Newsletter
International Input-Output Association (IIOA)
Number 36, May 2018

Welcome from the Editor

Dear IIOA member,

I am pleased to release to you the latest issue of the *International Input-Output Newsletter*.

I thank all the piece writers and anyone else who has sent us contributions.

This issue features information about the next IIOA Conference in Juiz de Fora, Brazil. We hope to see all of you there.

This issue also includes some sad news—an obituary for Jochen Schumann. In this way it remembers a founder of input-output in Germany and an IIOA Council Member responsible for scientific programs of several conferences.

You can also find abstracts for the latest ESR articles, Highlights of Other Journals and

Books, Tables from the I-O World (Figaro tables, Australian MRSUT, Interregional Input-Output tables for Greece and Brazil), Next Courses and Events (6th Permanent Workshop Hispanic-American Input-Output Society (SHAIO); 26th INFORUM World Conference; 21st Annual Conference on Global Economic Analysis; Asian Studies Association of Australia Conference 2018; ERSA; and NARSC).

There is also a NARSC 2018 Call for Submissions Special Session(s) on Innovations in extended input-output modeling in regional and multi-regional systems. Check it out!

I hope you enjoy it! Any feedback, comments or suggestions are greatly appreciated.

Vinicius de Almeida Vale
IIOA Newsletter Editor
Federal University of Parana, Brazil
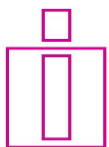Newsletter E-mail: newsletter@iioa.org
Personal E-mail: vinicius.a.vale@gmail.com

Would you like to contribute to the IIOA newsletter?
Contact us newsletter@iioa.org

In this issue

Next IIOA Conference

26th INTERNATIONAL INPUT-OUTPUT CONFERENCE

JUNE 2018, BRAZIL, JUIZ DE FORA

25 - 29 JUNE 2018

Dear valued member of the IIOA,

The first draft scientific program for our conference in Juiz de Fora has been available and the Program Overview has been updated. Check it out here!

Furthermore, remember that online registration ends on June 9, 2018. Register here.

Do not hesitate to contact us if you have a question (iioajf2018@gmail.com).

We look forward to see all of you in Juiz de Fora.

Chair of the Local Organizing Committee:
Fernando PEROBELLI
Federal University of Juiz de Fora (UFJF)
iioajf2018@gmail.com

Register here

More Information

The Conference
Important Dates
Juiz de Fora
Accommodation
Transportation
Bars and Restaurants
Weather
Federal University of Juiz de Fora
Organizers
Tourism Information
Visa Information

Organized by

ufjf

Programa de Pós Graduação em economia

Sponsors

CNPq
Conselho Nacional de Desenvolvimento
Científico e Tecnológico

CAPES

BDMG
BANCO DE DESENVOLVIMENTO
DE MINAS GERAIS

MINAS GERAIS
GOVERNO DE TODOS

LATES
LABORATÓRIO DE ANÁLISES TERRITORIAIS E SETORIAIS

fipe
Fundação Instituto de
Pesquisas Econômicas

Fadepe

ipea
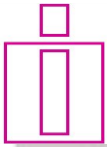
Keynote Speakers

Narasimha Rao

Dr. Narasimha D. Rao is a Research Scholar and Project Leader in the Energy systems group at IIASA, where he has worked for the last six years. His research examines the relationship between energy systems, human wellbeing and climate change. He is the recipient of the European Research Council (ERC) Starting Grant for his ongoing project entitled Decent Living Energy - energy and emissions thresholds for providing decent living standards for all. His research interests also include investigating income inequality, and distributional issues in energy and climate policy at a national and global level. Dr. Rao is also an Adjunct Fellow at the Ashoka Trust for Research in Ecology and Environment in Bangalore, India. Dr. Narasimha D. Rao obtained his Ph.D. from Stanford University, California in Environment and Resources, and has Master's degrees in Electrical Engineering and Technology Policy from the Massachusetts Institute of Technology.

Roberto Luis Olinto Ramos

Dr. Roberto Olinto is currently the President of the Brazilian Institute of Geography and Statistics – IBGE in charge of National Statistical System and of statistical cooperation. He received his M.Sc. in Systems Engineering and D.Sc. in Production Engineering from Federal University of Rio de Janeiro. He has spent almost 38 years in the Government Statistical Service, mainly in the field of input-output table compilation, national accounts and economic statistics. He was formerly the Director of Surveys area in charge of all official statistics - production, planning and analysis. He was the Coordinator of National Accounts, for ten years, and responsible for the planning and implementation of the System of National Accounts 2008. He also worked on several projects in the economic statistics area, such as compilation of input-output tables, and managing the implementation of Brazilian Quarterly National Accounts. He represents the National Statistics Office in the United Nations Inter-agency Expert Group on SDGs Indicators and in the International Comparison Program – ICP Governing Board. He is advisor of the Statistics Department of the International Monetary Fund on National Accounts. He is member, since 2002, of the United Nations Advisory Expert Group on National Accounts.

