 2015

JEAN-JACQUES HERINGS

- *Stability of networks under limited farsightedness*
  Lunds Universitet, Sweden, September 2014
  Banking and Capital Markets, Alghero, Sardinia, June 2015
- *General equilibrium and the new neoclassical synthesis*
  Universität Zürich, Switzerland, October 2014
  Austrian National Bank, Vienna, Austria, January 2015
- *Stability of networks under level-K farsightedness*
  Universität Zürich, Switzerland, October 2014
  Universität Innsbruck, Austria, October 2014
- *Equilibrium and matching under price controls*
  8th Workshop on Economic Design and Institutions, Brussels, Belgium, December 2014
  Oxford University, United Kingdom, January 2015
  Uniwersytet Warzawski, Warsaw, Poland, February 2015
  20th Coalition Theory Network Workshop, Fondazione Eni Enrico Mattei, Venice, Italy, March 2015
  Center for Research in Economic Theory and its Applications, Warwick, United Kingdom, May 2015
  15th SAET Conference on Current Trends in Economics, Cambridge, United Kingdom, July 2015

JEAN HINDRIKS

- *Le futur des pensions légales en danger ? Quelles alternatives pour un système viable ?*
  Soirée Evénement Alliance Groupe. Vieillissement et Croissance : L'impossible Alchimie ?, Cercle de Wallonie, Liège, September 2014
- *Quel avenir pour nos pensions ?*
  Débat 7éco : Vraiment indispensanble la pension à 67 ans ? Brussels, January 2015
- *On the timing of tax and investment in fiscal competition models*
  14è Journées Louis-André Gérard-Varet, Aix-en-Provence, France, June 2015
  71st Annual Congress of the International Institute of Public Finance "Taxation in a Global Economy", Trinity College, Dublin, Ireland, August 2015

LEONARDO IANIA

- *A macro-financial analysis of the Euro area sovereign bond market*
  46th Annual Conference of the Money, Macro and Finance Research Group, Durham, United Kingdom, September 2014
- *Macroeconomics and financial determinants of corporate spreads*
  Université Nice Sophia Antipolis, Nice, France, July 2015

JONATHAN JONES

- *Sensitivity of land use and transport interactions models to scale*
  TECLIM, UCL, Belgium, October 2014

ARNAUD LATIERS

- *Energy limits in primary frequency control with short-term frequency-band allocation*
  ISGT Europe 2014, Istanbul Technical University, Turkey, October 2014
- *Residential demand management and distribution grid impact assessment*
  23rd International Conference and Exhibition on Electricity Distribution, Lyon, France, June 2015

SABINA LUNCASU

- *Nonparametric estimation of efficiency frontiers with noisy data: An application to Colombian universities*
  Workshop on the Econometrics and Statistics of Efficiency Analysis: Recent Developments and Perspectives, Università del Salento, Lecce, Italy, June 2015

FRANÇOIS MANIQUET

- *Partial responsibility for one's preferences*
  Social Welfare, Justice and Distribution: A Conference in Honour of John Roemer, Queen Mary University of London, United Kingdom, June 2015

ANA MAULEON

▶ *Stability of networks under limited farsightedness*
4th Belgian Network Research Meeting - BENet 2014, Université libre de Bruxelles, Belgium, October 2014
UECE Lisbon Meetings 2014: Game Theory and Applications, Universidade Técnica de Lisboa, Portugal, November 2014
Queen Mary University of London, United Kingdom, March 2015
Universidad del Pais Vasco, Bilbao, Spain, May 2015
15th SAET Conference on Current Trends in Economics, University of Cambridge, United Kingdom, July 2015
▶ *Constitutions of social networks*
20th Coalition Theory Network Workshop, Fondazione Eni Enrico Mattei, Venice, Italy, March 2015
CEREC Workshop, Université Saint-Louis, Brussels, Belgium, March 2015
PET 15 Public Economic Theory Conference, Université de Luxembourg, Luxembourg, July 2015

FLORIAN MAYNERIS

▶ *The cleansing effect of minimum wages*
Université de Genève, Switzerland, September 2014
Universität Bielefeld, Germany, October 2014
Boston College, Chestnut Hill (MA), USA, November 2014
World Bank, Washington (DC), USA, November 2014
9th Meeting of the Urban Economics Association, Washington (DC), USA, November 2014
Georgetown University, Washington (DC), USA, November 2014
UNamur, Belgium, December 2014
Université Saint-Louis, Bruxelles, Belgium, April 2015

JONIADA MILLA

▶ *Value added analysis for multiple competencies*
20th Worskhop on School Effectiveness and Value-added Models: Recent Progresses on Modeling and Interpretation, Pontificia Universidad de Chile, Santiago, Chile, January 2015
AEPF (Association for Education Finance and Policy 40th Annual Conference "Research Informing Practice, Practice Informing Research", Washington (DC), USA
National Council on Measurement in Education (NCME) 2015 Annual Meeting, Chicago (IL), USA
▶ *Nature or nurture in higher education? Inter-generational implications of the Vietnam-era lottery*
49th Annual Conference of the CEA Ryerson University, Toronto, Canada, May 2015
SOLE/EALE World Meetings, Montréal, Canada, June 2015

JUAN MORENO TERNERO

▶ *Fair Allocation of disputed properties*
University of Rochester (NY), USA, August 2014
State University of New York, Albany (NY), USA, August 2014
▶ *The axiomatic approach to the problem of sharing the revenue from bundled pricing*
University of Southern Denmark, Odense, Denmark, September 2014
▶ *Normative foundations for equity-sensitive population health evaluation functions*
FAIRCARE Workshop, Odense, Denmark, September 2014
Toulouse School of Economics, France, December 2014
▶ *Taxation and poverty*
11th Meeting of the Spanish Network for Social Choice, Madrid, Spain, November 2014
Workshop on Economic Theory and Game Theory, Amsterdam, The Netherlands, December 2014
35th Arne Ryde Symposium, Malaga, Spain, January 2015
15th SAET Conference on Current Trends in Economics, University of Cambridge, United Kingdom, July 2015
▶ *The implications of equal value of life and prioritarianism for the evaluation of population health*
Universidad Autònoma de Madrid, Spain, April 2015
▶ *Entitlement theory of justice and end-state fairness in the allocation of economic goods*
Queen Mary University of London Exploitation Workshop, London, United Kingdom, May 2015
▶ *Sharing the proceeds from a hierarchical venture*
IDGP 2015 Workshop: Institutions, Decisions and Governmental Practices: Theory, Simulations and Applications, Barcelona, Spain, June 2015
Social Welfare, Justice and Distribution: A Conference in Honour of John Roemer, Queen Mary University of London, United Kingdom, June 2015

YURII NESTEROV

- *Detecting Lagrange multipliers by simple subgradient methods*
  Optimization Workshop, Birmingham University, United Kingdom, September 2014
- *Primal dual methods with functional constraints*
  International Conference on Model Predictive Control, Lucca, Italy, September 2014
- *Algorithmic models of human behavior*
  OPTIMA 2014, Petrovac, Montenegro, September 2014
- *Huge-scale optimization problems*
  29th Annual Conference on Neural Information Processing Systems (NIPS), Montréal, Canada, December 2014
  France Telecom, Paris, France, October 2014
- *Stable predictions in voting models*
  University of Waterloo, Canada, October 2014
- *Optimization methods for problems of big size*
  Yandex Seminar, Moscow, Russia, November 2014
- *Detecting multipliers or problems with functional constraints*
  Ecole Polytechnique Fédérale de Lausanne, Switzerland, November 2014
- *Optimization methods minimizing the model of objective function*
  Conference on Numerical Analysis, Saint-Girons, France, June 2015

DIRK NEUMANN

- *An unemployment insurance scheme for the Euro area*
  Conference "Crises and Distribution", Freie Universität Berlin, Germany, September 2014
- *Welfare effects of fiscal integration in Europe*
  107th Annual Conference on Taxation, Santa Fe (NM), USA, November 2014
  ZEW Public Finance Conference "European Tax Policy", Mannheim, Germany, April 2015
  Conference "More Europe or more Subsidiarity?", Walter Eucken Institute, Freiburg, Germany, May 2015
- *Does the choice of well-being measure matter empirically?*
  6th Meeting Society for the Study of Economic Inequality (ECINEQ), Luxembourg, Luxembourg, July 2015
  Annual Congress, International Institute of Public Finance (IIPF), Dublin, Ireland, August 2015

ANTHONY PAPAVASILIOU

- *Integrating deferrable demand in electricity markets: An SDDP approach*
  PhD Winter School in Energy Systems and Markets, Kvitfjell, Norway, March 2015
- *Energy-only-markets with deferrable demand*
  12th International Conference on the European Energy Market, Lisboa, Portugal, May 2015
- *Priority service contracts for residential demand response: Pricing, aggregation and dispatch*
  International Symposium on Mathematical Programming, Pittsburgh (PA), July 2015
- *Self-commitment of combined cycle units under electricity price uncertainty*
  IEEE Power and Energy Society General Meeting, Denver (CO), July 2015

MATHIEU PARENTI

- *David vs. Goliath*
  Max Planck Institute, Bonn, Germany, February 2015
  15th SAET Conference on Current Trends in Economics, University of Cambridge, United Kingdom, July 2015
- *Demand, technology and the firm size distribution*
  Université de Genève, Switzerland, March 2015
  Georgetown University, Washington (DC), USA, April 2015
  Higher School of Economics, Moscow, Russia, June 2015
- *Knocking on tax haven's doors*
  Annual Congress, International Institute of Public Finance (IIPF), Dublin, Ireland, August 2015

PIERRE PESTIEAU

- *LTC social insurance with two-sided altruism*
  GATE Seminar, Lyon, France, February 2015
  Osaka University, Japan, March 2015
  PET 15 Public Economic Theory Conference, Université de Luxembourg, Luxembourg, July 2015
- *On the policy implications of changing longevity*
  World Bank Conference on Aging and Macroeconomics, Washington (DC), USA, May 2015

AIAS Conference: The Hands of Time - Multiple Perspective on Aging, Aarhus University of Advanced Studies, Denmark, June 2015

► *Long term care and birth timing*
Epargne, Patrimoine et Inégalités, Paris, France, May 2015
16th Annual European Health Economics Workshop, Toulouse School of Economics, France, May 2015

► *The design of the long term care insurance contracts*
16th Annual European Health Economics Workshop, Toulouse School of Economics, France, May 2015

FRANCESCO ANDREA PIRRONE

► *Common knowledge in correlated equilibria and global games*
9th BigSEM Doctoral Workshop on Economic Theory, Universität Bielefeld, Germany, December 2014
Inaugural Royal Economic Society Symposium of Junior Researchers, Manchester University, United Kingdom, April 2015
Spring Meeting of Young Economists, Universiteit Gent, Belgium, May 2015

MAURICE QUEYRANNE

► *Modeling convex subsets of points*
HEC-ULg Management School, Université de Liège, Belgium, November 2014

► *Optimal pits and optimal transportations*
CESAM, UCL, Belgium, November 2014

GUILLAUME ROELS

► *Win-win capacity allocation contracts in co-production and co-distribution alliances*
2014 Informs Annual Meeting, San Francisco (CA), USA, November 2014

► *The design of experimental services with acclimation and memory decay: Optimal sequence and duration*
The University of Chicago (IL), USA, Spring 2015
USC Marshal Service Operations and Consumer Behavior Workshop, University of Southern California Marshall School of Business, Los Angeles (CA), USA, Spring 2015
POMS Annual Meeting, Washington (DC), USA, May 2015

ERIK SCHOKKAERT

► *New tools to account for social justice preferences in health care systems*
Launch event Hospinnomics, Paris School of Economics, France, September 2014

► *The challenge of personalized medicine*
Workshop on "Justice and Priority Setting in Health Care", KU Leuven, Belgium, October 2014

► *Preferences and values: The concept of equivalent income*
Workshop on "Discrete Choice Modelling", Universiteit Antwerpen, Belgium, December 2014

► *Solidarity and health care institutions*
Conference "The Ethics of Economic Institutions", Universiteit Utrecht, The Netherlands, January 2015

► *Equality of opportunity: Key concepts and the link with welfare economics*
OECD Thematic Workshop on Inequality of Opportunity, Paris, France, January 2015
Workshop on Fair Inequalities, University of Sheffield, United Kingdom, February 2015

► *Values, preferences, cognitions*
Workshop on Health Equity, Montréal, Canada, April 2015

► *Equivalent income and distributional weights in policy evaluation*
Institute for Social and Economic Research, Colchester, United Kingdom, April 2015

► *Equivalent income and priority setting*
Health Economics Conference of the Spanish Health Economics Association, Granada, Spain, June 2015

