

# CORE NEWSLETTER 12

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## CONTENTS

**OUR MARCH EDITION IS PACKED WITH INTERESTING BITS ABOUT CORE'S LATEST ACTIVITIES, SO READ ON!**

- 02 Geography at CORE
- 03 GDF-Suez Chair
- 04 Core Brown Bag
- 05 Scientific Events
- 08 Projects/Funding
- 09 Prizes and Awards
- 10 People at CORE
- 11 Seminars
- 12 Publications
- 16 Life at CORE

## GEOGRAPHY@CORE

**GEOGRAPHY RELIES ON A RICH TOOLBOX OF TECHNIQUES, METHODS, AND MODELS SOMETIMES BORROWED FROM OTHER FIELDS.**

by  
**Isabelle THOMAS**  
Faculty Member



*Read more on page 2.*

## GDF-SUEZ CHAIR

**FOLLOWING ITS INAUGURATION IN JUNE 2014, THIS IS YOUR OPPORTUNITY TO LEARN MORE ABOUT THE GDF-SUEZ CHAIR.**

by  
**Anthony PAPAVASILIOU**  
Chairholder



*Read more on page 3.*

# GEOGRAPHY@CORE

**G**eography seeks at understanding where things are and why they are there. Such a global endeavour can be pursued regarding any event on the earth's surface, ranging from mountains to cities. The study of the spatial organisation of economic activities is called **ECONOMIC GEOGRAPHY**. Hence, this field of geography studies the same objects as Economics, but the research questions and methods used are different.

Economic Geographers look at locations (where are human activities?), places (what are these locations? In which attribute do they differ from other locations?) and at the relationships between places (how does human activity in a place affect activities in other neighbouring places?). To do so, they can rely on a rich toolbox of techniques, methods, indicators and models sometimes borrowed from other fields such as computer sciences, engineering, physics, economics, etc. In essence, geography is multidisciplinary and still challenging.

Geographers at CORE illustrate this variety of geographical research. On the one hand, for years they have been welcome and involved in several successful multidisciplinary research projects, because of their links with different initial orientations at CORE. Especially, they take part in projects from mathematical programming, economics, and econometrics as contributors of tools. On the other hand, they also manage their own research projects, thus contributing to CORE's scientific production.

The **PRESENT ORIENTATIONS** of the ongoing geographic research carried at CORE mainly aim at measuring and modelling socio-economic, transport and urban/periurban realities. It combines theoretical reflection and real-world applications on topics such as:

## (1) OPTIMAL LOCATION MODELS

The story of geographers at CORE started with optimal location-allocation models. Anchored in Operations Research, these models were questioned by geographers mainly in the sensitivity of their outputs to the measurement of the complex geographic realities but also to urban and regional dynamics. Applications were performed such as for fire stations in Belgium or health care facilities in Africa (past and forthcoming). Presently, we are working on school locations and allocations in dynamic urban environments (US and Chile), models flexible enough to address the uncertainty of the demand at each time period, while the maximum capacity of each school can be modified by the addition of modular units.

## (2) URBAN MODELLING

Modelling the city is a fascinating topic given the complexity of the urban systems. Starting from models borrowed from classical urban economics, new avenues and extensions are theoretically as well as empirically explored. Theory and data driven models are used for testing the impact of green and social amenities on the morphology of cities, the influence of city delineation on modelling results,

the importance of the shape of the network and the access-ability, etc. Besides theoretical developments, existing tools such as cellular automata, agent-based models, land-use and transport interaction models (LUTI) are also applied mainly in the sense of sensitivity analyses and hypotheses testing.

## (3) QUANTITATIVE GEOGRAPHY AND SPATIAL STATISTICS

Quantitative geography mainly arose from the cross-fertilization and interaction of various specialty areas in physical and human geography; it is often defined as (1) the analysis of space and the creation of spatial information and geographical knowledge, (2) the development of spatial theory, and (3) the construction and application of mathematical models of spatial processes. This is why geographers at CORE are particularly interested in spatial statistics and spatial econometrics, and more particularly in the difficulties in measuring complex spatial realities (patterns, shapes, distance) and the biases introduced by space in statistical modelling (spatial heterogeneity, spatial dependence or contextual effects) but also to border delineation, nested scales or modifiable areal unit problems.

At CORE, a particular focus is put on built-up and non built-up morphologies. Density is not sufficient to discriminate built-up patches. Fractal and non-fractal indices are developed in collaboration with other universities for characterising built-up/green/blue patches and their border. Sensitivity analyses are performed on parameters, estimation and measuring techniques for patterns as well as borders. The connected world nowadays enables the use of enormous data bases leading to new challenges and new methodologies. Linking big data analysis to spatial theories is a challenge for the future.

## GEOGRAPHERS AT CORE

Isabelle THOMAS (FRS-FNRS), Dominique PEETERS (UCL), Arnaud ADAM and Christophe CLOQUET (Innoviris), Justin DELLOYE (FRESH), Jonathan JONES (UCL), N. (to be hired soon- Belspo)



Isabelle THOMAS and Dominique PEETERS, Geographers at CORE

# GDF-SUEZ CHAIR

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.



From left to right: Caroline MOULIGNEAU (Fondation Louvain), Bruno DELVAUX (UCL), Shmuel OREN (University of California, Berkeley), Vincent BLONDEL (UCL), Anthony PAPAVASILIOU (UCL), Jacqueline BOUCHER (GDF Suez), Vincent BODART (UCL), Tadhg O'BRIAIN (European Commission), Baron STEPHENNE (Fondation Louvain)

Two researchers are supported under the GDF-Suez Chair. Ignacio ARAVENA, PhD candidate, is working on the assessment of generation reserve requirements in the European power system in order to accommodate substantial amounts of renewable energy in the European electricity market. Mr ARAVENA will be hosted as a visiting researcher at the University of California at 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 at the British Isles.