Carmem Aparecida Feijo

Carmem Aparecida Feijo received her Ph.D. in Economics from University College London. She is currently full professor of the Fluminense Federal University (UFF) and a researcher at the National Research Council (CNPq). For over 20 years, Carmem Feijo pursued an active career at the Brazilian Statistical Office (IBGE), and was a member of the panel of international consultants for the Human Development Report of UNDP (2000-2003). Also she was an international consultant for the statistics of the Millennium Declaration/UN in 2002. Furthermore, she is an elected member at the International Statistical Institute since 1998. Her research is mainly in areas of economic growth, official statistics and Brazilian economy.

26th INTERNATIONAL INPUT-OUTPUT CONFERENCE
JUNE 2018, BRAZIL, JUIZ DE FORA
25 - 29 JUNE 2018

8th Edition of the International School of I-O Analysis

26th INTERNATIONAL
INPUT-OUTPUT
CONFERENCE
JUNE 2018, BRAZIL, JUIZ DE FORA

25 - 29 JUNE 2018

The International School of Input-Output Analysis

MODULES

Working with OECD's ICIO 2018

Lecturers: Joaquim Guilhoto (OECD) and Norihiko Yamano (OECD)

Flow of Funds (FF) and Financial Social Accounting Matrices (FSAM)

Lecturers: Agustín Velázquez Afonso (Joint Research Centre, European Commission)

An Introduction to Building Interindustry Macroeconomic Models Using Interdyme

Lecturer: Douglas S. Meade (Inforum, University of Maryland)

**The How and Why of Subnational Multiregional Input-Output Accounting**

Lecturer: Michael L. Lahr (Rutgers University) and Johannes R. Többen (Norwegian University of Science and Technology)

Introduction and applications of hybrid input-output models to analyze greenhouse gas emissions.

Lecturer: Weslem Rodrigues Faria (UFJF), Kênia Barreiro de Souza (UFPR) and Terciane Sabadini Carvalho (UFPR)
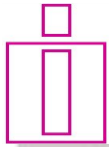
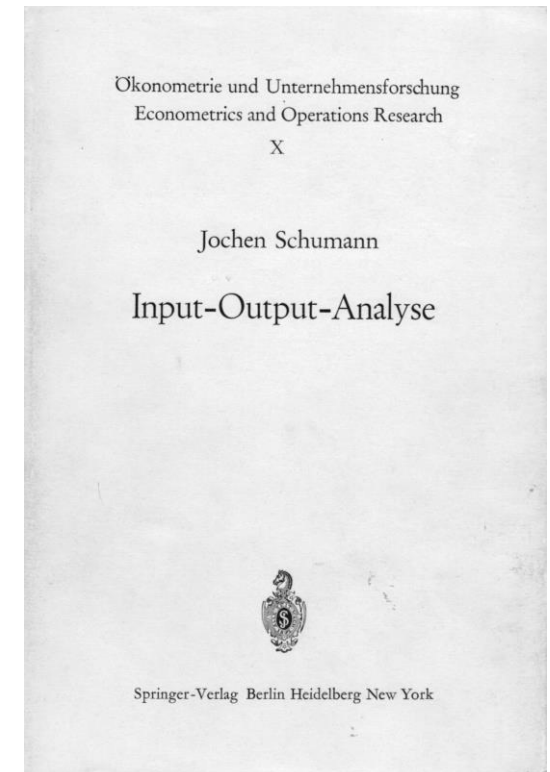## Obituary for Jochen Schumann (11.02.1930 – 16.02.2018)
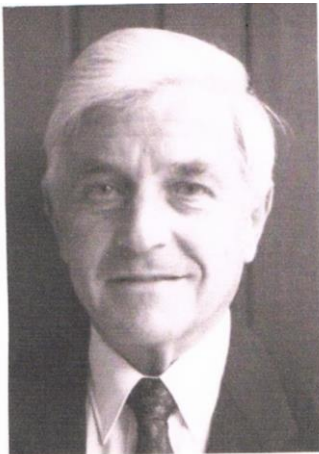
In February, five days after his 88th birthday our colleague Jochen Schumann passed away. His colleagues of the Westfalian Wilhelms University Münster paid tribute to him in their obituary: "We remember our teacher, donor and friend". With these notions: teacher, donor and friend they emphasized the characteristics that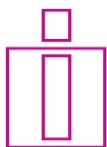 distinguished Prof. Jochen Schumann. He was full professor of Theoretical Economics at the Department of Economic and Social Sciences during his 28 years of affiliation with the University of Münster.

In the press release on Jochen Schumann´s death, the university honoured both his personality and his lifelong scientific activities. For that reason, I concentrate here on his s role as a member of the national and international input-output family. I thank our deceased friend for his manifold contributions in the field of input-output research.