NICOLAS K. SCHOLTÈS

► *Macroprudential policy and interbank network effects in a new-Keynesian model with implications on the credit channel of monetary policy transmission*
Center for Research in Finance and Management, Université de Namur, Belgium, January 2015

► *Confidence crises in an agent-based network model of the interbank market*
Spring Meeting of Young Economists, Ghent University, Belgium, May 2015
NIAZ- Lorentz Workshop on Socioeconomic Complexity, Leiden University, The Netherlands, March 2015
De Nederlandse Bank, Amsterdam, April 2015

EVA-MARIA SCHOLZ

▶ *How to license downstream technology when upstream firms are capacity constrained?*
2014 Annual Meeting of the Association of Southern European Economic Theorists (ASSET), Aix-en-Provence France, November 2014

JOSE J. SEMPERE MONERIS

▶ *Farsighted R&D networks*
UECE Lisbon Meeting in Game Theory, Lisboa, Portugal, November 2014

VLADIMIR SHIKHMAN

▶ *Algorithmic models of market equilibria*
Universiteit Maastricht, The Netherlands, September 2014
International Conference on Operations Research, Universität Aachen, Germany, September 2014
Joint ORSC/EURO International Conference 2015 on Continuous Optimization, Shangai, China, May 2015
▶ *An economic perspective on bilevel programming*
17th British-French-German Conference on Optimization, London, United Kingdom, June 2015
▶ *Algorithm of price adjustment for market equilibrium*
22nd International Symposium on Mathematical Programming, Pittsburgh (PA), USA, July 2015

LÉOPOLD SIMAR

▶ *Statistical inference in nonparametric frontier models: The state of the art*
Final Workshop "Messaggeri della Conoscenza", Università del Salento, Lecce, Italy, October 2014
▶ *A nonparametric approach to dynamic discrete choice models*
8th International Conference on Computational and Financial Econometrics, Università degli Studi di Pisa, Italy, December 2014
▶ *Generalized nonparametric smoothing with mixed discrete and continuous data*
8th International Conference on Computational and Financial Econometrics, Università degli Studi di Pisa, Italy, December 2014
▶ *An introduction to regression methods for continuous and discrete responses: From parametric to nonparametric approaches*
Control and Management Engineering "A. Ruberti", Università di Roma, La Sapienza, Italy, April 2015
▶ *The wrong skewness problem in SFA: A new approach*
14th European Workshop on Efficiency and Productivity Analysis, Helsinki, Finland, June 2015
▶ *Nonparametric instrumental variables estimation for efficiency frontier*
Workshop on the Econometrics and Statistics of Efficiency Analysis: Recent Developments and Perspectives, Università del Salento, Lecce, Italy, June 2015

YVES SMEERS

▶ *Service pricing and multiplicity of equilibria in short term power markets with wind*
2014 Informs Annual Meeting, San Francisco (CA), USA, November 2014
▶ *Investment in incomplete electricity markets: A stochastic discount rate approach*
PhD Winter School 2015: Energy Systems and Markets, Kvitfell, Norway, March 2015

SEBASTIAN URBAN STICH

▶ *Solving generalized Laplacian linear systems*
Optimization and Big Data 2015, Workshop, Trek and Colloquium, Edinburgh, UK, May 2015
Combinatorial Algorithms Day & Gremo's Workshop on Open Problems, ETH Zürich, Switzerland, June 2015
EUROPT Workshop on Advances in Continuous Optimization, Edinburgh, United KIngdom, July 2015

ISABELLE THOMAS

▶ *Measuring and modelling in economic and transport geography: Challenges and opportunities*
Chaire Francqui, Universiteit Antwerpen, March 2015
▶ *Spatial issues in data analysis and model building: Distance, scale and complexity*
Chaire Francqui, Universiteit Antwerpen, March 2015
▶ *Measuring built-up morphologies: From density to fractals*
Chaire Francqui, Universiteit Antwerpen, March 2015
▶ *Measuring and modelling interactions within the Brussels metropolitan area*
COST 1305, Liège, Belgium, April 2015
▶ *Does space matter in statistics?*
Università di Bologna, Rimini, Italy, May 2015

- *Transport and urban modelling: A geographer's viewpoint*
  Chaire Francqui, Universiteit Antwerpen, May 2015

JOE THARAKAN

- *An intermediary's geographical expansion choice under uncertainty*
  PET 15 Public Economic Theory Conference, Université de Luxembourg, Luxembourg, July 2015

TOM TRUYTS

- *Auctions with prestige motives*
  Universiteit Maastricht, The Netherlands, October 2014
  Institut Henri Poincaré, Paris, France, December 2014
- *On symbols and cooperations*
  UECE Lisbon Meeting in Game Theory, Lisboa, Portugal, November 2014
  Université Paris 2, France, December 2014
  Universiteit Utrecht, The Netherlands, February 2015
  KU Leuven, Belgium, March 2015
  PET 15 Public Economic Theory Conference, Université de Luxembourg, Luxembourg, July 2015

SÉBASTIEN VAN BELLEGEM

- *Dynamical multilevel modelling*
  Workshop on School Effectiveness and Value Added Models: Recent Progresses on Modeling and Interpretation, Santiago, Chile, January 2015
- *Higher education value-added using multiple outcomes*
  41st Annual Conference of the Association for Education Finance and Policy, Washington (DC), USA, February 2015

VINCENT VANNETELBOSCH

- *Trust and manipulation in social networks*
  Information Transmission in Networks, Conference Series on Network Science in Economics, Harvard University, Cambridge (MA), USA, May 2015
  PET 15 Public Economic Theory Conference, Université de Luxembourg, Luxembourg, July 2015
- *Allocating value among farsighted players in network formation*
  UECE Lisbon Meetings 2014: Game Theory and Applications, Universidade Técnica de Lisboa, Portugal, November 2014

DIRK VAN DE GAER

- *A simple empirical test for equalizing opportunities with an application to Progresa*
  Universitat Autònoma de Barcelona, Spain, October 2014
  Université du Luxembourg, Luxembourg, April 2015
- *Measurement of inequality of opportunity based on counterfactuals*
  THEMA, Université Cergy Pontoise, France, April 2015
  6th ECINEQ Meeting, Université du Luxembourg, Luxembourg, June 2015

Wouter VERGOTE

- *Forming coalitions through R&D networks in oligopol*
  14è Journées Louis-André Gérard-Varet, Aix-en-Provence, France, June 2015

LAURENCE WOLSEY

- *Tight formulations for on/off polytopes*
  Universidade de Aveiro, Portugal, June 2015
- *On on/off polytopes*
  International Symposium on Mathematical Programming, Pittsburgh (PA), July 2015

5

PEOPLE

PEOPLE

MANAGEMENT

PHILIPPE CHEVALIER
President

MAURICE QUEYRANNE
Research Director

PER AGRELL
Co-Director

SOPHIE BÉREAU
Co-Director

FRANCISCO SANTANA FERRA
Executive Director

FACULTY

Board Members

During the 2014-2015 academic year, the permanent staff of CORE consisted of *Faculty Members* of Université catholique de Louvain, Université libre de Bruxelles, Université Saint-Louis, KU Leuven, Université de Liège, Université du Luxembourg and the University of British Columbia.

PER AGRELL

- ▶ Professor, Université catholique de Louvain (Louvain School of Management, Louvain-la-Neuve campus), Belgium; Part-time Professor, Norwegian School of Economics (NHH), Bergen, Norway; Co-director, CORE, Université catholique de Louvain, Belgium, 2012–to date; Chairman, doctoral commission in economics and management, Université catholique de Louvain.
- ▶ *Operations management (supply chain management, network regulation).*
- ▶ Ph.D. (production economics), Linköping University, Sweden, 1995.
- ▶ Researcher, International Institute for Applied Analysis (IIASA), Laxenburg, Austria, 1993–1994; Postdoctoral Researcher, University of Georgia, Athens (GA), USA, 1996–1997; Visiting Associate Professor in operations research, Copenhagen University, Denmark, 1997–1998; Associate Professor in managerial economics, Copenhagen University, Denmark, 1998–2001; Part-time Senior Researcher, Fondazione Eni Enrico Mattei (FEEM), 2005–2011; Senior Researcher, Universitat Autonoma de Barcelona, Spain, 2008; President of the Louvain School of Management Research Institute, UCL, Belgium, 2010–2011; Adjunct Professor, Norwegian School of Economics, Department of Management Science, 2012-to date.
- ▶ Current Editorial Activities: Editorial Board Member, *International Journal of Production Economics* and *Business Research.*

LUC BAUWENS

- ▶ Professor Emeritus, Université catholique de Louvain, Belgium.
- ▶ *Econometrics, statistics.*
- ▶ Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1983.
- ▶ Consultant at the World Bank Washington (DC), USA, 1983–1984; Senior Researcher at Facultés universitaires catholiques de Mons, Belgium, 1984–1987; Senior Lecturer at Ecole des Hautes Etudes en Sciences Sociales (EHESS), Marseille, France, 1987–1991; Chairman, Département des sciences économiques, Université catholique de Louvain, Belgium, 2000–2003; Research Director, CORE, Université catholique de Louvain, Belgium, 2006–2009; President, CORE, Université catholique de Louvain, Belgium, 2010–2013.
- ▶ Prizes & Awards: Leonard J. Savage Thesis Award, 1984; Francqui Chair, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, 2005–2006; Fellow of the Society for Financial Econometrics.
- ▶ Previous Editorial Activities: Associate Editor, *Computational Statistics and Data Analysis (Annals of Financial Econometrics), Computational Statistics,* and *Empirical Economics.*
- ▶ Current Editorial Activities: Associate Editor, *International Econometric Review* and *Journal of Financial Econometrics,* Member of the editorial board, *Journal of Applied Econometrics.*

PAUL BELLEFLAMME

▸ Professor, Université catholique de Louvain (Louvain School of Management, Louvain-la-Neuve campus), Belgium; Research Affiliate, Center for Economic Studies and Ifo Institute for Economic Research; Co-holder of the Chair Lhoist Berghmans in Environmental Economics and Management, Co-director, CORE, Université catholique de Louvain, Belgium, 2014-to date.

▸ *Microeconomics (industrial organization, game theory).*

▸ Docteur en sciences économiques, University of Namur, Belgium, 1997.

▸ Research Fellow, University of Namur, Belgium, 1997–1999; Lecturer in economics, Queen Mary College, University of London, United Kingdom, 1999–2002.

▸ Prizes & Awards: Prix du Fonds International WERNAERS for scientific research and knowledge diffusion, 2012, Francqui Chair, Université de Liège, 2013, Louvain School of Management Research Award 2014, Louvain School of Management Best Education Award, 2014.

▸ Previous Editorial Activities: Associate Editor, *Information Economics and Policy.*

▸ Current Editorial Activities: Associate Editor, *Economics, the Open-Access, Open Assessment E-Journal and Review of Networks Economics*. Member of the editorial board of *Regards Economiques*.

SOPHIE BEREAU

▸ Assistant Professor, Université catholique de Louvain (Louvain School of Management, Louvain-la-Neuve campus), Belgium; Co-director, CORE, Université catholique de Louvain, Belgium, 2014–to date.

▸ *Applied econometrics, finance (exchange rates and asset prices dynamics, financial network modeling).*

▸ Ph.D. in Economics, Université Paris 10 Ouest Nanterre, 2010.

▸ Associate researcher, KU Leuven, 2009–2011; research scholar, CREST-INSEE, 2010–2011.

▸ Prizes & Awards: Fondation Banque de France Prize for the Best Ph.D. in Monetary, Financial and Banking Economics, 2011.

THIERRY BRECHET

▸ Professor, Université catholique de Louvain (Louvain School of Management, Louvain-la-Neuve campus), Belgium; Co-holder of the Lhoist Berghmans Chair in Environmental Economics and Management.

▸ *Environmental economics, energy economics, applied modelling.*

▸ Docteur en sciences économiques, Université Paris 1 Panthéon-Sorbonne, France, 2000.

▸ Expert for the European Commission, Belgium, 1992–1994; expert for the Bureau Fédéral du Plan, Belgium, 1994–2000; Holder of the Chair Lhoist Berghmans in Environmental Economics and Management, 2002–2011; Invited Professor, Université Lille 1, France, 2010–2011; Visiting Professor, European University of St Petersburg, Russia, 2009–2015; Associate Research Fellow, Grantham Institute for Climate Change, Imperial College London, 2011–2012; Scientific Director at the Climate Economics Chair, Paris.

PHILIPPE CHEVALIER

▸ Professor, Université catholique de Louvain (Louvain School of Management, Louvain-la-Neuve campus), Belgium; President, CORE, Université catholique de Louvain, Belgium, 2013–to date; President, IMMAQ, Université catholique de Louvain, Belgium, 2014–to date ; President, jury bachelier ingénieur de gestion, Université catholique de Louvain, Belgium.