The GDF-Suez Chair inauguration was held on June 3, 2014. 100 participants registered for the event. The inauguration was welcomed by the Rector and included keynote speakers from the European Commission and the University of California at Berkeley. A workshop was organized at the opportunity of the inauguration. Speakers from regulatory authorities (European Commission, CREG, United States Federal Energy Regulatory Commission), industry (GDF Suez, RTE France) and academia (UCL, UC Berkeley, Norwegian School of Economics) presented their views on capacity investment. On June 26, 2014, a summary of the workshop and an introduction of the GDF Chair was presented at the GDF Suez headquarters in Brussels.

The Belgian Electricity and Gas Regulatory Commission (CREG) has awarded a research grant to Professors PAPAVASILIOU, SMEERS and VAN VYVE for the study of capacity remunerations in conditions of scarcity in the Belgian electricity market. A press conference for the first round of results will be held on March 23, 2015.

The GDF-Suez Chair has hosted a number of visitors in 2014: Mette BJORN DAL (Professor, Norwegian School of Economics), H el ene LE CADRE (research assistant, MINES Paris Tech), Yelena VARDANYAN (PhD candidate, KTH Stockholm), and Andre DINIZ (research staff, Electrobras CEPEL, Brazil).

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 3<sup>rd</sup> year anniversary of the Chair; the 4<sup>th</sup> 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 energy economics will be held at the opportunity of the 50<sup>th</sup> anniversary of CORE.

For additional details about the GDF-Suez Chair, including publications, conference presentations, teaching material, events and openings please visit the following link:

[http://perso.uclouvain.be/anthony.papavasiliou/public\\_html/home.html](http://perso.uclouvain.be/anthony.papavasiliou/public_html/home.html)

# BROWN BAG SEMINAR

## CORE BROWN BAG

**LAST OCTOBER, THREE YOUNG RESEARCHERS DECIDED TO LAUNCH A NEW KIND OF SEMINAR.**

The CORE Brown Bag Seminar arose from an idea of CORE PhD students Aditi DIMRI and Mery FERRANDO, and post-doc Elena MATTANA. Given the variety of research areas and topics worked on at CORE and the relevance of being trained at presenting one's research from an early stage of the career, they felt a need for a platform for young researchers to share their work, and possibly even collaborate; and so the CORE Brown Bag was born. The goal of this internal seminar is to give the opportunity to young researchers at CORE to present and discuss their work with the other PhD students, post-docs and professors.

With eager support from both young researchers and faculty alike, the first seminar took place on October 15, 2014. All young researchers in Economics, Econometrics and Operations Research at UCL are invited to present their work in progress. There has been positive response from young researchers at CORE and also IRES, who are keen to utilize this opportunity to present their work. The seminar meets every two weeks on Wednesdays and sandwiches are offered to all participants. Presentations last for 45 minutes and are followed by questions and discussions of around 15 minutes.



From top to bottom: Aditi DIMRI, Elena MATTANA and Mery FERRANDO

The seminar has already had an eclectic array of presentations including urban, public, macro & development economics, and operational research. With an average turn out of 22 attendees per seminar, the discussions are lively and beneficial for the presenters.

*Benoît DECERF presented his paper "Income Poverty Measures with Relative Poverty Lines" during one of the last Brown Bag Seminars on February 11<sup>th</sup> in front of a focused audience.*



# SCIENTIFIC EVENTS

## MEQIN CONFERENCE

**INTERNATIONAL MEQIN CONFERENCE ON WELL-BEING  
LOUVAIN-LA-NEUVE, MARCH 18, 2015**

**O**n March 18, CORE will host the BRAIN/MEqIn international conference on well-being. The first half of the day will be 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 will be devoted to three talks on the empirical measurement of well-being, by Olivier BARGAIN (Aix-Marseille School of Economics), Marc FLEURBAEY (Princeton University), and Stéphane LUCCHINI (Aix-Marseille School of Economics), as well as formal discussions of the talks.

## SoFiE FINANCIAL ECONOMETRICS SPRING SCHOOL

**BRUSSELS, JUNE 1-5, 2015**

**T**he SoFiE (Society for Financial Econometrics) Financial Econometrics Spring School is an annual week-long research-based course for PhD students and new faculty in financial econometrics. It will be held in Brussels, in the venue of the National Bank of Belgium, on June 1-5, 2015. It was formerly organized in Oxford (in 2012 and 2013). 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 ULB.

The 2015 lecturers are Prof. Patrick GAGLIARDINI (University of Lugano & the Swiss Finance Institute) and Prof. Eric RENAULT (Brown University, current President of SoFiE).

The lectures are organized around four themes:

1. The role of stochastic volatility in option pricing. Options prices as expectations of a Black-Scholes price. The volatility smile and the VIX.
2. Non-linear State-Space models. Exponential affine models.
3. Extensions of the Generalized Method of Moments (GMM): Indirect Inference, Implied-States GMM, GMM with a continuum of moments, XMM.
4. Nonparametric methods to fit the implied volatility surface. Implied binomial trees and maximum entropy.

The number of participants is limited to thirty. Participants have a chance to make short presentations of their work related to the topics of the lectures.

For more details, see <http://sofie.stern.nyu.edu/node/524>.

## CORPORATE FORUM

**7<sup>TH</sup> CORPORATE FORUM ON SUPPLY CHAIN MANAGEMENT  
LOUVAIN-LA-NEUVE, APRIL 23, 2015**

**T**he 7<sup>th</sup> Corporate Forum will be held in Louvain-la-Neuve on April 23. This annual event gathers corporate partners, alumni of our executive and graduate supply chain programs and researchers in the field. The goal is to discuss recent trends, successful and innovative applications of supply chain concepts in the industry and current research projects. It is of course a great networking opportunity, and the dinner is a key moment of this event. If you want to participate or get more information, please send an email to [axelle.depireux@uclouvain.be](mailto:axelle.depireux@uclouvain.be).

## OR WORKSHOP

**18<sup>TH</sup> CEMS WORKSHOP ON LOGISTICS AND SUPPLY CHAIN MANAGEMENT. BRUSSELS, APRIL 30, 2015**

**T**he 18<sup>th</sup> CEMS workshop on Supply Chain Management will take place in Université Saint-Louis (Brussels) at April 30. As usual, the goal is to give PhD students and young researchers of foreign-but-close universities the opportunity to present their current research and to discuss with professors in the field. If you want to participate or get more information, please send an email to [axelle.depireux@uclouvain.be](mailto:axelle.depireux@uclouvain.be).