I suppose that Jochen Schumann's first input-output contact be traced to his thesis in 1959, which was entitled "*Die Sektorenanalyse als Instrument konjunkturtheoretischer Untersuchungen*" (in English *Sectoral Analysis as a Tool for Investigations into Economic Theory)*. He was then assistant at the Institute of Socioeconomic Structural Research at the Johann Wolfgang Goethe University, Frankfurt. After that, in 1960/61, he became fellow of the Rockefeller Foundation and worked in America. He worked with Lawrence Klein at the University of Pennsylvania, Hollis B. Chenery at Stanford and Wassily Leontief at Harvard University. This experience clearly impressed and influenced young Jochen deeply. After his return to Frankfurt, he wrote his thesis for the habilitation (qualification for a full professorship in Germany). In this endeavour, he was supported by Prof. Heinz Sauermann, and he received a scholarship for two Years from the German Research Foundation. Jochen Schumann subsequently wrote a postdoctoral thesis entitled *Input-Output-Analyse*. This popular Germanaphone book was published by Springer in July 1968, some 50 years ago (see copy).

Ökonometrie und Unternehmensforschung
Econometrics and Operations Research
X

Jochen Schumann

Input-Output-Analyse

Springer-Verlag Berlin Heidelberg New York

The mathematically demanding book became standard in Germany for all experts of input-output analysis. It had three main parts: the rather brief first part Schumann outlines "Empirical basics of input-output models"; in the second part he digs deeply into "Static input-output theory", and in the extensive third part he develops "Dynamic input-output theory". Recurring static and dynamic models as well as to open and closed models, Jochen Schumann offers the reader an excellent introduction into the various stages of theoretical input-output development.

Schumann´s Input-Output-Analyse had not only been the basic resource on input-output for people at universities and economic research institutes within Germany. It was also a key resource at least in The Netherlands as well, as personally reported by Erik Dietzenbacher. Unfortunately, Schumann's tome was never translated into English, which certainly impeded its broader dissemination around the world.

In the middle of the 1970s, Schumann and his research group sought input-output tables to which they could apply their input-output models. They got in touch with the Input-Output Group of the German Institute for Economic Research in Berlin (DIW), which compiled input-output tables. I worked there, and Jochen Schumann invited me to lecture at the University of Münster on 20 January 1976. I talked about a time series of 14 annual input-output tables with import matrices an 14 production sectors for the Federal Republic of Germany that started in 1954. Financially supported by the German Research Foundation we had estimated these figures for a forecasting system used by Prof. Wilhelm Krelle in Bonn.

The DIW input-output data were placed at Jochen Schumann's disposal; they induced five studies published in highly ranked economic journals. The main topics were "Possibilities and relevance of a partly endogenous explanation of private consumption and private investment in the static open input-output model" and "Applying a dynamic input-output model to explain simultaneously the development of quantities and prices for the Federal Republic of Germany 1954 -1967".
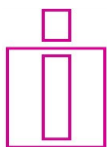
In the 1980s Jochen Schumann became a Council Member of the International Input-Output Association (IIOA). He helped prepare the scientific programs of the international input-output conferences in Sapporo, Japan (1986); Keszthely, Hungary (1989); Seville, Spain (1993) and Delhi, India (1995). During that period, Jochen Schumann and I worked closely together as I represented the IIOA as as Vice-President and, eventually, President.

In Volume 3 of *Economic Systems Research*, Schumann published an article entitled "On Some Basic Issues of Input-Output Economics: Technical Structure, Prices, Imputations, Structural Decomposition, Applied General Equilibrium". This piece from 1990 should be considered Jochen Schumann's capstone piece, his legacy, as it touches on all aspects of his research on input-output. More recently, his 2009 book entitled *Looking for Transparency in the Universe of Economics. Contributions to Economic Theory*. Reaching beyond input-output proper this publication offers insights in economic theory and paves various ways of access to this field.

With Jochen Schumann we lost an extraordinary input-output expert. We will hold him in fond remembrance as a highly esteemed colleague and as dear human being.

Reiner Stäglin

Past President of the IIOA

Published papers and books in IOA and related methods

Latest ESR articles

Economic Systems Research

Journal of the IIOA

Volume 30, Issue 2, 2018

Tsujimura, K., and Tsujimura, M. A flow of funds analysis of the US quantitative easing. *Economic Systems Research, 30(2): 137-177.*

After the Bank of Japan first introduced a quantitative easing policy in 2001, Tsujimura and Mizoshita [(2003) Asset-Liability-Matrix Analysis Derived From Flow-of-Funds Accounts: the Bank of Japan's Quantitative Monetary Policy Examined. Economic Systems Research, 15, 51–67] applied input–output analysis to analyze its effects. Some central bankers criticized the analysis as misleading because it was based on the asset–liability matrix derived from the financial balance sheets. In this vein, the real policy effects on production and employment were overlooked. Herein, we answer such criticism by introducing a new method of tracking the flow of funds. It covers both real and financial transactions to show the mechanism and the effects of the US quantitative easing.large social accounting matrix, are provided.