▸ *Operations research: stochastic models, supply chain management.*

▸ Ph.D. (operations research), Massachusetts Institute of Technology, Cambridge (MA), USA, 1992.

▸ Associate Professor, Universidad de Chile, 1992–1994.

▸ Previous Editorial Activities: Member of the editorial board, *Manufacturing and Service Operations Management.*

CLAUDE D'ASPREMONT

▸ Professor Emeritus, Université catholique de Louvain, Belgium.

▸ *Mathematical economics, social choice theory, industrial organization.*

▸ Ph.D. (decision sciences), Graduate School of Business, Stanford University (CA), USA, 1973.

▸ Visiting Professor, Université d'Aix-Marseille III, France, 1984–1996; Université Louis Pasteur, Strasbourg, France, 1988–1999; Ecole Polytechnique de Paris, France, 1995; Université Saint-Louis, 1981-2001; Visiting Scholar, Graduate School of Business, Stanford (CA), USA, Summer 1987 and Spring 1995; President, Département des sciences économiques, Université catholique de Louvain, Belgium, 1991–1994; Research Director, 1995–1998 and President, 2006–2010, CORE, Université catholique de Louvain, Belgium; President, IMMAQ, Université catholique de Louvain, Belgium, 2010–2011.

▸ Prizes & Awards: Fellow of the Econometric Society, 1984; Francqui Prize, 1995; Doctor Honoris Causa, Université Louis Pasteur, Strasbourg, France, 2002; Founding Fellow of the Society for the Advancement of Economic Theory

(SAET), 2011, President-elect of the Society for Social Choice and Welfare, 2014–2015.
- ▸ **Previous Editorial Activities:** Associate Editor, *European Economic Review*, *Games and Economic Behavior*, *Journal of Economics/Zeitschrift für Nationalökonomie*, *Journal of Mathematical Economics*, and *Revue de philosophie économique.*
- ▸ **Current Editorial Activities:** Associate Editor, *Journal of Public Economic Theory*, and *Social Choice and Welfare.*

JULIO DÁVILA

- ▸ Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium; Directeur de Recherches CNRS, Paris, France; President, Ecole d'Economie de Louvain, 2014–to date.
- ▸ *ECONOMIC THEORY, GENERAL EQUILIBRIUM, THEORETICAL MACROECONOMICS, GAME THEORY.*
- ▸ Docteur en sciences économiques, Ecole des Hautes Etudes en Sciences Sociales, Paris, France, 1994.
- ▸ Chargé de Recherches, Directeur de Recherches, CNRS, Paris, France, 1998– (on leave); Assistant Professor, University of Pennsylvania (PA), USA, 1999– 2004; Profesor titular, Universidad Autnóma de Barcelona, Spain, 1994–1998; Visiting Professor, ECARES-Université libre de Bruxelles and Solvay Business School, Brussels, Belgium, 2005–2008; Visiting Professor, Universidad Carlos III de Madrid, Spain, 2006, Co-director, CORE, Université catholique de Louvain, Belgium, 2012–2014; .
- ▸ **Current Editorial Activities:** Associate Editor, *Economics Bulletin.*

PIERRE DEHEZ

- ▸ Professor Emeritus, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium.
- ▸ *GAME THEORY, GENERAL EQUILIBRIUM, MICROECONOMICS.*
- ▸ Docteur en sciences économiques, Université catholique de Louvain (European Doctoral Program in Quantitave Economics), 1980.
- ▸ Previous positions: Professor at the European University Institute, Florence, Italy, 1983–1990 and Erasmus Universiteit Rotterdam, The Netherlands, 1991–1992; Visiting Professor at the University of Illinois, USA, University of Namur, Belgium, University of Mannheim, Germany, University of Cergy-Pontoise, France, University of Strasbourg, France, University of Nancy, France, and University of Pisa, Italy. Previous offices: Chairperson, Department of Economics: European University Institute, Firenze, Italy, 1985–1987 and 1989; President, Department of Economics, Université catholique de Louvain, Belgium, 1994–2000. Prorector in charge of the sector of human and social sciences, Université catholique de Louvain, Belgium, 2001–2004.

DAVID DE LA CROIX

- ▸ Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium.
- ▸ *GROWTH THEORY, HUMAN CAPITAL AND DEMOGRAPHY, OVERLAPPING GENERATIONS.*
- ▸ Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1992.
- ▸ Research fellow, Universiteit Maastricht, The Netherlands, 1992; Visiting Professor, University of California, Los Angeles (CA), USA, 2000–2001.
- ▸ **Prizes & Awards:** Francqui Chair, Ghent Universiteit, Belgium, 2004; chercheur qualifié honoraire, Fonds National de la Recherche Scientifique (FNRS), Belgium; United Nations: Panel on New Challenges in Population and Development (IUSSP), 2010–2013; Francqui Research Professor, 2014–2017.
- ▸ **Previous Editorial Activities:** Associate Editor, *Journal of Economic Dynamics and Control* and *Recherches Economiques de Louvain*.
- ▸ **Current Editorial Activities:** Editor-in-Chief, *Journal of Demographic Economics*; Associate Editor, *Journal of Development Economics*, *Journal of Public Economic Theory*; editorial Board Member, *Ciometrica*, *Fiscal Studies.*

JACQUES DREZE

- ▸ Professor Emeritus, Université catholique de Louvain, Belgium.
- ▸ *ECONOMIC THEORY AND MACROECONOMICS.*
- ▸ Ph.D. (economics), Columbia University, New York (NY), USA, 1958.
- ▸ Visiting Professor, Carnegie Institute of Technology, Pittsburgh (PA), USA, 1957–1958; Northwestern University, Evanston (IL), USA, 1962; University of Chicago (IL), USA, 1963–1968.
- ▸ **Prizes & Awards:** Fellow, 1964 and President, 1970 of the Econometric Society; Francqui Chair, Université libre de Bruxelles, Belgium, 1970– 1971 and KU Leuven, Belgium, 1982–1983; Andrew D. White Professor-at-Large, Cornell University, Ithaca (NY), USA, 1971–1977; President of the European Economic Association, 1985–1986; President of the International Economic Association, 1996–1999. Doctor *Honoris Causa,* 19 universities including the Hebrew University of Jerusalem, 31 May 2015.

▸ **Previous Editorial Activities:** Co-editor, *Econometrica*.

JEAN J. GABSZEWICZ

▸ Professor Emeritus, Université catholique de Louvain, Belgium.

▸ *ECONOMIC THEORY.*

▸ Docteur en droit, Université catholique de Louvain, Belgium, 1961; dDocteur en sciences économiques, Université catholique de Louvain, Belgium, 1968.

▸ Visiting Professor, Polish Academy of Sciences, Warsaw, Poland, 1973; University of Tel-Aviv; Israël, 1973; Université de Paris-Dauphine, France, 1973; Université d'Aix-Marseille, France, 1973; Université de Paris Est Créteil Val de Marne, France, 1979; Université d'Aix-en-Provence, France, 1981; Université de Lyon, France, 1981; Université de Strasbourg, France, 1982; Université de Dijon, France, 1983; European University Institute, Firenze, Italy, 1984; Université Paris 1 Panthéon-Sorbonne, France, 1999–2000; Université de Paris 2 Panthéon-Assas, France, 1999–2001.

▸ **Prizes & Awards:** Fellow of the Econometric Society, 1979; administrator of CEPREMAP, Paris, France; member of the Council of the European Economic Association, 1986–1989; Doctor Honoris Causa, Université d'Aix-Marseille II, France, 2003; Fellow of the European Economic Association, 2004.

▸ **Previous Editorial Activities:** Journal of Economics, *Ricerche Economiche*, *Journal of Economic Theory*, and *European Economic Review*.

VICTOR GINSBURGH

▸ Professor Emeritus, Université libre de Bruxelles, Belgium.

▸ *ECONOMIC THEORY, CULTURAL ECONOMICS, ECONOMICS OF LANGUAGES.*

▸ Docteur en sciences économiques, Université libre de Bruxelles, Belgium, 1972.

▸ Researcher, Cowles Foundation, Yale University, New Haven (CT), USA, 1975; Visiting Professor, Université catholique de Louvain, Belgium, 1973, 1978 and 1985; University of Virginia, Charlottesville (VI), USA, 1979; Université Paris 1 Panthéon-Sorbonne, France, 1986–1987 and 1991–1992; Université Paris 2 Panthéon-Assas, France, 1986–2004; Université d'Aix-Marseille II, France, 1986–1989; University of Chicago (IL), USA, 1996; Co-director, European Center for Advanced Research in Economics and Statistics (ECARES), Université libre de Bruxelles, Belgium, 2002–2009.

▸ **Prizes & Awards:** Francqui Chair, Université de Liège, Belgium, 1992–1993; President of the International Association of Cultural Economics, 2002–2004.

▸ **Previous Editorial Activities:** *Annales d'Economie et de Statistique*, *European Economic Review*, and *Journal of Cultural Economics*.

▸ **Current Editorial Activities:** Co-editor, *Journal of Wine Economics*; Associate Editor, *Recherches Economiques de Louvain-Louvain Economic Review*.

FRANCOIS GLINEUR

▸ Professor, Université catholique de Louvain (Ecole Polytechnique de Louvain, Pôle en ingénierie mathématique), Belgium. Member of the Institute of Technologies, Electronics and Applied Mathematics (ICTEAM), Mathematical engineering division (INMA).

▸ *OPTIMIZATION ALGORITHMS, MODELING AND APPLICATIONS. NONNEGATIVE MATRIX FACTORIZATION.*

▸ Ph.D. in applied sciences, Faculté polytechnique de Mons (Université de Mons), Belgium, 2001.

▸ FNRS Postdoctoral Researcher 2001–2002 (Faculté Polytechnique de Mons, Belgium and McMaster University, Canada).

CHRISTIAN HAFNER

▸ Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium; Member of the Institut de Statistique, Biostatistique et Sciences Actuarielles (ISBA).

▸ *ECONOMETRICS.*

▸ Ph.D. in Economics, Humbold-Universität zu Berlin, Germany, 1996.

▸ Postdoctoral Fellow, CORE, Université catholique de Louvain, Belgium, 1996–1997; Research Associate, Humboldt Universität zu Berlin, Germany, 1997–1999; Chief Analyst, Electrabel, Louvain-la-Neuve, Belgium, 1999–2002; Assistant Professor, Erasmus Universiteit Rotterdam, The Netherlands, 2002–2005; President, Louvain School of Statistics, Biostatistics and Actuarial Science, UCL, Belgium, 2010– 2015.

▸ **Previous Editorial Activities:** Associate Editor, *Banking and Finance Review*.

▸ **Current Editorial Activities:** Associate Editor, *Annals of Financial Economics*, *Computational Statistics*, *Econometrics*, *International Econometric Review*, *Journal of Risk and Financial Management* and *Studies in Nonlinear Dynamics and Econometrics*.

JEAN HINDRIKS

▸ Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium; Senior Fellow, Itinera Institute, Brussels, Belgium, member of the Belgian pension reform committee and member of the Belgian price scientific committee.

▸ *Public economics, political economy and education economics.*

▸ Docteur en sciences économiques, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, 1996.

▸ Visiting Fellow, University of Essex, United Kingdom, 1997–1998; Lecturer in economics, University of Exeter, United Kingdom, 1998–2000; Queen Mary College, University of London, United Kingdom, 2000–2002.

▸ Previous Editorial Activities: Associate Editor, *European Journal of Political Economy and Fiscal Studies.*

▸ Current Editorial Activities: Associate Editor, *Journal of Public Economic Theory.*

ETIENNE LOUTE

▸ Professor Emeritus, Université Saint-Louis, Brussels, Belgium.

▸ *Mathematical programming: algorithmic and implementation issues, management and engineering applications of mathematical programming.*

▸ Docteur en sciences appliquées, Université catholique de Louvain, Belgium, 1976.

▸ Visiting Professor, Brookhaven National Laboratory, Upton (NY), USA, 1977; IIASA, Laxenburg, Austria, 1979; HEC Montréal, Canada, 1981; Université de Genève, Switzerland, 1992; Université de Savoie, France, 1992–2004; National University of Vietnam, Ho Chi Minh City, Vietnam, 1998–2002.

▸ Prizes & Awards: dean, Faculté des sciences économiques et politiques, Université Saint-Louis, Brussels, Belgium, 1993–1996; President of SOGESCI (2004–2006), director of the Doctoral School of Management, UCL, Brussels campus, Belgium, 2007–2011, member of INFORMS, SIAM, SOGESCI, and Mathematical Programming Society.

FRANCOIS MANIQUET

▸ Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium; Part-time Professor, University of Warwick, United Kingdom; Research Director, CORE, Université catholique de Louvain, Belgium, 2011–2014.