## DOCTORAL COURSE

**5<sup>TH</sup> CEMS PHD COURSE ON MARKET LIQUIDITY  
BRUSSELS, JUNE 10-12, 2015**

**T**he Center for Studies in Asset Management of the ISLM (CeSAM), the AFI department of the KU Leuven, and CORE are jointly organizing the 5<sup>th</sup> edition of the CEMS PhD course devoted to "Market Liquidity" on June 10-12, 2015. This 3-day intensive course will be taught by Professors Thierry FOUCAULT (HEC Paris) and Marco PAGANO (University of Naples), and will take place at the National Bank of Belgium in Brussels. For more information on deadlines and registration, see <http://www.uclouvain.be/en-323840.html>.

# ECORES SUMMER SCHOOL

**ON MARKET POWER  
BRUSSELS, MAY 25-29, 2015.**

In May 26-29, Ecores is organizing its biannual summer school. The school will be hosted by ECARES, at ULB, Brussels. The title of the school is “Market Power”. 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 have been instrumental in conducting and motivating structural empirical analysis. There will be three keynote speakers, each of whom will give three lectures. Paul KLEMPERER (Oxford University) will talk on multi-object auctions. Marc MELITZ (Harvard University) will speak on the micro-structure of trade. Ariel PAKES (Harvard University) will speak on the estimation of static and dynamic models in industrial organization. In addition to the keynote lectures, there will be presentations by Phd students and young Phd graduates. Previous Ecores summer schools attracted more than 100 participants.

To register, please visit: <http://www.uclouvain.be/en-482657.html>



**CALL FOR PARTICIPATION**

2015 **ECORES** SUMMER SCHOOL

**Market Power  
BRUSSELS, MAY 26-29, 2015**

**KEYNOTE SPEAKERS**

**Paul KLEMPERER**  
Oxford University

**Marc MELITZ**  
Harvard University

**Ariel PAKES**  
Harvard University

**AND PRESENTATIONS BY JUNIOR PARTICIPANTS**

ORGANIZING COMMITTEE  
Jean Hindriks, CORE, Université catholique de Louvain  
Georg Kirchsteiger, ECARES, Université libre de Bruxelles  
François Maniquet, CORE, Université catholique de Louvain  
Jo Van Biesebroeck, CES, KU Leuven

PRACTICAL INFORMATION  
[www.uclouvain.be/en-482657](http://www.uclouvain.be/en-482657)

SUBMISSION DEADLINE FOR CONTRIBUTORS  
March 15, 2015

CONTACT  
[nancy.de.munck@ulb.ac.be](mailto:nancy.de.munck@ulb.ac.be)

**PoRESP Summer School**

**Anti-poverty Policies & Individual Responses**

**July 6-9, 2015**

Venue:  
Brussels, Fondation Universitaire

**Keynote Speakers**

Marianne P. BITLER, University of California-Irvine  
 Marc GURGAND, Paris School of Economics  
 Martin RAVALLION, Georgetown University  
 Martha E. WADSWORTH, Pennsylvania State University

**Application**  
 For more information, registration and funding possibilities, visit: <http://www.uclouvain.be/en-503931.html> or contact: [poresp-summarschool@uclouvain.be](mailto:poresp-summarschool@uclouvain.be)

# PORESP SUMMER SCHOOL

**ON ANTI-POVERTY POLICIES & INDIVIDUAL RESPONSES  
BRUSSELS, JULY 6-9, 2015.**

In July 6-9, we will hold a Summer School on “Anti-poverty Policies and Individual Responses” in Brussels. Four keynote speakers have accepted to participate and give three lectures. Marianne P. BITLER (UC Irvine) will speak on the distribution of impacts of social policies on beneficiaries. Marc GURGAND (Paris School of Economics) will speak on “Education and social origin: access and success”. Martin RAVALLION (Georgetown University) will speak on the evaluation of anti-poverty policies. All three are economists. Martha E. WADSWORTH (Pennsylvania State University), a psychologist, will speak on the effects of poverty and economic inequality on human development and functioning. In addition to the keynote lectures, there will be presentations and posters by Phd students and young Phd graduates. A few grants will be assigned to students from developing countries to help them attend the school. The “Fondation Universitaire” has accepted to host the event.

To register, please visit: <http://www.uclouvain.be/en-503931.html>

# PAST SCIENTIFIC EVENTS

## ET WORKSHOP

**ON INDUSTRIAL ORGANIZATION IN THE DIGITAL ECONOMY  
LIÈGE, MARCH 6-7, 2015**

**A**xel GAUTIER (CORE and Liege Competition and Innovation Institute, LCII) and Paul BELLEFLAMME (CORE and Louvain School of Management) have organized a workshop on “Industrial Organization in the Digital Economy”. This two-day workshop took place in Liège on March 6-7, 2015. The keynote speakers were Jacques CRÉMER (Toulouse School of Economics) and Nicolas PETIT (LCII, University of Liege). The workshop was targeted at PhD students and young postdoctoral scholars. Fourteen papers were presented on topics like multisided platforms, online news, social networks, net neutrality, Internet advertising, digital piracy, privacy, cybersecurity, interchange fees, e-books, or patent pools.

## BEED 2015

**8<sup>TH</sup> BELGIAN ENVIRONMENTAL ECONOMICS DAY  
LOUVAIN-LA-NEUVE, FEBRUARY 5, 2015.**

**T**he 8<sup>th</sup> Belgian Environmental Economics Day (BEED 2015) 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 (KULeuven), Steven VAN PASSEL (UHasselt) and Tom VERBEKE (KULeuven and UGent). 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, International Society of Ecological Economics, etc.). Nine speakers from the three Belgian regions as well as from the UK, Italy and France presented their research. Vincent VAN STEENBERGHE (Belgian Federal Administration), a former PhD student at CORE, was the keynote speaker. He presented a study carried out by the Federal Administration on the energy transition in Belgium (“Towards a low-carbon economy 2050”).