Duan, y., Dietzenbacher, E., Jiang, X. and Chen, X. Why has China's vertical specialization declined?. *Economic Systems Research, , 30(2): 178-200.*

Vertical specialization (VS) is quantified by the VS share, which measures the average import content per dollar of exports. A characteristic of China's export trade is its strong dependence on assembly and processing activities. To take proper account of this, China's VS shares should explicitly distinguish processing export production from other production. We estimate China's annual VS shares from 2000 to 2012—the latest year for which a special input–output table is available that makes such an explicit distinction. We find that VS shares increased from 2000 to 2004 and subsequently started to decrease. To explore why it has declined, we introduce a new structural decomposition approach. We find that the decrease of the VS share appears to have been driven mainly by the substitution of imported intermediates by domestic products. This occurred in particular in the production of exports, which implies an upgrading of China's position in global value chains.
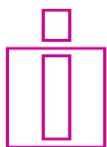
Reich, U.P. Who pays for whom? Elements of a macroeconomic approach to income inequality. *Economic Systems Research, 30(2): 201-218.*

National income is generated through national production in the form of 'value added'; it is expended on goods and services in the form of 'disposable' or 'net' income. In this paper, I investigate what happens in between. The circuit of income flows generated in this way is comparable to the circuit of product flows, in its complexity. It can be analysed, so the tenet of the paper, in a similar way, by means of well-known tools of input–output (IO) analysis; this on the pre-condition, however, that you draw out the institutional framework of an economy in similar detail as is now customarily done for production units in IO analysis. Existing data do not suffice for the purpose, at present; this paper shows, by way of some exemplary calculations, what insight into the mechanism of national income distribution is gained if the necessary data, normally in the form of a large social accounting matrix, are provided.

Jiang, X., Lu, X., and Xu, J. How do interregional spillovers influence the distribution of technology? The case of Chinese manufacturing. *Economic Systems Research, 30(2): 219-237.*

The Chinese economy displays considerable inequality across regions. In this paper, we analyzed the distribution of intermediate input shares in China. We use regional input–output tables from 2007 and find that regions with higher GDP per capita generally had higher input shares, regardless of sector. Then, using intermediate input shares as a proxy of technology, we analyzed the pattern of regional technology distributions across manufacturing

7

sectors as well as the extent of interregional technology spillovers. Our results indicate that interregional backward spillovers have significantly positive impacts on the shape of the technology distributions in eastern (coastal) regions. By contrast, the vertical spillovers of the central and western regions are largely dominated by intra-regional forward effects. Our results suggest that the shift of Chinese manufacturing from coastal to inland regions with lower production costs cannot reduce the imbalance among regions unless the technology gap is narrowed.

Harada, T. A model of intersectoral flow of technology using technology and innovation flow matrices. *Economic Systems Research, 30(2): 238-251.*

This paper builds a simple general equilibrium model that sheds new light on the mechanism of intersectoral flows of technology. It explicitly models the production of technology using innovation while technology shocks as deviations from a balanced growth path induce asymmetric productivity changes across sectors. We also conduct a simple quantitative analysis using recent Japanese R&D data, which shows that most productivity effects remain within the bounds of the sector. We find some important exceptions to this rule, however, in particular for shocks occurring in information technology and precision instruments.

Rueda-Cantuche, J.M., Amores, A.F., Beutel, J., and Remond-Tiedrez, I. Assessment of European Use tables at basic prices and valuation matrices in the absence of official data. *Economic Systems Research, 30(2): 252-270.*

Input–Output modellers are often faced with the task of estimating missing Use tables at basic prices and also valuation matrices of the individual countries. This paper examines a selection of estimation methods applied to the European context where the analysts are not in possession of superior data. The estimation methods are restricted to the use of automated methods that would require more than just the row and column sums of the tables (as in projections) but less than a combination of various conflicting information (as in compilation). The results are assessed against the official Supply, Use and Input–Output tables of Belgium, Germany, Italy, Netherlands, Finland, Austria and Slovakia by using matrix difference metrics. The main conclusion is that using the structures of previous years usually performs better than any other approach.

Serpell, M.C. Incorporating data quality improvement into supply–use table balancing. *Economic Systems Research, 30(2): 271-288.*

This paper investigates the benefits of using a boundary tightening algorithm to improve the quality of the data used in supply and use table (SUT) balancing, building on similarities with certain approaches to statistical disclosure control. Boundary tightening was shown to significantly improve the

quality of the finally balanced SUTs well beyond that of existing techniques. Most notably, improvements occurred when boundary tightening was applied prior to the balancing process – showing that it can be used as a valuable preliminary to other approaches. It also multiplied the improvement in SUTs quality when more accurate updated information was added to the SUTs. The findings of this paper strongly suggest that this boundary tightening algorithm will improve the quality of the output of the balancing process and it is equally likely to be useful when applied to other processes that handle uncertain data.

Temursho, U. Intercountry feedback and spillover effects within the international supply and use framework: a Bayesian perspective. *Economic Systems Research.*

This paper proposes a new framework for the estimation of product-level global and interregional feedback and spillover (FS) factor multipliers. The framework is directly based on interregional supply and use tables (SUTs) that could be rectangular and gives a possibility of taking account of the inherent input–output data uncertainty problems. A Bayesian econometric approach is applied to the framework using the first version of international SUTs in the World Input–Output Database. The obtained estimates of the global and intercountry FS output effects are discussed and presented at the world, country and product levels for the period of 1995–2009.
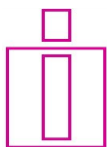
Economic Systems Research

Journal of the IIOA

Latest articles (up to 21-May.)