▸ *Microeconomic theory, welfare economics, public economics, political economics, economics of poverty.*

▸ Docteur en sciences économiques, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, 1994.

▸ Prizes & Awards: SCW Prize, 2004, best paper in Review of Economic Design, 2004; Chercheur qualifié honoraire, Fonds National de la Recherche Scientifique (FNRS), Belgium; Francqui Chair 2009–2010, Université Saint-Louis, Bruxelles, Belgium; Francqui Prize, 2010; ERC grant laureate 2010.

▸ Previous Editorial Activities: Editor, *Economics and Philosophy*; Associate Editor, *Annals of Economics and Statistics*, *Mathematical Social Sciences and Social Choice and Welfare.*

ANA MAULEON

▸ Maître de recherches, Fonds National de la Recherche Scientifique (FNRS), Belgium, and Associate Professor at Université Saint-Louis (Faculté des sciences économiques, sociales et politiques), Brussels, Belgium; Co-director of the Center for Research in Economics (CEREC), 2008–to date, Université Saint-Louis, Brussels, Belgium.

▸ *Game theory, industrial organization, matching theory, group formation, network theory.*

▸ Ph.D. in Economics, Universidad del País Vasco, Bilbao, Spain, 1997.

▸ Lecturer, Department of Economic Analysis, Universidad del País Vasco, Bilbao, Spain, 1989–1997; Assistant Professor, Department of Economic Analysis, Universidad del País Vasco, Bilbao, Spain, 1997–1999; Associate Professor, Department of Economic Analysis, Universidad del País Vasco, Bilbao, Spain, 1999–2006; LABORES (URA 362, CNRS), Université catholique de Lille, France, 2001–2004.

FLORIAN MAYNERIS

▸ Assistant Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium.

▸ *International trade, economic geography, urban economics.*

▸ Docteur en sciences économiques, EHESS-Paris School of Economics, France, 2009.

▸ Postdoctoral Researcher, CORE, Université catholique de Louvain, Belgium, 2009–2011.

▸ Prizes & Awards: Young economist award at the European Economic Association Congress, 2010; Louis Forest Prize for the best Ph.D. dissertation from the Chancellerie des Universités de Paris, 2010.

▸ Current Editorial Activities: Associate Editor, *Journal of Regional Science.*

MICHEL MOUCHART

▸ Professor Emeritus, Université catholique de Louvain, Belgium.

▸ *Statistics, econometrics.*

▸ Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1973.

▸ International Professor CIENES, Santiago, Chili, 1966–1967; Visiting Professor, University of Chili, Chili, 1967–1968; University College, London, United Kingdom, 1976; Université de Strasbourg, France, 1981; Indian Statistical Institute, New Delhi, India, 1982; Université d'Aix-Marseille II, France, 1982; Università di Bologna, Italy, 1984; Carnegie-Mellon University, Pittsburgh (PA), 1985; Université des Sciences Sociales de Toulouse, France 1991–1993; Université de Paris 1 Panthéon-Sorbonne, France, 1993–1994.

▸ Prizes & Awards: Elected member of the International Statistical Institute, Elected fellow of the International Society for Bayesian Analysis, Bernoulli Society, Société Belge de Statistique.

▸ Current Editorial Activities: Associate Editor, *Statistica, International Econometric Review*.

YURII NESTEROV

▸ Professor, Université catholique de Louvain (Ecole Polytechnique de Louvain, Pôle en ingénierie mathématique), Belgium. Member of the Institute of Technologies, Electronics and Applied Mathematics (ICTEAM), Mathematical engineering division (INMA).

▸ *Convex and nonlinear optimization, complexity analysis of optimization schemes, polynomial-time algorithms, fast gradient methods, approximation of combinatorial problems, equilibrium in congested transportation networks.*

▸ Ph.D. in applied mathematics, Institute of Control Sciences, Moscow, Russia, 1984.

▸ Research Associate, Central Economic and Mathematical Institute of the Russian Academy of Sciences, Moscow, Russia, 1987–1992; Visiting Professor, Université de Genève, Switzerland, 1992–1993; Invited Professor, CORE, Université catholique de Louvain, Belgium, 1993–2000.

▸ Prizes & Awards: Dantzig Prize, 2000; John Von Neumann Theory Prize, 2009; Best Paper Award, Optimization Methods and Software, 2010; EUROPT fellow, 2010; Francqui Chair 2012, Université de Liège, Belgium; Honorable Simon Stevin Lecture on Optimization in Engineering, KU Leuven, Belgium, 2013; SIAM Outstanding paper award, 2014.

▸ Previous Editorial Activities: Associate Editor, *Mathematical Programming.*

▸ Current Editorial Activities: Associate Editor, *Foundation of Computational Mathematics*, *Journal of Optimization Theory and Applications*, *Optimization and Engineering*, and *Optimization Methods and Software*.

ANTHONY PAPAVASILIOU

▸ Assistant Professor, Université catholique de Louvain (Ecole Polytechnique de Louvain, Pôle en ingénierie mathématique), Belgium and holder of the Engie faculty Chair in Quantitative and Energy Economics.

▸ *Optimization under uncertainty, energy markets, electric power systems planning and operations.*

▸ Ph.D. in Industrial Engineering and Operations Research, University of California at Berkeley, USA, 2011.

▸ Postdoctoral Researcher: University of California at Berkeley, USA, 2011– 2012; Research intern: Pacific Gas and Electric, SunRun, Quantil, 2011–to date, Federal Energy Regulatory Commission, Washington DC, USA, 2009; XEROX Palo Alto Research Center, CA, USA, 2008; Energy Environment and Economic Modeling Laboratory, National Technical University of Athens Greece, 2007.

▸ Current Editorial Activities: Guest editor in a special issue of *IEEE Transactions on Smart Grids on Active Distribution Networks*. Guest editor, *IEEE Transactions on Smart Grid*, Special Issue on Active Distribution Networks.

MATHIEU PARENTI

▸ Assistant Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium; CEPR research affiliate.

▸ *International trade, industrial organization.*

▸ Ph.D. in International Trade and Industrial Organization, Université Paris 1 Panthéon-Sorbonne, 2012.

▸ Prizes & Awards: Aguirre-Basualdo Prize for the best Ph.D. thesis in Economics and Management from the Chancellerie des Universités de Paris, 2013.

DOMINIQUE PEETERS

- ► Professor, Université catholique de Louvain (Faculté des Sciences, Ecole de géographie), Belgium.
- ► *LOCATION THEORY, ECONOMIC GEOGRAPHY, REGIONAL SCIENCE, MATHEMATICAL PROGRAMMING, OPERATIONS RESEARCH.*
- ► Docteur en sciences appliquées, Université catholique de Louvain, Belgium, 1980; agrégé de l'enseignement supérieur, Université catholique de Louvain, Belgium, 1995.
- ► Postdoctoral Fellow, McMaster University, Hamilton, Ontario, Canada, 1986; Université de Bourgogne, France, 1991; University of Tsukuba, Japan, 1996– 1997; Université Louis Pasteur, Strasbourg, France, 2006.

PIERRE PESTIEAU

- ► Professor Emeritus, Université de Liège, Belgium; Associate member, Paris School of Economics, France; CEPR, CESIfo, IZA research fellow.
- ► *POPULATION ECONOMICS, PUBLIC ECONOMICS.*
- ► Ph.D. (economics), Yale University, New Haven (CT), USA, 1971.
- ► Assistant Professor, Cornell University, Ithaca (NY), USA, 1971–1976; Professor, Université de Liège, Belgium, 1976– 2008.
- ► Prizes & Awards: Francqui Prize, 1989; AGF ASSUBEL Prize, 1995; Einaudi Chair in European Studies, Cornell University, Ithaca (NY), 1997; Prix Risque-Les Echos, 2006; Honorary Degree Uppsala University, 2011.
- ► Previous Editorial Activities: Co-editor, *Journal of Population Economics*.
- ► Current Editorial Activities: Co-editor, *Journal of Public Economics* and *Revue Française d'Economie*; Associate Editor, *CESifo Economic Studies*, *Economica*, *Finanz-Archiv* and *Journal of Public Economic Theory*.

PIERRE PICARD

- ► Professor, Université du Luxembourg, Luxembourg.
- ► *MICROECONOMICS, REGIONAL AND URBAN ECONOMICS, INTERNATIONAL ECONOMICS, PUBLIC ECONOMICS.*
- ► Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1998.
- ► Research Fellow, Facultés universitaires Notre-Dame de la Paix, Namur, Belgium, 1998–1999; Lecturer and Senior Lecturer in Economics, School of Economic Studies, University of Manchester, United Kingdom, 1999–2008.
- ► Previous Editorial Activities: Co-editor, *Manchester School*.

MAURICE QUEYRANNE

- ► Advisory Council Professor in Operations and Logistics, Sauder School of Business at The University of British Columbia, Vancouver, Canada; Research Director, CORE, Université catholique de Louvain, Belgium, 2014-2016.
- ► *OPERATIONS RESEARCH, MANAGEMENT SCIENCE, OPERATIONS MANAGEMENT, OPTIMIZATION, APPLIED MATHEMATICS.*
- ► Doctorat en recherche opérationnelle, Université Scientifique et Médicale de Grenoble, France, 1977.
- ► Associate Professor, Sauder School of Business at UBC, 1983-1993; Associate Professor (1982-1983), Assistant Professor (1980-1982), University of Houston; Assistant Professor, Ecole Polytechnique de Montréal, 1976-1979. Directeur de Recherche, CMM Universidad de Chile, Santiago (2008-2009), Laboratoire Leibnitz, Grenoble (2002-2004), CNRS, France. Visiting professor: Institute for Mathematics and its Applications, University of Minnesota, USA, 2002; Operations Research Center, MIT, USA, 2000; Universitá di Bologna Sede di Rimini, Italy, 1997-1998; De La Salle University, and Asian Institute of Management, Manila, Philippines, 1993; Université Claude Bernard, Villeurbanne, France, 1992; Universitá di Pisa, Italy, 1992. Visiting scientist, LAAS-CNRS, Toulouse, France, 1987-1988.
- ► Prizes & Awards: Pinhas Naor Lecturer, William Davidson Faculty of Industrial Engineering and Management, Technion, Haifa, Israel, 2009; Senior Research Excellence Award, Sauder School of Business at UBC, 2006; Award of Merit, Canadian Operational Research Society, 1998; Outstanding Faculty Researcher, College of Business Administration, University of Houston, 1981.
- ► Past Editorial Activities: Advisory Editor, *RAIRO - Operations Research*; Area Editor, *Applied Stochastic Models and Data Analysis*; Principal Editor (North America), *Annals of Operations Research series on Mathematical of Industrial Systems*; Co-editor, *Discrete Applied Mathematics Special Volume on Graphs and Optimization*; Guest Editor, *Annals of Operations Research*; Associate Editor, *Operations Research*.
- ► Current Editorial Activities: Member of the Editorial Board, *EURO Journal on Computational Optimization*.

ERIK SCHOKKAERT

- ► Professor, KU Leuven, Belgium.
- ► *PUBLIC ECONOMICS, HEALTH ECONOMICS, SOCIAL CHOICE.*
- ► Docteur en sciences économiques, KU Leuven, Belgium, 1982.
- ► Visiting Professor, Universiteit Antwerpen, Belgium, 1985–1986, Université catholique de Louvain, Belgium, 1988–1989, London School of Economics, United Kingdom, 2006–2007, 2012–2013; Research Director, CORE, Université catholique de Louvain, Belgium, 2009–2011.

- ▸ Prizes & Awards: Francqui chair 2005–2006, Universiteit Antwerpen, Belgium.
- ▸ Current Editorial Activities: Editor, *Economics & Philosophy*, and Member of the Editorial Board, *Social Choice and Welfare*, *Health Policy*.