Full program: <http://www.uclouvain.be/en-482560.html>

## IMMAQ WORKSHOP

**ON PENSION AND AGEING  
LOUVAIN-LA-NEUVE, JANUARY 27, 2015**

**P**ension 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 and economic evolutions, will lead to major financial problems in the long run for our social security system and other insurance mechanisms. These important questions were at the heart of the latest IMMAQ workshop on pension and ageing that took place on January 27.

This workshop has been the opportunity for researchers from the three centers of IMMAQ (CORE, IRES, and ISBA) to present these last works and to exchange ideas and future developments. It is well known that the pension question must be addressed in a multi-disciplinary approach and the diversity of the techniques presented during this workshop illustrates perfectly the various and complementary expertises within our IMMAQ Institute.

### AMONG THE KEY QUESTIONS ADDRESSED DURING THE SEMINAR:

- how to insure simultaneously sustainability and fairness of a pension reform in Belgium
- how to build automatic balance mechanism in pay-as-you-go public pension schemes
- how to mix optimally pay-as-you-go and funded schemes
- how to increase the employability of old workers
- how to explain the slow development of long term care programs
- how to develop a new point system based on intergenerational and intra-generational justice

## OR WORKSHOP

**17<sup>TH</sup> CEMS WORKSHOP ON LOGISTICS AND SUPPLY CHAIN MANGEMENT  
BRUSSELS, DECEMBER 3, 2014**

**T**he 17<sup>th</sup> CEMS workshop on Logistics and Supply Chain Management took place in Brussels on December 3, 2014. We had the opportunity to have three interesting talks related to transportation. Bart JOURQUIN (UCL) described the NODUS multimodal network model and its various applications. Pierre Yves MISTIAEN (UCL) talked about express shipment network design, and Manuel HERRERA (AltaGracia) described a problem related to capacity restrictions in the Panama Canal. Other talks discussed incentives and their consequence in inventory management (Michael BECKER-PETH, Univ of Koln) and load retrieval optimal sequences in puzzle-based storage systems (Masoud MIRZAEI, Erasmus University). As usual the discussions between the 20 participants were animated and fruitful.

# WINTER SCHOOL & WORKSHOP

**JOINT UNAMUR-UCL EVENT ON NETWORKS IN ECONOMICS AND FINANCE  
LOUVAIN-LA-NEUVE, DECEMBER 1-5, 2014.**

**A**s part of the research agenda of the ARC project on “Financial Complexity”, the CeReFiM and naXys from Unamur, CORE and 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” on December 1-5, 2014 at LSM.

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

Two short courses, given by Dr. M. KÖNIG (Univ. of Zürich) on “Network theory and its applications in economics and finance” (December 1-2, 2014), and by Prof. E. KOLACZYK (Boston Univ.) on the “Statistics of Networks” (December 3-4, 2014), were followed by a

workshop (December, 5) with contributions from invited speakers in the morning (Prof. S. BATTISTON, Univ. of Zürich; Prof. S. MARKOSE, University of Essex; and Prof. K. YILMAZ, Univ. of Koç) then poster and parallel sessions featuring submitted contributions on various topics (financial networks, trade networks, network econometrics, network theory) at lunch time and in the afternoon.

The audience was very diverse with more than 75 participants from both Belgian (UCL, KUL, ULB, Ghent Univ., UNamur) and non-Belgian universities (from Denmark, France, Germany, Italy, the Netherlands, Spain, Hungary, the UK, Turkey and the US) as well as non-academic institutions (ING, NBB, De Nederlandsche Bank). Given its success, it is now expected to organize this event on a yearly basis alternating the location of the various sites involved.

For more information about the program of the event as well as the papers presented during the workshop see: <http://uclouvain.be/en-476278.html>



# PROJECTS/FUNDING

## BRAIN

**GRES-HEALTH, DURATION OF THE PROJECT: 15/12/2014 - 15/03/2019**

**U**nder the coordination of Benoit NEMERY (KUL), Isabelle THOMAS, along with Tim NAWROT (UHasselt); Catherine BOULAND (ULB); Patrick DEBOOSERE (VUB) and An VAN NIEUWENHUYSE (ISP-WIV), obtained BRAIN funding for a project called GRES-Health (Impact of green/blue spaces on specific morbidity and cause-specific mortality in Belgium).



## INNOVIRIS

**BRU-NET, DURATION OF THE PROJECT: 15/12/2014 - 15/03/2019**

**I**sabelle THOMAS, along with Vincent BLONDEL (before he was elected Rector of UCL), also obtained Innoviris funding for the project BRU-NET (Un nouveau regard sur les relations à l’intérieur de l’aire métropolitaine bruxelloise). She will be helped by researchers Christophe CLOQUET and Arnaud ADAM.

# PRIZES & AWARDS

## ISABELLE THOMAS

**BELGIAN FRANQUI CHAIR 2014-2015**  
**ANTWERPEN, MARCH - MAY 2015**

Isabelle THOMAS was awarded the Belgian Francqui Chair 2014-2015 last October, with a lecture series under the umbrella theme of “Measuring and modeling in economic and transport geography: challenges and opportunities”. The inaugural lecture was given on March 4, in Antwerpen.

Her lecture can be watched online at the following url:  
[http://mediasite.ua.ac.be/mediasite/Catalog/catalogs/TEW\\_Francqui\\_Leerstoel\\_2015](http://mediasite.ua.ac.be/mediasite/Catalog/catalogs/TEW_Francqui_Leerstoel_2015)



## ELENA MATTANA

**2<sup>ND</sup> SUERF/UNICREDIT & UNIVERSITIES FOUNDATION RESEARCH PRIZE, DECEMBER 2014**



The paper “A Dynamic Quantitative Macroeconomic Model of Bank Runs” (CORE DP 2014/68) by Elena MATTANA, with coauthor Ettore PANETTI from Bank of Portugal, was nominated one of the two winners of the 2nd SUERF/UniCredit & Universities Foundation Research Prize. The other winner was a paper by Roberto ROBATTO of University of Wisconsin-Madison. The prizes were awarded on December 11 at the Vienna University of Economics and Business, during the workshop on the subject “Reregulation of the Financial Sector - Economic Consequences, Costs and Benefits”.