Guerra, A.I., and Sancho, F. On the need to compensate the compensating variation in CGE modeling. *Economic Systems Research.*

The message of this research is that in the standard calibrated setting of Computational General Equilibrium (CGE) models, the welfare measures typically used to compare benchmark with counterfactuals are numéraire dependent. This evaluation bias affects the compensating variation and the Konüs index of cost of living. We show that the equivalent variation is neutral regarding the choice of value units in calibrated models but would be affected as well in uncalibrated CGE models. We illustrate with a simple example and propose an even simpler theoretical solution to overcome these biases; all that is required to have correct welfare estimates is to compensate normalizing with a suitable price index. This type of correction is necessary to overcome the sometimes blind implementation of welfare measures in numerical general equilibrium analysis. We show that the induced quantitative errors may be substantial providing biased welfare estimates and misleading results.

Aydoğuş, O., Değer, Ç., Çalışkan, E.T., and Günal, G.G. An input–output model of exchange-rate pass-through. *Economic Systems Research.*

The impact of the exchange rate on price formation is often debated through a mechanism called the exchange-rate pass-through. Studies of the pass-through generally rely on econometric analysis implemented on time series data. This study examines pass-through to the domestic price level through an input–output model. The proposed model is implemented on a sample of countries, and a number of different variables connected to the pass-through are examined. A comparison across countries and sectors highlights the importance of the construction sector in price formation. National income is negatively related to the pass-through. A high dependence on intermediate imports implies higher pass-through. Price level volatility and pass-through are positively related; whereas a country's monetary policy stance has no apparent effect. The effect of exchange-rate volatility is unclear; it is negative for the real effective exchange rate, the connection is very weak in the case of the nominal exchange rate.

Kajitani, Y., and Tatano, H. Applicability of a spatial computable general equilibrium model to assess the short-term economic impact of natural disasters. *Economic Systems Research.*

Computable general equilibrium (CGE) models have been widely used to assess the economic impact of natural disasters, but the models have not been fully validated by applying them to real disasters. This study focuses on validating a model for use in a short-run case in which the functional recovery of infrastructure and businesses occurred on a time scale of a few months. A special attempt is made to determine the parameter values of elasticity of substitutions, which play an important role in the effect on supply chains. In this study, a spatial CGE model, in which Japan is divided into nine regions, is constructed and applied to the case of the 2011 Great East Japan Earthquake and Tsunami. Through this application, the best estimates of the elasticity parameters generated relatively consistent estimates of production change compared with the observed change, both in severely affected regions and in other regions.

Raa, T. The use–make framework and the derivation of functional forms in production theory. *Economic Systems Research.*

The use–make framework is employed to explain functional forms in production theory, including Cobb–Douglas and Leontief. Productivity and efficiency are interrelated by augmenting the framework with a linear program that determines the frontier output.
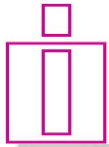
Thomas, D.S., and Kandaswamy, A.M. An examination of national supply-chain flow time. *Economic Systems Research.*

The US and other national governments invest in research and development to spur competitiveness in their domestic manufacturing industries. However, there are limited studies on identifying the research efforts that will have the largest possible return on investment, resulting in suboptimal returns. Manufacturers commonly measure production time in order to identify areas for efficiency improvement, but this is typically not applied at the national level where efficiency issues may cross between enterprises and industries. Such methods and results can be used to prioritize efficiency improvement efforts at an industry supply-chain level. This paper utilizes data on manufacturing inventory along with data on inter-industry interactions to develop a method for tracking industry-level flow time and identifying bottlenecks in US manufacturing. As a proof of concept, this method is applied to the production of three commodities: aircraft, automobiles/trucks, and computers. The robustness of bottleneck identification is tested utilizing Monte Carlo techniques.

Cadarso, M., Monsalve, F., and Arce G. Emissions burden shifting in global value chains – winners and losers under multi-regional versus bilateral accounting. *Economic Systems Research.*

International trade leads to emissions burden shifting and threatens mitigation targets.

Multiregional input–output (MRIO) and bilateral trade input–output (BTIO) models are widely used to analyse emissions embodied in trade and global value chains. Especially, the last one is used in analysing border tax adjustment (BTA) on the carbon content of imports. The model choice is not trivial. The analysis shows BTIO's inability to capture the consumer-principle throughout the production chain and its inadequacy as an option for consumption-based accounting, because it allocates emissions to the first importing country and to the sector of production, instead to the consumer (both country and region). Regarding the BTA assessment, BTIO tax domestic carbon content of direct imports, but not indirect imported carbon content. MRIO does provide incentives for mitigation in third countries. The differences in allocation of emissions and taxes' burden of both models have different consequences for developed and undeveloped regions.
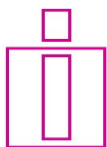
Kim, K., and Hewings, G. Bayesian estimation of labor demand by age: theoretical consistency and an application to an input–output model. *Economic Systems Research.*

Extended input–output models require careful estimation of disaggregated consumption by households and comparable sources of labor income by sector. The latter components most often have to be estimated. The primary focus of this paper is to produce labor demand disaggregated by workers' age. The results are evaluated through considerations of its consistency with a static labor demand model restricted with theoretical requirements. A Bayesian approach is used for more straightforward imposition of regularity conditions. The Bayesian model confirms elastic labor demand for youth workers, which is consistent with what past studies find. Additionally, to explore the effects of changes in age structure on a regional economy, the estimated age-group-specific labor demand model is integrated into a regional input–output model. The integrated model suggests that ceteris paribus ageing population contributes to lowering aggregate economic multipliers due to the rapidly growing number of elderly workers who earn less than younger workers.