LEOPOLD SIMAR

- ▸ Professor Emeritus, Université catholique de Louvain, Belgium.
- ▸ *MATHEMATICAL STATISTICS, NONPARAMETRIC STATISTICS AND ECONOMETRICS, RESAMPLING METHODS, PRODUCTION AND EFFICIENCY ANALYSIS.*
- ▸ Docteur en sciences appliquées (mathématiques appliquées), Université catholique de Louvain, Belgium, 1974.
- ▸ Visiting Professor, Cornell University, Ithaca (NY), USA, 1974; IDEI, Université des Sciences Sociales, Toulouse, France, 1991–2013; Humboldt Universität, Berlin, Germany, 1993–2003; Texas University, Austin (TX), USA, 1995–2005; Rice University, Houston (TX), USA, 1996, 1998, 2009; ENSAI, Rennes, France, 1999–2001; Australian National University, Canberra, Australia, 1999; Johannes Gutenberg Universität Mainz, Germany, 2002–2004; University of Pisa, Italy, 2003– 2006; University of Bologna, Italy, 2010–2011; ENSAE, Paris, France, 2001–2009; Institut Français du Pétrole, Rueil, France, 1991–2013; Clemson University (SC), USA, 2007–2012; Professore di Chiara Fama, 2006 and 2007; Italian Ministry of Research, Scuola Superiore San'Anna, Pisa, Italy; Chaire d'Excellence Pierre de Fermat, 2008–2009, Region Midi-Pyrénées, Toulouse School of Economics, France; Universität Karlsruhe (TH), Germany, 2008– 2009; Universität Bonn, Germany, 2011; University of Salento, Lecce, Italy, 2010–2016; University of Queensland, Brisbane, Australia, 2011-2016; Università degli Studi di Roma "La Sapienza", Italy, 2011–2016; Toulouse School of Economics, France, 2010–2016.
- ▸ Prizes & Awards: Professore di Chiara Fama, 2006 and 2007, Italian Ministry of Research Scuola Superiore San'Anna, Pisa, Italy; Chaire d'Excellence Pierre de Fermat, 2008–2009, Region Midi-Pyrénées, Toulouse School of Economics, France; 2013–2014 Messageri della Connoscenza, Italian Ministry of Research, University of Salento, Lecce, Italy; Elected Member of the International Statistical Institute; Dean, Facultés des sciences économiques, sociales et politiques, Université Saint-Louis, Bruxelles, Belgium, 1978–1990; Founder-Chairman, Institut de statistique, Université catholique de Louvain, Belgium, 1992–2004; President of the Belgian Statistical Society, 1999–2002; Honorary Member of the Belgian Statistical Society.
- ▸ Current Editorial Activities: Associate Editor, *Journal of Productivity Analysis*, *Operations Research* and *Computational Statistics & Data Analysis.*

YVES SMEERS

- ▸ Professor Emeritus, Université catholique de Louvain, Belgium.
- ▸ *COMPUTATIONAL ECONOMICS AND RISK MANAGEMENT IN THE ELECTRICITY AND GAS INDUSTRIES.*
- ▸ Ingénieur Physicien, Université de Liège, 1967, Master of Science (industrial administration), 1971, Ph.D. (operations research), Carnegie-Mellon University, Pittsburgh (PA), USA, 1972, Licencié en Sciences Economiques, Université catholique de Louvain, Belgium, 1973.
- ▸ Prizes & Awards: INFORMS Fellow, 2012.
- ▸ Previous Editorial Activities: European editor, *Energy Journal.*

JACQUES-FRANCOIS THISSE

- ▸ Professor Emeritus, Université catholique de Louvain, Belgium.
- ▸ *ECONOMIC THEORY, INDUSTRIAL ORGANIZATION, ECONOMIC GEOGRAPHY.*
- ▸ Docteur en sciences économiques, Université de Liège, Belgium, 1975.
- ▸ Visiting Professor, McMaster University, Hamilton, Ontario, Canada, 1981; University of Pennsylvania, Philadelphia (PA), USA, 1985; INSEAD, Fontainebleau, France, 1987; Virginia Polytechnic Institute, Blacksburgh (VA), USA, 1990; Université Paris 1 Panthéon-Sorbonne, France, 1991–1996; Institut National de Recherche Agronomique, Dijon, France, 2003; Kyoto University, Japan, 2006.
- ▸ Prizes & Awards: Fellow of the Econometric Society, 1992; Fellow of the Regional Science Association International, 2003; Fellow of the European Economic Association, 2004; William Alonso Memorial Prize, 2004; Prix scientifique quinquennal Ernest-John Solvay (FNRS), 2005; European Prize in Regional Science, 2007; Doctor Honoris Causa, Université de Montréal, Canada, 2005, Université Paris 2 Panthéon-Assas, France, 2010, Ecole Normale Supérieure de Cachan, France, 2010 and Université Jean Monet, Saint-Etienne, France, 2011.
- ▸ Previous Editorial Activities: Associate Editor, *Geographical Analysis*, *International Journal of Industrial Organization*, *Journal of the European Economic Association*, *Journal of Industrial Economics* and *Journal of Regional Science.*
- ▸ Current Editorial Activities: Associate Editor, *International Journal of Economic Theory*, *Japanese Economic Review*, *Journal of Economic Geography*, *Journal of Economics and Management Strategy* and *Regional Science and Urban Economics.*

ISABELLE THOMAS

- ▸ Directeur de recherches, Fonds de la Recherche Scientifique (F.R.S.-FNRS), Belgium, and Professor, Université catholique de Louvain (Faculté des sciences, Ecole de géographie), Belgium; Board Member of ASRDLF, Belgian national Committee of Geography, FRS-FNRS, High Council of Statistics.
- ▸ *ECONOMIC GEOGRAPHY, TRANSPORT GEOGRAPHY, OPTIMAL LOCATIONS, CARTOGRAPHY, QUANTITATIVE ANALYSIS IN GEOGRAPHY.*
- ▸ Docteur en sciences (géographiques), Université catholique de Louvain, Belgium, 1984; agrégée de l'enseignement supérieur, Université catholique de Louvain, Belgium, 2000.
- ▸ Prizes & Awards: Prix Aydalot in Regional Science, 1989; BMW Scientific Award, 2001; Prix de la Compagnie du Bois Sauvage 2011–2012; Francqui Chair in Antwerpen, Measuring and Modelling in Economic and Transport Geography: Challenges and Opporunities, 2015.
- ▸ Current Editorial Activities: editorial Board Member, *Belgéo*, *Computer Environment and Urban Systems*, *Cybergéo*, *L'Espace Géographique*, *International Regional Science Review*, and *Revue d'Economie Régionale et Urbaine*.

HENRY TULKENS

- ▸ Professor Emeritus, Université catholique de Louvain, Belgium.
- ▸ *ECONOMIC THEORY, PUBLIC FINANCE.*
- ▸ Dr. jur., KU Leuven, Belgium, 1960; Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1968.
- ▸ Visiting positions (teaching and/or research) held at: University of Chicago 1963–1964; University of California; Berkeley (CA), USA, 1964–1965; Université d'Aix-Marseille II, France, 1971; Université libre de Bruxelles, Belgium, 1971–1972 and 1973–1974; Princeton Uiversity (PA), USA, 1973 and 1983; Stanford University (CA), USA, 1973 and 1979; Hebrew University of Jerusalem, Israël, 1976 and 1981; Université Laval, Canada, 1977; Université Paris 12 (Val de Marne), France, 1978; Université de Montréal, Canada, 1985; Beijer Institute of Ecological Economics, Stockholm, Sweden, 1992 and 1993; Fondazione ENI Enrico Mattei, Milan, Italy, 1993; Ecole Nationale de la Statistique et de l'Administration Economique, Paris, France, 1995; International Monetary Fund, Washington (DC), USA, 1997 and 2004; Université de Paris 1 Panthéon-Sorbonne, France, 2003; University of the South Pacific, Suva, Fiji, 2004; National University of Singapore, Singapore, 2002, 2007 and 2008; Università Ca' Foscari Venezia, Italy, 2011 and 2013; Dean, Faculté des sciences économiques, sociales et politiques, Université Saint-Louis, Bruxelles, Belgium, 1970–1974; Chairman, département des sciences économiques, Université catholique de Louvain, Belgium, 1978–1981; Vice-president, International Institute of Public Finance, 1994–2000; General Secretary of the European Economic Association, 1998–2004.

SEBASTIEN VAN BELLEGEM

- ▸ Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium, Dean, Faculté des sciences économiques, sociales, politiques et de communication, Université catholique de Louvain, Belgium, 2014–to date.
- ▸ *ECONOMETRIC THEORY, MATHEMATICAL STATISTICS.*
- ▸ Docteur en sciences statistiques, Université catholique de Louvain, Belgium, 2003.
- ▸ Chargé de cours, Institut de statistique, Université catholique de Louvain, Belgium, 2004–2008; Professeur des universités, Toulouse School of Economics, Université de Toulouse 1, 2008–2012; Invited Professor, Université catholique de Louvain, Belgium, 2010–2011; Pontificia Universidad de Chile, 2011.
- ▸ Prizes & Awards: Prix Marie-Jeanne Laurent-Duhamel, 2005.
- ▸ Current Editorial Activities: Associate Editor, *Journal de la Société Française de Statistique*, *International Econometrics Review*.

VINCENT VANNETELBOSCH

- ▸ Maître de Recherches, Fonds National de la Recherche Scientifique (FNRS), Belgium and Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium.
- ▸ *GAME THEORY AND INDUSTRIAL ORGANIZATION.*
- ▸ Docteur en sciences économiques, Université catholique de Louvain, Belgium (European Doctoral Program in Quantitative Economics), 1996.
- ▸ Extramural Fellow of METEOR, Universiteit Maastricht, The Netherlands, 2003–to date; Associate Fellow of CEREC, Université Saint-Louis, Brussels, Belgium, 2005–to date; Director of the European Doctoral Program in Quantitative Economics, 2004–to date.

MATHIEU VAN VYVE

- ▸ Professor, Université catholique de Louvain (Louvain School of Management, Louvain-la-Neuve campus), Belgium.
- ▸ *Discrete optimization, computational economics, operations research.*
- ▸ Docteur en sciences appliquées, Université catholique de Louvain, Belgium, 2003; Master in Philosophy, Université catholique de Louvain, Belgium, 1999.
- ▸ Assistant Professor, Université libre de Bruxelles, Belgium, 2004–2005; Senior Analyst, GdF-Suez s.a., 2005–2007; Senior Consultant, N-Side s.a., 2007–2009.

XAVIER WAUTHY

- ▸ Professor, Université Saint-Louis, Bruxelles, Belgium; Visiting Professor, Université catholique de Louvain, Belgium.
- ▸ *Industrial organization, microeconomic theory.*
- ▸ Docteur en sciences économiques, Université catholique de Louvain, Belgium, 1995.
- ▸ Research Fellow, Universiteit Maastricht, The Netherlands, 1996; Chargé de recherches, Fonds National de la Recherche Scientifique (FNRS), Belgium, 1997–1998.
- ▸ Current Editorial Activities: editorial Board Member, *Recherches Economiques de Louvain-Louvain Economic Review*.

LAURENCE WOLSEY

- ▸ Professor Emeritus, Université catholique de Louvain, Belgium.
- ▸ *Discrete optimization, operations research, applied mathematics.*
- ▸ Ph.D. (mathematics), Massachusetts Institute of Technology, Cambridge (MA), USA, 1969.
- ▸ Visiting researcher, Manchester Business School, United Kingdom, 1969–1971; London School of Economics, United Kingdom, 1978–1979; Cornell University, Ithaca (NY), USA, 1983; Visiting Professor, Ecole Polytechnique de Lausanne; Switzerland, 1986–1987; Dondors Professor, Department of Computer Science, University of Utrecht, The Netherlands, 1998.
- ▸ Prizes & Awards: Orchard-Hays Prize (with T.J. Van Roy) awarded by the Mathematical Programming Society, 1988; Lanchester Prize (with G.L. Nemhauser) awarded by the Operations Research Society of America, 1989; Euro Gold Medal awarded by the European Association of Operations Research Societies, 1994; Dantzig Prize of the Mathematical Optimization Society, 2012; John von Neumann Theory Prize (INFORMS) (with G.L. Nemhauser), 2012; Glover-Klingman Prize (with A. Agra, H. Anderson and M. Christiansen) for the best paper of the year published in Networks, 2013.
- ▸ Previous Editorial Activities: Editor-in-Chief, *Mathematical Programming, Series A*, 1999–2003; Associate Editor, *Operations Research Letters*, 1985–1989; *Operations Research*, 1987–1995.

CORE Faculty (not Members of the Board)

CONSTANTIN BLOME

- ▸ Professor, Université catholique de Louvain (Louvain School of Management, Louvain-la-Neuve campus), Belgium and the University of Sussex, United Kingdom.
- ▸ *Procurement, sourcing, supply chain management, sustainability*
- ▸ Ph.D. in Management, Technische Universität Berlin, Germany, 2006.
- ▸ Assistant Professor at European Business School, Wiesbaden, Germany, 2011, GlaxoSmithKline Chaired Professor in Strategic Sourcing and Procurement at Université catholique de Louvain, 2011-2014.
- ▸ Prizes & Awards: Best reviewer award of *Journal of Supply Chain Management,* 2011; best paper award at the 21st Annual North American Research Symposium on Purchasing and Supply Chain Management of ISM, 2011; University of Sandiego Harold E. Fearon Best Paper Award for the best article in *Journal of Supply Chain Management,* 2010; Senior Research Fellow, South China University of Technology, Guangzhou, China, 2010.