## JEAN HINDRIKS

**LOBBY MAG: EXPERT OF THE YEAR 2014**  
**BRUSSELS, DECEMBER 2014**



Jean HINDRIKS has been nominated 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. The jury has appreciated the capacity of Prof. HINDRIKS to communicate in a simple way on technical issue such as the pension reform, as well as his independence, his capacity to keep away from the political debate and to resist recuperation by major political parties. Prof. HINDRIKS also intervenes frequently in the media on other issues such as education policies, public governance and public finance. For more information, see: [www.lobbymag.com](http://www.lobbymag.com)

# NEW PEOPLE@CORE

## ASSOCIATE FELLOWS



**D** **ANIELE CATANZARO** was awarded a Doctorate in Sciences (Operations Research) in 2008 for his studies in combinatorial optimization and mixed integer programming. He was appointed as Chargé de Recherches of the Belgian National Fund for Scientific Research (2009-2013) and Assistant Professor at the Department of Operations of the Rijksuniversiteit Groningen (2013-2014). He was visiting research scientist at the Department of Statistics and Operations Research of the University of La Laguna, the Tepper School of Business and the Department of Biological Sciences of the Carnegie Mellon University. As of September 2014, he joined the Université catholique de Louvain where he now serves as Assistant Professor of Operations Research at the Louvain School of Management. Daniele Catanzaro's interests involve combinatorial optimization, integer programming and medical bioinformatics.

**F** **RÉDÉRIC VRINS** graduated in electromechanical (mechatronics) engineering at UCL in 2002. From 2002 to 2007, he worked as a research assistant at the department of electrical engineering of the Ecole Polytechnique de Louvain. His thesis dealt with blind source separation problems from the information theory point of view. Following his Ph.D, Frédéric spent seven years in the private sector as a Front Office Quantitative Analyst within the Financial Markets department of ING Bank (trading floor). Frédéric is currently Assistant Professor of Quantitative Finance at Louvain School of Management and Regional Director of PRMIA (Professional Risk Managers' International Association) for Belgium. His research interests cover mathematical finance in general, with a special focus on default risk modeling, structured products pricing, as well as stochastic processes & bounded martingales applied to finance.



## POSTDOCTORAL RESEARCHERS



**C** **CHRISTOPHE CLOQUET** received his PhD in Engineering Sciences from the Université libre de Bruxelles in July 2011, under the supervision of Serge Goldman and Michel Defrise. His general interest is in mobile phone and social network data analysis. He runs a small company developing mobile solutions for mass gatherings. At CORE, he will work part-time with Isabelle THOMAS and Arnaud ADAM as part of the SMART-BRU project, aiming at studying the relationships between Brussels and its surrounding region.

**S** **EBASTIAN STICH** received his PhD from ETH Zurich where he was associated with the "Theory of Combinatorial Algorithms" group of Emo Welzl. In his dissertation he studied randomized methods for convex optimization, under the supervision of Bernd Gärtner. His main research interests are the theoretical investigation of (randomized) schemes for high-dimensional optimization and stochastic variable metric methods. At CORE, he will work with François GLINEUR and Yurii NESTEROV as a part of the ARC project "Mining and Optimization of Big Data Models".



## JOB MARKET FOLLOW-UP

**YUKAI YANG** has taken the postdoctoral research fellow position at the Finance and Insurance (FINS) research group at the Faculty of Economics and Social Sciences, Vrije Universiteit Brussel in the beginning of 2015. He is currently working on developing a shrinkage covariance estimator for portfolio selection.



# UPCOMING SEMINARS

## BROWN BAG

**MARCH 23, 2015, AT 12:45 P.M.**

Joniada MILLA, CORE  
*Nature or Nurture in Tertiary Education Attendance? Intergenerational Implications of the Vietnam-Era Lottery*

**APRIL 22, 2015, AT 12:45 P.M.**

Sinem BAS, CORE

**MAY 5, 2015, AT 12:45 P.M. (TUESDAY)**

Aditi DIMRI, CORE

**MAY 20, 2015, AT 12:45 P.M.**

André ROMAHN, KUL

## ECONOMETRICS

**MARCH 16, 2015 AT 2:30 P.M. (JOINT WITH LSM FINANCE SEMINAR)**

Monica BILLIO, Università Ca' Foscari Venezia  
*Sovereign, Bank and Insurance Credit Spreads: Connectedness and System Networks*

**MARCH 30, 2015 AT 2:30 P.M.**

Clifford LAM, LSE  
*One-Step Regularized Spatial Weight Matrix and Fixed Effects Estimation with Instrumental Variables*

**APRIL 20, 2015 AT 2:30 P.M.**

Philippe DESCHAMPS, Université de Fribourg  
*Alternative formulations of the leverage effect in a stochastic volatility model with asymmetric heavy-tailed errors*

**APRIL 27, 2015 AT 2:30 P.M. (JOINT WITH LSM FINANCE SEMINAR)**

Christophe HURLIN, Université d'Orléans

**MAY 4, 2015 AT 2:30 P.M.**

Erick W. RENGIFO, Fordham University

**MAY 18, 2015 AT 2:30 P.M. (JOINT WITH LSM FINANCE SEMINAR)**

Xiaodong LIU, University of Colorado Boulder  
*GMM Identification and Estimation of Peer Effects in a System of Simultaneous Equations*

**JUNE 1, 2015 AT 2:30 P.M.**

Taisuke OTSU, London School of Economics and Political Science

**JUNE 15, 2015 AT 2:30 P.M.**

Maria KALLI, Canterbury Christ Church University

## ECONOMICS

**MARCH 16, 2015 AT 4 P.M.**

Matan TSUR, University of Vienna  
*Financial Contracts and Bargaining*

**MARCH 30, 2015 AT 4 P.M.**

Gerald WILLMAN, University of Bielefeld  
*Unequal Gains, Prolonged Pain: Dynamic Adjustment Costs and Protectionist Overshooting*

**APRIL 20, 2015 AT 4 P.M.**

Debasis MISHRA, Indian Statistical Institute

**APRIL 27, 2015 AT 4 P.M.**

Antonio CABRALES, University College London  
*Which Club Should I Attend, Dad?: Targeted Socialization and Production*