Severini, F., Felici, F., Ferracuti, N., Pretaroli, R., and Socci, C. Gender policy and female employment: a CGE model for Italy. *Economic Systems Research.*

The gender integration in all areas of policy choices and at all stages of the decision-making process is strongly recommended by the European Union and represents an achievement that the Member States should accomplish when implementing policy measures. In a country like Italy, where the level of female labour participation is among the lowest in Europe, policy maker decisions should encourage and stimulate the demand for female labour without neglecting the global employment rate and income growth. The multisectoral analysis offers the possibility to bridge gender disaggregation within income

formation and distribution from the production phase to the demand formation. In this perspective, this paper develops a gender-aware CGE model based on the gender-aware SAM for the Italian economy to evaluate the impact of different fiscal policies aimed to reduce female labour cost and trigger woman hiring in those sectors with high gender disparity.

Pereda, P., Lucchesi, A., Garcia, C., and Palialol, B. Neutral carbon tax and environmental targets in Brazil. *Economic Systems Research.*

We evaluate the effects of a carbon tax in the Brazilian economy using an input–output framework. First, we consider the impacts of a carbon tax of US$ 10 and US$ 50/metric ton of CO2 equivalent. As usual, the adoption of the carbon tax generates adverse effects on GDP, wages and jobs in the short term, but reduces emissions and generates new government revenues, especially in the case of the greater tax. Second, we consider a broader tax system reform. In this reform, we replace distortionary taxes by a tax on value added. To compensate for the loss of government revenue, we assume a carbon tax with equivalent revenue. We find that the net effect is a GDP increase of 0.47%, the creation of 533 thousand jobs and reduction of 1.6 million tons of CO2 emissions. Both scenarios exempt exports and levy imports to correct adverse effects on the country's competitiveness.

Reich, U-P. Accounting for international trade in value added: a comment on the OECD–WTO project. *Economic Systems Research.*

In the global economy of today, global value-added chains allow firms and countries to take apart the production process and do the part they are best at. In response to this new reality, OECD and WTO have launched a common statistics project of the 'OECD–WTO Trade in Value-Added (TiVA) Database'. The database links national input–output tables with bilateral trade data to develop inter-country input–output tables that allow compiling, and revealing such chains. Its data are actual nominal values compiled at current exchange rates. The paper takes issue with that choice. Recalling that elsewhere in the United Nations national accounting figures are transformed to purchasing power parity before being compared internationally the paper suggests to follow suit and compile international value-added chains at real exchange rates, as well, and it sketches an introductory outline of how to do so.

Walmsley, T., Narayanan, B., Aguiar, A., and McDougall, R. Building a global database: consequences for the national I–O data. Economic Systems Research. *Economic Systems Research.*

Global economic analysis requires consistent and balanced data, which necessitates the reconciliation of datasets from both national and international sources. In the case of the Global Trade Analysis Project Data Base, datasets supplied by international sources are

considered preferable to national input–output (I–O) tables. As a result, the national I–O data can experience significant adjustments during the reconciliation process due to differences between the national and international datasets. The purpose of this paper is to examine the extent to which national I–O data change during reconciliation. The results demonstrate that the I–O data are altered by the construction process, particularly from the reconciliation of the national I–O data to the international trade and energy datasets. Closer examination reveals potential issues with both the trade and energy datasets, as well as the national I–O data – illustrating the challenges associated with reconciling data from multiple sources.

Bardazzi, R., and Ghezzi, L. Trade, competitiveness and investment: an empirical assessment. *Economic Systems Research.*

The Eurozone crisis has exposed several weaknesses of the European Monetary Union economies. This paper aims to assess the impact on external competitiveness of an expansionary capital stock policy that could contribute to reduce the trade balance asymmetries within the EU and help European exporters to recover their competitive role in international markets. A
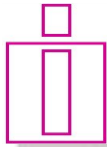
A policy action to increase capital stock accumulation through investment in selected European countries could generate a double dividend: increasing both price and nonprice competitiveness, so stimulating their competitive position as exporters, and consolidating the growth path of EU economy. The analysis employs a bilateral trade model built at INFORUM with several distinguishing characteristics: a comprehensive bilateral data set, econometric estimation of key parameters, and emphasis on sectoral details. Our findings show that a capital stock increase is effective in narrowing trade imbalances within EU. Heterogeneous effects are estimated for commodities in China and the US.