ZHENGYUAN GAO

- ▸ Assistant Professor, Université catholique de Louvain (Faculté des sciences économiques, sociales, politiques et de communication, Ecole des sciences économiques), Belgium.
- ▸ Ph.D. in Econometrics, Universiteit Amsterdam, The Netherlands, 2012.
- ▸ Rubicon Scholar visiting Cowles Foundation, Cowles foundation (Yale), USA, 2010–2011 ; visiting Assistant Professor at University of Iowa, USA, 2012–2014 ; Associate Professor at Southwestern University of Finance and Economics, China, 2012–2014.

ADMINISTRATIVE STAFF

MARISTELLA ANGOTZI

- ▶ ERSA Congress Manager.

EMILIE BRICHART

- ▶ Administrative Assistant.
- ▶ In charge of the Economics Group and the Annual Report from April to September 2015.

AXELLE DEPIREUX

- ▶ Administrative Assistant and Communications Officer.
- ▶ In charge of the Operations Research and the Geography groups, as well as of the communication, the GSK chair and doctoral programs.

CATHERINE GERMAIN

- ▶ Administrative Assistant.
- ▶ In charge of the Econometrics Group, as well as of the logisctics (general information, lounge, mailboxes, visitors, etc.) and the Lhoist chair.

ALAIN GILLIS

- ▶ Librarian.

FABIENNE HENRY

- ▶ Administrative Assistant.
- ▶ In charge of the Economics Group, as well as of the GDF-SUEZ chair, the Annual Report, reprints and website.

RICHARD KELLY

- ▶ ERSA Executive Director.

SYLVIE MAUROY

- ▶ Administrative Assistant.
- ▶ In charge of the Discussion Papers series, the newsletter and the seminars until November 2014.

ANNE-MARIE PESSLEUX

- ▶ Accountant

FRANCISCO SANTANA FERRA

- ▶ Executive Director.

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SUPPORT

- ► FSR PROJECTS
- ► FNRS PROJECTS
- ► ARC SUPPORTED BY THE FÉDÉRATION WALLONIE-BRUXELLES
- ► IAP RESEARCH PROJECTS SUPPORTED BY THE BELGIAN SCIENCE POLICY
- ► BRAIN RESEARCH PROJECTS SUPPORTED BY THE BELGIAN SCIENCE POLICY
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SUPPORT

FSR PROJECTS

A Spatial Econometrics Approach to Financial Complexity

The research project aims to develop econometric models that are relevant to exploring financial complex phenomena in general and properly account for the implications of individual interconnections in the understanding of risk dynamics in financial markets in particular. While a vast literature has intended to shed light on contagion and spillovers in a financial market, the recent financial crisis has revealed that globalization and the resulting intensification of the interconnectedness of financial markets contributed to a drastic increase in risk. This evolution calls for a rethinking of both the models and the empirical methods used for the assessment of risk dynamics. To this end, we propose first to develop a synthetic and consistent framework to proper model individual interdependencies and their impact on aggregated dynamics by combining elements from two different literatures. On the one hand, graph theory and network statistics help to assess and model how interdependencies are structured and characterized among a set of individuals. On the other hand, spatial econometrics provides solutions to identify and estimate regression models assuming some functional form for individual interdependences. Combining the two approaches should thus provide an innovative way to model financial interdependencies as well as contagion phenomena. One key contribution will be to assess in what respect relaxing the assumption of exogenous fixed predetermined distance matrix in standard spatial specifications impacts the identification of the parameters of the model as well as the statistical properties of the estimators. Second, based on those theoretical explorations, we will propose relevant estimation methods of the model and compare their performances. Finally, a further step will be to extend our previous model to a nonlinear one, which calls again for both proper specification band estimation methods.

Cyrille Dossougoin (CORE, UCL) works under the scope of this FSR project supervised by Sophie Béreau (CORE and ILSM, UCL).

Application of High Performance Computing in the Short-term Scheduling of Electric Power Systems under Uncertainty

The purpose of this project is to develop parallel algorithms for the short-term scheduling of electric power systems under uncertainty caused by the large-scale integration of renewable energy sources and demand response. This project responds to an increasing need for the improvement of day-ahead and real-time power systems scheduling and market clearing by leveraging parallel computation.

Ignacio Aravena (CORE, UCL) works under the scope of this FSR project supervised by Anthony Papavasiliou (CORE, UCL).

FNRS PROJECTS

Beyond Incentive Regulation

Traditionally, public authorities implement separate policies to regulate the financial and quality performance of network utilities. In addition, governmental policies put more emphasis on the former than on the latter. The trade-off between service level and cost efficiency is implicit, and its properties are poorly examined. Moreover, new developments in these industries – e.g. smart grids in electricity distribution and environmental concerns in water distribution – stress even more the need for a new holistic approach to regulation.

It is customary to evaluate the performance of network utilities based on the amount of output provided or total number of customers served. In essence, the current regulation concentrates on the quantity dimension of service provision. One of our goals is to develop models where network operators' performances are assessed using a quality normalized multi-output perspective. In this alternative context, quality features correspond to these additional dimensions included in the analysis. In particular, we expect to elaborate empirical studies that analyze the regulation of quality for energy (electricity, gas) water and railways infrastructure provision. Our aspiration is to contribute to policy-making with the development of a family of optimal incentive mechanisms defined simultaneously by service quality and financial performance.

Per Agrell (CORE, UCL), Axel Gautier (CORE, UCL and Université de Liège) and Sergio Perelman (Université de Liège) are the promoters of this project. Mehdi Bougnouch (HEC, ULg) and Jonas Teusch (CORE, UCL) work under the scope of this project.

Control and Optimization of Networked Systems with Poorly Understood Couplings

The deployment of wind turbines has experienced a dramatic increase over the recent years, and wind power is expected to represent a significant part of electricity production in the future. For practical and economical reasons, it is often advantageous to deploy several wind turbines in the same location, on a "wind farm". Certain of these farms contain up to 100 turbines.

The complex couplings and interactions between turbines on these farms create new challenges in control and optimization (and indeed in

fluid dynamics): in order to produce electricity, a turbine takes energy from the wind, which may decrease the strength of the wind arriving at some of the other turbines and create complex perturbations and turbulences. In this context, nothing guarantees that selfish maximization of the production of each turbine is globally optimal, and indeed current simulation results show that it is not. Similar problems arise when one is trying to stabilize the production of the wind farm under varying conditions in order to avoid sharp variations on the electricity network. Understanding exactly how to control or optimize the production of these farms is challenging as the coupling between the turbines involves very complex fluid dynamics phenomena, the accurate simulation of which is already an important research subject on its own. In particular, it appears that an accurate simulation of the interferences taking place on a large farm will be beyond reach for long and would be extraordinarily costly from a computation point of view. On the other hand, a range of simplified models are available, but it is unclear how their (in)accuracy may affect the performances of the control laws relying on them. On the one hand, the control law should not be able to take all dynamical effects into account (wind speed is a very fast-varying input, and pitch actuators have a very limited speed), and on the other hand, the model should be accurate enough to allow the controller to be robust to its prediction faults.

Our research goal is to develop control and optimization methods for such networked systems with unknown or poorly understood coupling, which is thus directly related to wind farms.

This FRIA project is coordinated by Julien HENDRICKX (INMA, UCL) and François GLINEUR (CORE and INMA, UCL). Adrien TAYLOR (INMA, UCL) works under the scope of this project.

DEVELOPMENT OF A TOOL FOR PLANNING AND OPTIMIZING ACTIVE AUTONOMOUS ELECTRICAL DISTRIBUTION GRIDS

This research project is intended to develop a tool for the planning of active low-voltage distribution networks. The active nature covers four aspects: the presence of distributed generation, the flexibility of the load, the storage capacities and the active management of the grid thanks to an increased level of automation. Furthermore, this study will focus on the case of autonomous networks in a context of rural electrification for developing countries. Those autonomous grids are self-sufficient in terms of production capability and may have the possibility to be connected to a higher voltage level.

The development of the planning tool will occur in two steps. First, it is necessary to model the load, the distributed generation, the storage and the grid with appropriate models. In particular, a fraction of the load and the dispersed generation based on renewables have a stochastic nature. Probabilistic provisional models need to be used at this level. Then, multi-objective optimization must be carried out based on a set of predefined technico-economic criteria and constraints such as the reliability of the supply, the minimization of the losses in the lines or the optimal location of storage elements. The integration of a set of models for the aspects above and an optimization tool, along with a process of decision support, should lead to a flexible and built-in tool. This tool will work by making a comparison with the traditional planning methods and will be tested on real study-cases in order to make the necessary adjustments.

This research is coordinated by Emmanuel DE JAEGER (EPL, UCL) and François GLINEUR (CORE and INMA, UCL). Benoît MARTIN (MCTR, UCL) works under the scope of this project.

FRONTIER ANALYSIS UNDER UNCERTAINTY

The aim of this project is to work on advanced non-parametric models for multi-level systems, imprecise information and uncertainty in structure, data and preferences.

Per AGRELL (CORE, UCL) is the promoter of this project. Adel HATAMI-MARBINI (CORE, UCL) works under the scope of this project.

HIGH DIMENSIONAL ECONOMETRICS

High dimensional models arise today in a lot of economic studies. In a linear regression model, for instance, it corresponds to the situation where the number of covariates is large, i.e. close or larger than the sample size. In a multivariate time series setting, high dimensionality refers to the high number of time series that are studied jointly. Due to the ease of data collection today, the empirical researcher faces more frequently such large data sets. High dimensionality also appears in linear models when the covariate is not a random variable but a random function. Examples are given by the spot electricity prices that are observed continuously over time, or fertility curves used in development economics to measure the density of birth rate over mother's age.

The wide availability of large data sets has increased the hope to address empirically major substantive questions. In the two cited examples, they are, for instance, the impact of electricity spot prices on future contracts or the impact of the shift in fertility curve on economic growth. However, these new promising directions of research are also hampered by several major methodological obstacles. Classical methods of modeling and inference (such as, e.g. estimation by GLS) are not robust to a large increase in the dimension of the econometric model.

The goal of the present research program is to address a number of those methodological obstacles with a view to providing workable and theoretically justified econometric methods and efficient inferential tools. In particular, the program is organized around three interlocking aspects: the failure of stationarity in time series collection, the modelling of large dimensional covariance matrices and the endogeneity of

covariates in high dimensional regression.

This FRESH project is coordinated by Sébastien Van Bellegem (CORE, UCL). Joniada Milla and Monalisa Sen (CORE, UCL) work under the scope of this project.

Optimal Fertility, Health and Education in Market Economies

The proposed research aims at identifying policies that allow improving the steady state efficiency and welfare upon the laissez-faire market outcome. This is achieved exploiting the externalities existing between households' decisions on savings, fertility, health, and education on their own incomes at the aggregate level. Such externalities are disregarded by households at the market equilibrium under laissez-faire, which creates room for improvement through policy intervention.

Julio Davila (CORE, UCL) is the promoter of this project.

ARC SUPPORTED BY THE FÉDÉRATION WALLONIE-BRUXELLES

Financial Complex Systems (FiXs)

The recent financial crisis has emphasized the crucial role of financial institutions in general and of banks in particular for the proper functioning of modern economies. It also revealed their fragility, urging for an effective regulatory framework to be set up. Against this background, the research programme we propose intends to reach two major objectives.

(A) In the short and medium term, we plan to conduct a set of specific research projects that should contribute to tackling the formidable intellectual challenges posed by the financial crisis to the academic community. Our research agenda will specifically concur to provide a rationale for understanding contemporaneous financial systemic fragility that would be both theoretically based and supported by empirical validation, in order to help policy makers designing an efficient set of macro-prudential rules. With that aim, we will specifically concentrate on questions regarding (i) the understanding of contagion mechanisms among increasingly interdependent financial entities, (ii) the description of individual behaviors and their interactions in financial markets that may foster instability and damage the entire financial system. To address them, we propose a research agenda that gathers various disciplines of hard and social sciences and consists in developing jointly theoretical models related to the broad class of complex systems methods as well as empirical techniques that proper take into account individual interdependences characterizing current banking and financial systems. More specifically, our theoretical approach will be based on network analysis and multi-agent frameworks to better apprehend how complex interconnections between financial agents or institutions may foster financial instability as the global level, as well as heterogeneous agent models (HAM) to explore how nonlinear asset prices dynamics may result from the confrontation of heterogeneous individual behaviors and impact the overall system. From the empirical side, we propose to rely on several econometric models ranging from static to dynamic panel data models with spatial interactions.

(B) In the medium and long term, we aim to establish an original pole of expertise in financial complex systems within the "Académie Universitaire Louvain" which would materialize in high-quality research, regular scientific events (workshops, conferences) and teaching activities (doctoral courses, summer schools).