**MAY 4, 2015 AT 4 P.M.**

Ferdinand RAUCH, Oxford University

**MAY 11, 2015 AT 4 P.M.**

Bernard SINCLER-DESGAGNE, Chaire d'économie internationale et de gouvernance HEC Montréal

**MAY 18, 2015 AT 4 P.M.**

Ed HOPKINS, University of Edinburgh

**MAY 25, 2015 AT 4 P.M.**

Giammario IMPULLITTI, University of Nottingham

**JUNE 1, 2015 AT 4 P.M.**

Sebastian FINDEISEN, University of Mannheim

## ECORES

**MARCH 23, 2015, 1:30 P.M. (LOCATION: ECARES)**

1:30 p.m.: Claude D'ASPROMONT  
*Oligopolistic vs. Monopolistic Competition: Do Intersectoral Effects Matter?*

2:25 p.m.: Victor GINSBURGH  
*Foreign Language Learning. An econometric Analysis*

3:15 p.m.: Mathias DEWATRIPONT  
TBA

## OPERATIONS RESEARCH

**MARCH 24, 2015, 4:30 P.M.**

Ralf WERNER, University of Augsburg

**MARCH 26, 2015, 2:00 P.M.**

Iva RASHKOVA, London Business School  
*Public Multi-Product Health Procurement: The Dynamic Inventory Budget Allocation Problem*

**MARCH 31, 2015, 4:30 P.M.**

Jean-Patrice NETTER, DIAGMA Supply Chain Services

**APRIL 28, 2015, 4:30 P.M.**

Tomas BAJBAR, Karlsruhe Institute of Technology

**MAY 5, 2015, 4:30 P.M.**

Ivar EKELAND, Université Paris Dauphine

**MAY 26, 2015, 4:30 P.M.**

Diego MORAN, Virginia Tech

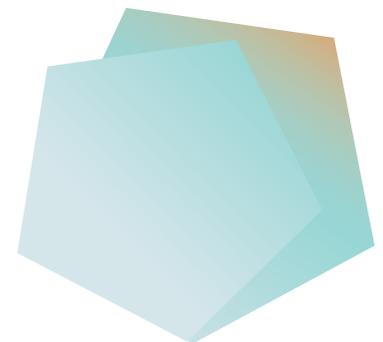
## IMMAQ TRADE AND ECONOMIC GEOGRAPHY

**MARCH 19, 2015, 12:45 P.M. (JOINT WITH IRES RESEARCH SEMINAR)**

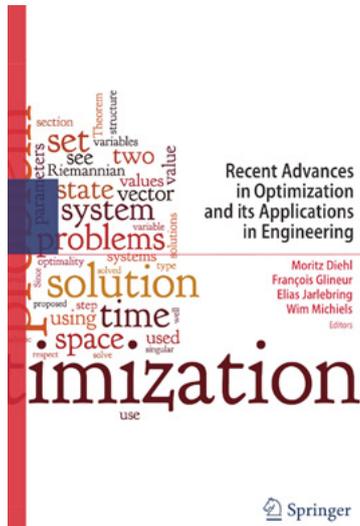
Frédéric ROBERT-NICOUD, Université de Genève  
*Are Cities Too Small? Equilibrium and Optimal Urban Systems with Heterogeneous Land*

**MARCH 26, 2015, 12:45 P.M. (JOINT WITH IRES RESEARCH SEMINAR)**

Holger BREINLICH, University of Essex



# NEW BOOKS



## FRANÇOIS GLINEUR

### RECENT ADVANCES IN OPTIMIZATION AND ITS APPLICATIONS IN ENGINEERING

ed. by Moritz DIEHL, François GLINEUR, Elias JARLEBRING, Wim MICHIELS  
Springer, 2010

**M**athematical optimization encompasses both a rich and rapidly evolving body of fundamental theory, and a variety of exciting applications in science and engineering. The present book contains a careful selection of articles on recent advances in optimization theory, numerical methods, and their applications in engineering. It features in particular new methods and applications in the fields of optimal control, PDE-constrained optimization, non-linear optimization, and convex optimization. The authors of this volume took part in the 14th Belgian-French-German Conference on Optimization (BFG09) organized in Leuven, Belgium, on September 14-18, 2009. The volume contains a selection of reviewed articles contributed by the conference speakers as well as three survey articles by plenary speakers and two papers authored by the winners of the best talk and best poster prizes awarded at BFG09. Researchers and graduate students in applied mathematics, computer science, and many branches of engineering will find in this book an interesting and useful collection of recent ideas on the methods and applications of optimization.

## JEAN HINDRIKS

### QUEL AVENIR POUR NOS PENSIONS ?

De Boeck, 2015

**E**n ce qui concerne les pensions, un constat d'échec s'impose car

- en dépit des avertissements répétés depuis plusieurs décennies
- nous n'avons rien fait pour adapter de façon structurelle notre système des pensions au vieillissement de la population et aux mutations socioéconomiques du 21<sup>e</sup> siècle.

Le phénomène du vieillissement n'est pas nouveau. Ce qui a changé, c'est qu'il coïncide aujourd'hui avec les départs à la pension. Le nombre de pensionnés augmente fortement et il représente une part croissante de la consommation totale, ce qui va peser inévitablement à l'avenir sur la consommation des actifs. Nous sommes en conséquence devant un nouveau conflit des classes d'âge, et cette tension entre générations menace de saper la solidarité sur laquelle reposent les pensions.

Pour réformer les pensions, il faut au préalable faire tomber certains mythes que l'on a pourtant mis tant d'énergie et de talent à ériger. Cet ouvrage s'attelle à les abattre et, ce faisant, il vise à mieux comprendre comment la question des pensions repose sur de nombreux malentendus et incompréhensions qu'il faut maintenant lever pour entreprendre sereinement cette réforme qui ne peut plus attendre.

Dans un langage clair et accessible, l'auteur présente les enjeux et l'avenir de nos pensions pour nous permettre d'anticiper les changements et de préparer notre pension en toute confiance. A l'instar de la Commission de réforme des pensions, il propose notamment un système de pension à points pour ôter l'interrogation qui pèse actuellement sur les pensions. Plus de sécurité, d'équité, de souplesse et de lisibilité sont les points cardinaux de cette réforme.