Duarte, R., Pinilla, V., and Serrano, A. Factors driving embodied carbon in international trade: a multiregional input–output gravity model. *Economic Systems Research.*

Concerns about the effects and consequences of climate change have notably increased in recent decades. Despite large advances in the understanding of this phenomenon, further research into the determinants of gas emissions is necessary, to shed light on the responsibilities of producers and consumers, and their potential contribution to mitigation strategies. This paper studies the trajectories and determinants of carbon embodied in world

trade during a period of 15 years. Our methodology relies on a multiregional input–output model, environmentally extended. Drawing on data from the World Input–Output Database, we estimate embodied emissions in bilateral flows. Then, we assess the determinants of CO2 emissions embodied in trade, combining input–output modelling with trade gravity panel data analysis. This paper offers a methodological approach that explains and quantifies the underlying factors of carbon trade, integrating the production and consumption perspectives and considering the geographical, structural and institutional context of countries.

Álvarez-Martínez, M. T., and López-Cobo, M. WIOD SAMs adjusted with Eurostat data for the EU-27. *Economic Systems Research.*

This paper provides a new set of Social Accounting Matrices (SAMs) for the EU-27 and describes their construction process. The World Input–Output Database (WIOD) has been used as the main data source, and it has been completed with information from National Accounts in Eurostat. The SAMs include a disaggregation of labour by skills and the disaggregation of the foreign sector into the EU and Rest of the world. It is described how to elaborate a symmetric Input–Output table product by product at purchasers' prices using supply and use tables and applying the industry technology. It is also described the reallocation of social contributions needed to properly assign tax revenues to government and avoid the usually overlooked problems generated by

the second redistribution of income. The description of the SAMs and their availability for the EU-27 can be very useful to researchers in applied economics using CGE and SAM models.

Hongsakhone, S., and Ichihashi, M. Measurement of reciprocity in a village through social networks. *Economic Systems Research.*

This paper examines measuring of interdependency among households through their transactions by using information of individual villagers in a disadvantaged area in a developing country. To obtain the information, we created a village input–output table (VIOT) from household survey data conducted in a rural village in Lao PDR in 2015 and 2016. Because each household in the village is not only a producer but also a consumer who is trading products and consuming them, the VIOT is a simple but useful tool to know the economic transactions among villagers. The main findings are that four higher-income families, which mainly trade rice very frequently, are playing key roles in the village economy, and the interdependency among higher-income households is stronger than among lower/middle-income households. Additionally, this method can be used to form an economic policy such as poverty reduction because of informing households playing a key role in the village.
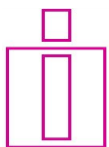
von Brasch, T., Gjelsvik, M.L., and Sparrman, V. Deunionization and job polarization – a macroeconomic model analysis for a small open economy. *Economic Systems Research.*

Declining unionization rates and job polarization are two important labor market developments of recent decades. A large body of literature has analyzed these phenomena separately, but little has been done to see whether there is a link between them. We employ a macroeconomic model for a small open economy with a large input–output core to analyze how deunionization may cause job polarization. Our analysis shows that medium-skilled workers are negatively affected by deunionization, mainly as a result of the heterogeneity of the elasticities of substitution between different types of labor. While the elasticities of substitution between high- and medium-skilled labor are relatively low, the elasticities of substitution between medium- and low-skilled are relatively high. As a result, when deunionization leads to increased wage dispersion, we find that demand for low-skilled increases at the expense of medium-skilled labor, thus yielding a more polarized labor market.

Madariaga, R. Factors driving sectoral and occupational employment changes during the Spanish boom (1995–2005). *Economic Systems Research.*

Spain's economy grew at a real annual average rate of over 3.5% between 1995 and 2005. Total employment increased by more than five million. This process altered the sectoral and occupational structure of employment. The dynamics of final demand, technology and labour requirements linked to technology and labour market institutions mostly drive shifts in the structure of employment. We analyse their effects and relative weights on private employment growth in an input–output framework, by means of structural decomposition. The analysis of the occupational structure is a novelty. Sectoral and occupational structures of employment are receiving a great deal of attention: the productivity growth and economic prospects of service economies and the debate between skilling and polarization are, respectively, the main issues. This paper provides useful insights on the dynamics of the structure of employment during a process of vigorous job growth.

Economic Systems Research

Journal of the International Input-Output Association

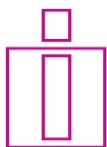Volume 29 Number 4 December 2017

See all volumes and issues

Highlights in journals

Flegg, A.T., and Tohmo, T. (2018) The regionalization of national input-output tables: A study of South Korean regions. *Papers in Regional Science.*

This paper uses survey-based data for 16 South Korean regions to refine the application of Flegg's location quotient (FLQ) and its variant, the sector-specific FLQ (SFLQ). These regions vary markedly in terms of size. Especial attention is paid to the problem of choosing appropriate values for the unknown parameter δ in these formulae. Alternative approaches to this problem are evaluated and tested. Our paper adds to earlier research that aims to find a cost-effective way of adapting national coefficients, so as to produce a satisfactory initial set of regional input coefficients for regions where survey-based data are unavailable.