Sophie Béreau (CORE and LSM, UCL), Oscar Bernal (Université de Namur), Annick Castiaux (Université de Namur) and Jean-Yves Gnabo (Université de Namur) coordinate this project.

Management of shared resources in supply chains (Sharc)

Supply Chain Management (SCM) is widely recognized as the largest source of potential gains in efficiency for the operations of organizations. It has also been the subject of many articles in the scientific literature in the field of operations management, operations research and economy. The main lesson from SCM is that it is no longer enough for organizations to think about their own operations, they should take into account all other organizations that participate in the same value creation chain.

The emphasis until now has been on sharing information and co-ordinating flows of goods between organizations. This has led to new ways of organizing operations and new contracts between organizations since companies recognized that there is a direct link between the performance of supply chains and the availability and quality of timely information.

Thus, shared resources in a supply chain are of very different natures. They range from the most mundane, such as pallets or boxes to transport goods between different participants in the supply chain, to shared factories that entail large investments or shared intellectual property.

The Centre de Recherches d'Etudes en Gestion Industrielle (CREGI) from UCL Mons is taking part in this project. The research is coordinated by Per Agrell (CORE, UCL), Philippe Chevalier (CORE, UCL), Jean-Sébastien Tancrez (LSM, UCL) and Mathieu Van Vyve (CORE, UCL). Tanguy Kegelart (CORE, UCL), Wenly Peng (CORE, UCL), Fahimeh Shamsaei (CORE, UCL) and Vladimir Shikhman (CORE, UCL) work under the scope of this project at CORE.

Stochastic Modelling of Dependence: Systems under Stress

The project concerns fundamental research on statistical and econometric models for dependence. The aim of the project is to construct new ways of measuring and modelling risks in systems with intricate dependence structures. Particular attention is to be paid to such systems upon the arrival of shocks, after structural breaks or when comovements between risk factors are higher than usual.

Johan Segers (ISBA, UCL) is the promoter of this project also coordinated by Luc Bauwens (CORE, UCL), Michel Denuit (ISBA, UCL), Christian Hafner (ISBA, UCL), Sébastien Van Bellegem (CORE, UCL) and Rainer Von Sachs (ISBA, UCL). Manuela Braione (CORE, UCL), Emanuela Puscas (ISBA, UCL) and Michal Warchol (ISBA, UCL) work under the scope of this project.

IAP RESEARCH PROJECTS SUPPORTED BY THE BELGIAN SCIENCE POLICY

Combinatorial Optimization: Metaheuristics and Exact Methods (COMEX)

The main objectives of this project are:

▶ Bring together the available Belgian expertise on combinatorial optimization problems, exploit synergies between the partner research groups, and create a network with a sufficient mass to attract young and experienced top-level scientists in Belgium, and further financing for research in the field.
▶ Train young researchers in the field of combinatorial optimization. These profiles are in high demand, both in academic research centers worldwide and in private organizations.
▶ Develop new models, algorithmic techniques and implementations for complex, large-scale combinatorial optimization problems.
▶ Develop new international collaborations with other large teams working in the field of combinatorial optimization. An active and recognized Belgian network would facilitate international collaborations, in particular in the framework of large-scale international projects.

Successful achievement of these objectives will lead to (i) a number of important, fundamental research contributions, (ii) a significant impact on the different sectors where combinatorial optimization problems arise, and (iii) to considerable added value for the Belgian economy.

Bartosz FILIPECKI (CORE, UCL) works under the scope of this project (P7/36) coordinated by Bernard Fortz (Université libre de Bruxelles) and Mathieu Van Vyve (CORE, UCL).

Exact Nonnegative Matrix Factorization: Algorithms, Bounds and Applications to Optimization

Many combinatorial optimization problems can be formulated as the optimization of a linear objective over a polytope. However, this polytope may have a very large number of facets, possibly growing exponentially with the dimension. Because of the high number of facets, computing the optimal solution can be very time-consuming. However, if one can find an extension of this polytope with a moderate number of facets, one can solve the optimization problem over the extension efficiently and project the optimal solution on the original polytope. Finding an extension for a convex polytope can be done with exact nonnegative matrix factorization. The goals of this research are (i) the development of algorithms that compute exact nonnegative factorizations and (ii) the development of lower bounds (optimality guarantees for the algorithms) on the minimum inner dimension of such factorizations.

Julien Dewez (CORE, UCL) works under the scope of this project (IAP Dysco 7/19) coordinated by François Glineur (CORE, UCL).

BRAIN RESEARCH PROJECT SUPPORTED BY THE BELGIAN SCIENCE POLICY

Measuring EQuivalent INcomes: The Implementation of Individual Well-being Measures from Belgian Data (MEqIn)

The corner stone of the project is a new measure of individual well-being that has recently been introduced in the economic literature and that is rapidly gaining popularity (Fleurbaey and Maniquet, 2011; Fleurbaey and Blanchet, 2013). This measure is grounded on the notion of equivalent income, that is an income that makes no difference to an individual between his/her current situation and receiving that income in a hypothetical situation of, for instance, perfect health. The notion of well-being based on equivalent incomes requires estimating preferences. The objective of this proposal is precisely to set up a data set of a representative sample of Belgian households. The data set will be constructed in such a way that the three techniques of estimating preferences will be applied and compared, with the objective of finding the way to mix them to reach the best possible estimates.

Bea CANTILLON (Universiteit Antwerpen), Bram DE ROCK (Université libre de Bruxelles), François MANIQUET (CORE, UCL) and Erik SCHOKKAERT (CORE and KU Leuven) are the promoters of this project.

EUROPEAN COMMISSION PROJECTS

EUROPEAN RESEARCH PROJECT (ERC)

Poverty, Resource Equality, and Social Policies (PoRESP)

The PoRESP project aims at revisiting the economics of poverty by using recent advances in welfare economics. First, poverty measurement theory will be enriched by taking account of individual preferences over the several dimensions of poverty. New poverty indices will be defined. They will be applied using panel data of material standard of living and subjective satisfaction to study the recent evolution of poverty in developed societies. Second, the ethical value of poverty reduction will be added to theories of social welfare based on equality of opportunities. New evaluation criteria of taxation policies will be derived. These criteria will be applied to the design of fiscal reforms.

Sinem BAS (CORE, UCL), Benoît DECERF (CORE, UCL), Aditi DIMRI (CORE, UCL), Mery FERRANDO (CORE, UCL), Véronique GILLE (CORE, UCL) and Dirk NEUMANN (CORE, UCL) work under the scope of this project coordinated by François MANIQUET.

SEVENTH FRAMEWORK PROGRAM

Towards RUral Synergies and Trade-off between Economic Development and Ecosystem Services (TRUSTEE)

In Europe and the United States, the developmental paths of rural areas are believed to be plural (Edora, 2011). As early as Thünen (1826), regional and urban economists began analysing spatial and regional disparities through three drivers: (i) natural-resource advantages, (ii) economies of agglomeration, and (iii) costs of transport and communication. Even though natural amenities have been introduced into numerous economic studies, their inclusion remains quite limited. National and international assessments show that ecosystems are and often continue to be degraded; therefore, ecosystem services and public goods are now considered a part of policy and have become increasingly important within the European context (European Commission, 2010).

Population and production locations, commodities, and flow of people are critical components of the relationship between economic development and ecosystem services. Such a relationship has three major unresolved questions:

- ▶ Does optimal spatial organisation of activities, leading to rural economic development while ensuring the provision of ecosystem services, exist?
- ▶ How does one combine market mechanisms and policies to reach sustainable spatial allocation of activities?
- ▶ Under which conditions do ecosystem services constitute opportunities for rural development?

The trade-off/synergy dilemma between economic development and ecosystem services is one of the major issues of sustainable rural development. The main research objective of TRUSTEE is to disentangle the complex relationships between economic development and ecosystem services at different spatial scales. We will use an interdisciplinary approach that will involve economists, geographers, agronomists, and ecologists. At every step of the research process, we will involve scientists, experts, and stakeholders. In doing so, this research will also strengthen the capacity of a range of stakeholders to design sustainable strategies for rural areas. The sub-objectives are to:

- ▶ Analyse the multi-scaled determinants of economic development and ecosystem services on a large European gradient of rural and rural/urban areas.
- ▶ Increase our understanding of how to achieve mutual benefits for economic development in rural areas and ecosystem services.
- ▶ Identify and assess the governance mechanisms and policy instruments that enhance sustainable rural vitality in very diverse contexts.
- ▶ Produce synergies among international researchers of varied disciplines and between researchers and various stakeholders at different governance scales.

Isabelle THOMAS (CORE, UCL) outsources this project.

COST ACTION PROJECTS

Social Networks and Travel Behavior

The past decade went through rapid ICT (Information and Communication Technologies) developments, which had wide societal impacts. ICT enhanced the shift from social groups defined by location to individually-based social networks. High-speed telecoms allow ad-hoc personalised networks that affect travel behaviour. Unfortunately, research has lagged behind ICT advances, as our understanding of current travel behaviour is limited and existing urban mobility solutions cater to population behaviour that no longer exists. The transport

demand models used today are based on inadequate understanding of the new social structure. A new transport paradigm is needed for the ultra-urbanized smart city.

This action aims to initiate a new collaboration framework for various EU research groups that develop a new transport paradigm based upon ICT social networks and their subsequent travel behavior in the urban environment.

The goals are to explore ways in which social activities become mobilized in space, identify how social ties affect the integration of local public transport into urban patterns, and develop a rigorous conceptual framework for new ideas and methodologies. This work will be achieved by creating a joint discussions platform that includes seminars, thematic working groups, discussion sessions, workshops and published scientific results.

Isabelle THOMAS (CORE, UCL) takes part in this project.

NETWORKS FOR INITIAL TRAINING (ITN) PROJECTS

Mixed-Integer Nonlinear Optimization (MINO)

Complex decision making in enterprises should involve mathematical optimization methods because the best choice has to be made out of a huge number of feasible options. A mathematical description of such decision processes typically involves both continuous and discrete decisions. If the latter are present, the customary modelling approach is to use integer variables, which are also used to represent all possible nonlinearities, so that the remaining part of the model is linear. This leads to Mixed-Integer Linear Optimization (MILO) problems, which can be handled nowadays by many packages, but are often very difficult to solve.

The difficulty of MILO problems is often due to the fact that objective functions or constraints that are structurally nonlinear (e.g., quadratic) are linearized by introducing new integer variables. In many cases, it was observed that this is not the best way to proceed, as facing the nonlinearity directly without the new variables leads to much better results. Algorithmic technology for the resulting Mixed-Integer Nonlinear Optimization (MINO) problems is still at its early stage.

The present situation is such that enterprises facing a MINO problem generally give up due to the lack of efficient solvers, or try to convert it to a MILO one often too hard to be solved in practice. On the other hand, in the academia, there is now increasing expertise in MINO, which is, however, hardly exported outside due to the lack of interaction with the industrial world. It is the purpose of this project to help satisfy the increasing demand for highly qualified researchers receiving, at the same time, state-of-the-art scientific training from the academia and hands-on experience with real-world applications from the industry.

The researchers trained within this project, once recruited by an enterprise at the end of their training, will have the potential to apply all the available knowledge to optimize complex decision making in the real world.

Andrea LODI (Università di Bologna) is the coordinator of the project. The local coordinators at CORE are Mathieu VAN VYVE and Laurence WOLSEY. Abdelraham ALY and Bartosz FILIPECKI work under the scope of this project.

BELGIAN PUBLIC INSTITUTIONS PROJECTS

BRUSSELS REGION

Dynamic demand response as provider of ancillary services

Electricity demand response has the potential of providing flexibility for enhanced reliability of power systems operations and improved efficiency of electricity markets. This project aims at studying the impact and integration of demand response into the Belgian electricity market and system, especially for the provision of ancillary services.

This project is coordinated by François GLINEUR (CORE, UCL) and Emmanuel DEJAEGER (ICTM, UCL). Arnaud LATIERS works under the scope of this project at CORE.

WALLOON REGION

Secure multiparty computation (CAMUS)

Camus intends to facilitate the collaboration between people/companies with diverging interests aiming to reach a common objective. In many contexts, competitors, or partners negotiating a commercial transaction, need to settle together a set of values: a selling price, a production volume, the use time of a common resource, ... Determining optimal values for these parameters often implies sharing a lot of information (actual production costs, preferred periods, ...), and the negotiating partners tend to be reluctant to reveal this information. In

practice, this behaviour results in suboptimal parametrization which may be harmful in particular for small or emerging actors.

It is the ambition of Camus to solve this problem through techniques emulating a "virtual trusted third party". The project will define communication protocols allowing a group of actors to behave as if a trusted third party were present: everybody would act as if he was providing this virtual trusted third party with all his confidential information. The third party would use it only to compute the desired result and then reveal the expected optimization result, and nothing more.