Si le rapport de la Commission de réforme des pensions est en arrière fond de l'ouvrage, celui-ci a le mérite de mettre à la portée d'un large public les grands défis et les contours de notre futur système de pension. Il concerne donc les artisans de cette réforme au sein des institutions de pension, des assurances et fonds de pension, des administrations et entreprises, du monde politique et des partenaires sociaux mais aussi chacun d'entre nous qui s'interroge sur l'avenir de sa pension !



# PUBLICATIONS

## REPRINTS

### ECONOMETRICS

**2641.** Luc BAUWENS, Bruno DE BACKER and Arnaud DUFAYS. A Bayesian method of change-point estimation with recurrent regimes: application to GARCH models. *Journal of Empirical Finance*, 29, 207-229, 2014.

**2647.** C. HAEDO, M. MOUCHART. Specialized agglomerations with Lattice data: Model and detection. *Spatial Statistics*, 11, 113-131, 2015.

### ENVIRONMENTAL ECONOMICS

**2636.** Thierry BRECHET 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 OSTERDAL. Assigning agents to a line. *Games and Economic Behavior*, 87, 539-553, 2014.

**2638.** Ana MAULEON, Elena MOLIS, Vincent J. VANNETELBOSCH and Wouter VERGOTE. Dominance invariant one-to-one matching problems. *International Journal of Game Theory*, 43(4), 925-943, 2014.

**2645.** Pierre DEHEZ and Sophie POUKENS. The Shapley value as a guide to FRAND licensing agreements. *Review of Law Economics*, 10(3), 265-284, 2014.

### MACROECONOMICS POLICIES

**2639.** Elena MATTANA and Ettore PANETTI. Bank liquidity, stock market participation, and economic growth. *Journal of Banking & Finance*, 48, 292-306, 2014.

### MICROECONOMIC THEORY

**2632.** Ana MAULEON, Jose J. SEMPERE-MONERRIS and Vincent VANNETELBOSCH. Farsighted R&D networks. *Economics Letters*, 125(3), 340-342, 2014.

**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.

### OPTIMIZATION METHODS AND OPERATIONS RESEARCH

**2628.** Philippe CHEVALIER, Alejandro LAMAS, Lian LU and Tanja MLINAR. Revenue management for operations with urgent orders. *European Journal of Operational Research*, 240(2), 476-487, 2015.

**2637.** Madjid TAVANA, Rashed KHANJANI SHIRAZ and Adel HATAMI-MARBINI. A new chance-constrained DEA model with birandom input and output data. *The Journal of the Operational Research Society*, 65, 1824-1839, 2014.

**2642.** Adel HATAMI-MARBINI, Madjid TAVANA, Per J. AGRELL, Farhad HOSSEINZADEH LOTFI and Zahra GHELEJ BEGI. A common-weights DEA model for centralized resource reduction and target setting. *Computers & Industrial Engineering*, 79, 195-203, 2015.

**2644.** Adel HATAMI-MARBINI, Madjid TAVANA, Kobra GHOLAMI and Zahra GHELEJ BEGI. A bounded data envelopment analysis model in a fuzzy environment with an application to safety in the semiconductor industry. *Journal of Optimization Theory and Applications*, 164(2), 679-701, 2015.

### PUBLIC & WELFARE ECONOMICS

**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.

**2630.** Jorge MANZI, Ernesto SAN MARTIN and Sébastien VAN BELLEGEM. School system evaluation by value added analysis under endogeneity. *Psychometrika*, 79(1), 130-153, 2014.

**2634.** Pierre PESTIEAU and Gregory PONTIERE. Optimal life-cycle fertility in a Barro-Becker economy. *Journal of Population Economics*, 28(1), 45-87, 2015.

**2635.** Helmuth CREMER, Pierre PESTIEAU and Kerstin ROEDER. United but (un)equal: human capital, probability of divorce, and the marriage contract. *Journal of Population Economics*, 28(1), 195-217, 2015.

**2640.** Jean HINDRIKS and Yukihiko NISHIMURA. A note on equilibrium leadership in tax competition models. *Journal of Public Economics*, 121, 66-68, 2015.

**2646.** G. BERGANTINOS and J. D. MORENO-TERNERO. The axiomatic approach to the problem of sharing the revenue from museum passes. *Games and Economic Behavior*, 89, 78-92, 2015.

### SUPPLY CHAIN MANAGEMENT

**2643.** Xavier BRUSSET and Per J. AGRELL. Dynamic supply chain coordination games with repeated bargaining. *Computers & Industrial Engineering*, 80, 12-22, 2015.

## TRADE, TRANSPORT & GEOGRAPHY

**2625.** Jacques-François THISSE. The new science of cities by Michael Batty: the opinion of an economist. *Journal of Economic Literature*, 52(3), 805-819, 2014.

**2626.** Bas de GEUS, Bart DEGRAEUWE, Grégory VANDENBULCKE, Luc INT PANIS, Isabelle THOMAS, Joris AERTSENS, Yves DE WEERDT, Rudi TORFS and Romain MEEUSEN. Utilitarian cycling in Belgium: a cross-sectional study in an ample of regular cyclists. *Journal of Physical Activity and Health*, 11, 884-894, 2014.

**2629.** Alain PHOLO BALA, Dominique PEETERS and Isabelle THOMAS. Spatial issues on a hedonic estimation of rents in Brussels. *Journal of Housing Economics*, 25, 104-123, 2014.

## DISCUSSION PAPERS

### ECONOMETRICS

**2014/53.** Luc BAUWENS, Manuela BRAIONE and Giuseppe STORTI. Forecasting comparison of long term component dynamic models for realized covariance matrices.

**2014/56.** Jean-Pierre FLORENS and Sébastien VAN BELLEGEM. Instrumental variable estimation in functional linear models.

**2014/59.** Manuela BRAIONE and Nicolas K. SCHOLTES. Construction of value-at-risk forecasts under different distributional assumptions within a BEKK framework.