This project is coordinated by Sébastien Brunet (IWEPS, Namur, Belgium), Olivier Pereira (EPL, UCL) and Mathieu Van Vyve (CORE, UCL). Abdelraham Aly works under the scope of this project at CORE.

Territorial Planning and Energy Transition 2050

The purpose of this project is to explore the interplay between territorial planning and energy transition in a long-term perspective (2050) in the Walloon Region. The project is interdisciplinary as it combines methodological tools and concepts coming from geography, urban planning, economics, scenario analysis, and linear programming.

This project takes place under the Conférence Permanente du Développement Territorial (CPDT), 2011 – 2014. It is coordinated by Thierry Bréchet (CORE, UCL), Yves Hanin (LOCI, UCL), Dominique Peeters (CORE, UCL) and Fiorella Quadu (LOCI, UCL). Simon Verelst (CORE, UCL) and Véronique Rousseaux (LOCI, UCL) work under the scope of this project.

INTERNATIONAL PUBLIC INSTITUTIONS PROJECTS

European Doctorate in Economics Erasmus Mundus (EDEEM)

EDEEM is a research-oriented programme and aims to produce top-quality researchers, who will gain international experience working within the research units with some of Europe's leading researchers in economics. Students are trained for positions in academia at the international level as well as for responsible positions in government, research organizations, and business enterprises. High focus is made on research work, publication and presentation, with dedicated Jamborees and Summer Schools being an integral part of the training. This programme gathers the following universities: Universiteit Amsterdam, Universität Bielefeld, Universidade Nova de Lisboa, Université catholique de Louvain, Université Paris 1 Panthéon-Sorbonne, Ecole des Hautes Etudes en Sciences Sociales (Paris), Università Ca'Foscari Venezia.

Frédéric Docquier (IRES, UCL) coordinates this project at UCL. Benoît Decerf, Sinem Bas and Aditi Dimri are currently enrolled in this programme at CORE.

Advances in Behavioral Economics, Gender and Growth

The objective of this research is twofold. First, we plan to develop a theoretical framework that allows us to study which networks and coalitions will be formed when individual and collective incentives could be in conflict. In addition, it is crucial to understand which networks and coalitions are likely to emerge if agents do not have full information about the network and coalition structure and are neither myopic nor farsighted but have limited ability to forecast the future. Will limited information lead to the persistence of networks and coalition structures that differ from those that would arise under full information? Does imperfect monitoring affect network and coalition formation differently than under incomplete information? We will test through different experiments alternative theories of behavior in situations where group and network effects play an important role. We will also run experiments in order to disentangle the role of imperfect monitoring and incomplete information in network and coalition formation problems. Second, we will study the efficiency of different forms of collaboration among heterogeneous agents in situations where agents are part of a network and belong to coalitions. We will also analyze the role of group and network effects in the design of optimal school choice mechanisms and of more effective policies to address persistent inequalities and mismatch in the labor market.

The project is financed by the Spanish Ministry of Economy and Competitiveness. Ana Mauleon (Université Saint-Louis, Bruxelles and CORE, UCL) and Vincent Vannetelbosch (CORE, UCL) work under this project.

Endogenous Quantal Response Equilibrium in Normal Form Games

The aim of this project is to develop an equilibrium concept coined endogenous quantal response equilibrium (EQRE) based on heterogeneous players and endogenous learning in a logistic quantal choice model. Each player has an asymptotically consistent estimate of his rival's rationaliy index and is able to choose his own rationality level according to a cost-benefit tradeoff.

The project is financed by the National Research Fund, Luxembourg. Oswaldo Gressani (CORE, UCL) works on this project coordinated by Pierre Picard (Université du Luxembourg and CORE, UCL) and Vincent Vannetelbosch (CORE, UCL).

PERFORMANCE ANALYSIS, COMPETITIVENESS AND ECONOMIC PROGRESS

The project aims at developing consolidated non-parametric efficient and productivity measures for the analysis of economic performance, both under regulation and competition.

The project is financed by the Spanish Ministry of Science and Education. Per AGRELL (CORE, UCL) and Emili GRIFELL-TATJE (Universitat Autonoma Barcelona) coordinate this project.

PRIVATE BELGIAN PROJECTS

ENERGETIC TRANSITION

This project aims at shaping potential energy perspectives in Wallonia in the long run. The methodology is interdisciplinary, qualitative and quantitative. The objective is to scrutinize the impacts of such energy transitions on the society.

This project is financed by CLIMACT in collaboration with the Federal Planning Bureau, l'Institut de Conseil et d'Etudes en Développement Durable (ICEDD), l'Institut pour un Développement Durable (IDD) and the LENTIC (Université de Liège). At CORE this project is coordinated by Thierry BRÉCHET.

HUGE-SCALE SPARSE OPTIMIZATION: THEORY, ALGORITHMS AND APPLICATIONS

The age of Big Data has begun. Data of huge sizes is becoming ubiquitous and practitioners unprecedented sizes, but with specific structure, in particular sparsity. For example, in many applications from machine learning, compressed sensing, social networks and computational biology, we can formulate sparse (quadratic) optimization problems with millions or billions of variables. Classical first or second order optimization algorithms are not designed to scale to instances of huge sizes. As a consequence, new mathematical programming tools and methods are required to solve efficiently these big data problems. The goal of this project is to develop new tools and optimization algorithms with low per-iteration cost and good scalability properties for solving sparse huge scale optimization problems. The project brings together researchers with expertise in optimization capable of dealing with the big and sparse data settings.

François GLINEUR (CORE, UCL) and Ion NECOARA (Politechnica University of Bucharest) are the investigators of this project initiated by the Romanian Academy of Sciences and funded by the World Bank Institute in Romania.

PLANNING D'UNITÉS DE SOIN HOSPITALIERES MIXTES

This project involves the improvement of bed occupancy rates in a hospital. Two aspects were studied. On the one hand, the adaptation of the capacity by closing some wards during weekends and on the other hand, the optimization of the allocation of patients to the different wards.

Philippe CHEVALIER (CORE, UCL) coordinates this project financed by Cliniques Universitaires Saint-Luc.

OPTIMIZING WEIGHTS IN NAÏVE BAYES PREDICTION MODEL

The goal of this project is the development of optimization methods for statistical learning models arising in large-scale telecommunication models.

Yurii NESTEROV (CORE, UCL) is the promoter of this project financed by France Telecom (Orange).

STUDY ON THE REMUNERATION OF CAPACITY IN CONDITIONS OF SCARCITY

Triggered by the resource adequacy problem that occurred in Belgium in 2014 due to the unplanned outage of nuclear capacity in the country, this project aims at analyzing the impact of operating reserve demand curves on energy and reserve prices in Belgium, as well as the implications for investment in generation capacity in Belgium.

The Belgian Electricity and Gas Regulatory Commission (CREG) awarded this research grant to Professors Anthony PAPAVASILIOU, Yves SMEERS and Mathieu VAN VYVE.

CHAIRS

GDF-SUEZ CHAIR: ENERGY ECONOMICS AND MANAGEMENT OF ENERGY RISK

Modern energy systems are facing substantial uncertainty in operations and planning. Focusing on the development of quantitative methods for

analysing, the chair is operating and planning energy systems and energy markets under uncertainty.

Two researchers are supported under the GDF-SUEZ Chair: Ignacio Aravena and Dr Han. Ignacio Aravena, a Ph.D. candidate, is working on the assessment of the generation reserve requirements in the European power system in order to accommodate substantial amounts of renewable energy in the European electricity market. Mr Aravena was hosted as a visiting researcher at the University of California, Berkeley and the Lawrence Livermore National Laboratory in June and July 2015. Dr Han is working on the active control of transmission network assets and the optimal expansion of power grids. Eirgrid, the Irish transmission system operator, has assigned a study for the optimal expansion of the Irish transmission network in order to integrate offshore wind power in the British Isles.

A number of events are planned under the framework of the GDF-SUEZ Chair in 2015 and 2016: a research workshop will be held in order to celebrate the 3rd anniversary of the Chair; the 4th research workshop of the Benelux Association for Energy Economics (BAEE) will be organized by the GDF-SUEZ Chair in October 2015 at CORE; and a panel session on *Computational Challenges in Energy* will be held at the opportunity of the 50th anniversary of CORE.

GSK Biologicals chair in Strategic Sourcing and Procurement

The chair covers research, applied research, teaching and outreach in the field dedicated to sourcing and procurement. Furthermore, the chair aims to establish an internationally visible center for researchers in the field.

Per Agrell (CORE, UCL), Constantin Blome (CORE, UCL and University of Sussex, United Kingdom) and Philippe Chevalier (CORE, UCL) coordinate this project sponsored by GSK Vaccine, Belgium.

Lhoist Berghmans Chair in Environmental Economics and Management

It is a recognized fact that environmental issues are omnipresent in business today. This concern for the environment is quite rightly interpreted as the expression of collective aspirations for better quality of life. The Chair Lhoist Berghmans forms part of this framework and aims to underpin research likely to improve knowledge from three points of view:

▸ Evaluation of costs for an industry applying alternative technologies;
▸ Evaluation of benefits for a community applying these technologies;
▸ Evaluation of the global impact of industrial activities on the environment and on the improvement of living conditions through the use of their products.

An interdisciplinary approach to these problems is needed in order to integrate the environmental, economic, technological and institutional factors into a coherent process and to quantify the effects of new environmental policy instruments on the competitiveness of industries and countries and on the overall wealth of these countries. Improving decision-making tools, both on an enterprise and community scale, is the main theme of this research. In addition to the research, the Chair is responsible for the following courses:

▸ A course on "Environment and Global Economy" mainly aimed at students of economics;
▸ A course on "Environment and Enterprise" mainly for civil engineering and management studies;
▸ A seminar on "Management of Environmental Issues".

These courses aim to provide undergraduates with rigorous training in economic theory of the environment, as well as interdisciplinary and open training on economic policy issues.

Paul Belleflamme (CORE, UCL) and Thierry Bréchet (CORE, UCL) coordinate this project sponsored by Lhoist Berghmans, Belgium.

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STATISTICS

STATISTICS

PEOPLE

YEARLY AVERAGE

	Professors	Assistants, Ph.D. Students and Researchers	Long- and Short-term Visitors	Administration
1966 - 1975	14	15	26	4
1976 - 1985	20	29	45	6
1986 - 1995	36	40	56	8
1996 - 2005	32	43	84	10

RECENT YEARLY FIGURES

	Professors	Assistants, Ph.D. Students and Researchers	Long- and Short-Term Visitors	Administration
2005 - 2006	40	53	91	9
2006 - 2007	38	47	45	12
2007 - 2008	36	54	73	15
2008 - 2009	38	57	96	14
2009 - 2010	42	55	75	14
2010 - 2011	42	38	108	11
2011 - 2012	42	30	67	10
2012 - 2013	43	36	77	10
2013 - 2014	42	37	84	9
2014 - 2015	40	39	58	10

PUBLICATIONS

YEARLY AVERAGE

	Discussion Papers	Books	Published Papers	Theses
1966 - 1975	32	1	24	2
1976 - 1985	47	1	53	2
1986 - 1995	62	5	69	5
1996 - 2005	78	4	105	7

RECENT YEARLY FIGURES

	Discussion Papers	Books	Published Papers	Theses
2005 - 2006	118	8	129	9
2006 - 2007	115	6	133	12
2007 - 2008	82	1	133	8
2008 - 2009	84	5	128	7
2009 - 2010	86	6	172	6
2010 - 2011	81	11	166	8
2011 - 2012	63	7	117	6
2012 - 2013	64	6	106	6
2013 - 2014	59	1	148	6
2014 - 2015	74	3	145	5
Total	2758	158	4773	231

SEMINARS, CONFERENCES AND CONTRACTS

YEARLY AVERAGE

	Economics Seminars	Econometrics Seminars	Operations Research Seminars	Conferences	Yearly Contracts
1966 - 1975	26	15	17	0	4
1976 - 1985	48	22	24	2	6
1986 - 1995	79	25	26	4	13
1996 - 2005	94	22	21	5	15

RECENT YEARLY FIGURES

	Economics Seminars	Econometrics Seminars	Operations Research Seminars	Conferences	Yearly Contracts
2005 - 2006	81	30	20	10	12
2006 - 2007	79	32	29	7	16
2007 - 2008	83	28	17	4	27
2008 - 2009	80	35	24	6	38
2009 - 2010	78	28	19	11	41
2010 - 2011	69	26	41	13	35
2011 - 2012	79	25	27	7	22
2012 - 2013	58	21	31	8	25
2013 - 2014	53	36	19	7	31
2014 - 2015	67	24	19	11	38
Total	3172	1153	1109	195	649

All details can be found on the CORE webpage (**HTTP://WWW.UCLOUVAIN.BE/EN-CORE**).