**2014/60.** Jörg BREITUNG and Christian M. HAFNER. A simple model for now-casting volatility series.

**2014/61.** TIMO TERASVIRTA and Yukai YANG. Linearity and misspecification tests for vector smooth transition regression models.

**2014/62.** Timo TERASVIRTA and Yukai YANG. Specification, estimation and evaluation of vector smooth transition autoregressive models with applications.

**2015/7.** Luc BAUWENS, Jean-François CARPANTIER and Arnaud DUFAYS. Autoregressive moving average infinite hidden markov-switching models.

### ENVIRONMENTAL ECONOMICS

**2014/45.** Thierry BRECHET, Natali HRITONENKO and Yuri YATSENKO. Domestic environmental policy and international cooperation for global commons.

**2014/58.** Henry TULKENS. Internal vs. core coalitional stability in the environmental externality game: A reconciliation.

## GAME THEORY

**2014/42.** Gilles GRANDJEAN, Marco MANTOVANI, Ana MAULEON and Vincent VANNETELBOSCH. Whom are you talking with ? An experiment on credibility and communication structure.

### INDUSTRIAL ORGANIZATION

**2014/63.** Axel GAUTIER and Nicolas PETIT. Optimal enforcement of competition policy: the commitments procedure under uncertainty.

**2014/64.** Sebastien BROOS and Axel GAUTIER. Competing one-way essential complements: the forgotten side of net neutrality.

### MACROECONOMICS POLICIES

**2014/43.** Julio DAVILA. The rationality of expectations formation.

**2014/68.** Elena MATTANA and Ettore PANETTI. A dynamic quantitative macroeconomic model of bank runs.

### MICROECONOMIC THEORY

**2014/44.** Florian MAYNERIS, Sandra PONCET and Tao ZHANG. The cleansing effect of minimum wages. Minimum wages, firm dynamics and aggregate productivity in China.

**2014/46.** Mathieu PARENTI, Philip USHCHEV and Jacques-François THISSE. Toward a theory of monopolistic competition.

**2014/48.** Paul CASTANEDA DOWER, Victor GINSBURGH and Shlomo WEBER. Colonial legacy, linguistic disenfranchisement and the civil conflict in Sri Lanka.

**2014/49.** Victor GINSBURGH, Jacques MELITZ and Farid TOUBAL. Foreign language learning: An econometric analysis.

**2015/1.** Yurii NESTEROV and Vladimir SHIKHMAN. Algorithm of price adjustment for market equilibrium.

**2015/2.** Claude d'ASPREMONT and Rodolphe DOS SANTOS FERREIRA. Oligopolistic vs. monopolistic competition: Do intersectoral effects matter?

### OPTIMIZATION METHODS AND OPERATIONS RESEARCH

**2014/52.** Iver EKELAND and Maurice QUEYRANNE. Optimal pits and optimal transportation.

**2014/55.** Pasquale AVELLA, Maurizio BOCCIA and Laurence A. WOLSEY. Single-period cutting planes for inventory routing problems.

**2014/57.** Abdelrahman ALY and Mathieu VAN VYVE. Securely solving classical network flow problems.

**2015/3.** Yurii NESTEROV. Complexity bounds for primal-dual methods minimizing the model of objective function.

**2015/4.** Hassène AISSI, A. Ridha MAHJOUR, S. Thomas McCORMICK and Maurice QUEYRANNE. Strongly polynomial bounds for multiobjective and parametric global minimum cuts in graphs and hypergraphs.

**2015/6.** Nicolas GILLIS, François GLINEUR, Daniel TUYTTENS and Arnaud VANDAELE. Heuristics for exact nonnegative matrix factorization.

**2015/9.** Eric BALANDRAUD, Maurice QUEYRANNE, and Fabio TARDELLA. Largest minimally inversion-complete and pair-complete sets of permutations.

## PUBLIC & WELFARE ECONOMICS

**2014/41.** Chiara CANTA, Pierre PESTIEAU and Emmanuel THIBAUT. Long term care and capital accumulation: the impact of the State, the market and the family.

**2014/50.** Koen DECANCO and Dirk NEUMANN. Does the choice of well-being measure matter empirically? An illustration with German data.

**2014/51.** François MANIQUET. Social ordering functions.

**2014/54.** François MANIQUET and Philippe MONGIN. Judgment aggregation theory can entail new social choice results.

**2014/65.** Jean HINDRIKS and Yukihiro NISHIMURA. On the timing of tax and investment in fiscal competition models.

**2014/66.** Jean HINDRIKS and Guillaume LAMY. Back to school, back to segregation?

**2014/67.** François MANIQUET et Dirk NEUMANN. Echelles d'équivalence du temps de travail: évaluation de l'impôt sur le revenu en Belgique à la lumière de l'éthique de la responsabilité.

**2015/5.** Marc FLEURBAEY and François MANIQUET. Optimal taxation theory and principles of fairness.

**2015/8.** Koen DECANCO, Marc FLEURBAEY and François MANIQUET. Multidimensional poverty measurement with individual preferences.

## TRADE, TRANSPORT & GEOGRAPHY

**2014/47.** Takatoshi TABUCHI, Jacques-François THISSE and Xiwei ZHU. Does technological progress affect the location of economic activity?

# LIFE@CORE

## 2015 INTERNATIONAL DINNER

**SURPRISE! THE INTERNATIONAL DINNER PARTY IS COMING BACK!  
ROOM B-135 (CORE), MARCH 20, 2015, 6:30 P.M.**

**S**ave the date! The concept is simple: Everybody has to bring a typical dish of their own country (enough food for 3 people if coming alone, or for 6 if coming with somebody). The room will be decorated following a theme kept secret by Catherine.

Interested? Join us! There is a table in the lounge where you can write your name, if you plan to come alone or with someone, the kind of dish you will bring (in order to avoid similar dishes) and men-

tion if you would like to help with the practical organisation.

There will also be a contest for the best "hors d'oeuvre", the best "main dish", the best "dessert" and an originality prize. CORE provides drinks.

If you have any questions, feel free to contact Catherine ([catherine.germain@uclouvain.be](mailto:catherine.germain@uclouvain.be)).



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