Jackson, R.W., Ferreira Neto, A.B., and Erfanian, E. (2018) Woody biomass processing: Potential economic impacts on rural regions. *Energy Policy.*

This paper estimates the economic and environmental impacts of introducing woody biomass processing (WBP) into a rural area in central Appalachia. WBP is among the most

promising additions to energy generation portfolios for reducing import dependency while at the same time providing economic opportunity to stimulate regional economies, especially in rural regions where economic development options are often limited. We use an input-output framework to assess WBP under three different pathways, fast pyrolysis, ethanol and coal-biomass to liquids. We find that the proposed WBP will increase regional output by 0.5–1.3% of gross regional product; it will increase income by $17.32 to $51.31 million dollars each year, and regional employment by 218.1–1127.8 jobs, depending on the chosen pathway. Of these impacts, the direct portions are 63–77% of the total impact, depending on the chosen pathway. The economic analysis and the results from the accompanying environmental assessment show that only the ethanol pathway has both economic and environmental benefits. We conclude that because long-run economic development strategies in rural regions are limited and negative impacts do not alter dramatically the regional environmental profile, regional policymakers should include WBP among their development portfolio options.

Alvarez, S., Tobarra, M.A., and Zafrilla, J.E. (2018) Corporate and Product Carbon Footprint under Compound Hybrid Analysis: Application to a Spanish Timber Company. *Journal of Industrial Ecology.*

The European Union (EU) is advancing steadily toward the stabilization of atmospheric greenhouse gas concentrations. Various sectors are now obliged to make reductions, and new policies based on the carbon footprint are being encouraged. However, voluntary reporting of so-called scope 3 emissions is hindering successful implementation of these policies. In this study, we present a tiered hybrid analysis to report emissions according to the ISO/TR 14069 standards and to obtain complete measures of scope 3 emissions. A process analysis for scope 1 and scope 2 emissions is complemented with a multiregional input-output analysis for upstream scope 3 emissions. This novel approach is applied to the case study of a Spanish timber company. Its total carbon footprint in 2011 was 783,660 kilograms of carbon-dioxide equivalent, of which 88% correspond to scope 3 emissions. These emissions are globally distributed; 71% are from European countries, followed by 8% from emerging economies (Brazil, Russia, India, Indonesia, Australia, and Turkey), 5% from China, and, finally, 16% from the rest of the world. We identify and discuss the advantages and disadvantages of this novel approach, the European implementation of which could be highly effective in reducing global carbon emissions.
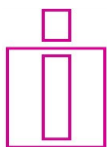
Lenzen, M., Sun, Y., Faturay, F., Ting, Y., Geschke, A., and Malik, A. (2018) The carbon footprint of global tourism. *Nature Climate Change.*

Tourism contributes significantly to global gross domestic product, and is forecast to grow at an annual 4%, thus outpacing many other economic sectors. However, global carbon emissions related to tourism are currently not well quantified. Here, we quantify tourism-related global carbon flows between 160 countries, and their carbon footprints under origin and destination accounting perspectives. We find that, between 2009 and 2013, tourism's global carbon footprint has increased from 3.9 to 4.5 GtCO2e, four times more than previously estimated, accounting for about 8% of global greenhouse gas emissions. Transport, shopping and food are significant contributors. The majority of this footprint is exerted by and in high-income countries. The rapid increase in tourism demand is effectively outstripping the decarbonization of tourism-related technology. We project that, due to its high carbon intensity and continuing growth, tourism will constitute a growing part of the world's greenhouse gas emissions.

Wiedmann, T., and Lenzen, M. (2018) Environmental and social footprints of international trade. *Nature Geoscience.*

Globalization has led to an increasing geospatial separation of production and consumption, and, as a consequence, to an unprecedented displacement of environmental and social impacts through international trade. A large proportion of total global impacts can be associated with trade, and the trend is rising. Advances in global multi-region input-output models have allowed researchers to draw detailed, international supply-chain connections between harmful production in social and environmental hotspots and affluent consumption in global centres of wealth. The general direction of impact displacement is from developed to developing countries—an increase of health impacts in China from air pollution

linked to export production for the United States being one prominent example. The relocation of production across countries counteracts national mitigation policies and may negate ostensible achievements in decoupling impacts from economic growth. A comprehensive implementation of the United Nations Sustainable Development Goals therefore requires the inclusion of footprint indicators to avoid loopholes in national sustainability assessments.

Pomfret, R., and Sourdin, P. (2018). Value chains in Europe and Asia: Which countries participate?. *International Economics.*

The paper starts by reviewing the evolution and current status of value chains, and by assessing alternative measures of their significance. The value chains centred on North America, the European Union and East Asia are contrasted. North American value chains tend to be limited to the three NAFTA members under negotiated rules. In the European Union and East Asia value-chain formation has been largely a bottom-up process with free entry supported by low trade costs. To identify which countries have joined value chains, we calculate two measures of value-chain participation by European and Asian emerging market economies. The measures highlight (1) the rapid growth of value-chain activity in the twenty-first century, (2) the greater value-chain participation by East Asian emerging market economies than by EU emerging market economies, and (3) the

cross-country variation in participation, with value-chain participation dominated by a handful of countries in both continents. The final section draws conclusions about the nature of international value chains and the policy implications.

Picek, O., and Schröder, E. (2018). Spillover effects of Germany's final demand on Southern Europe. *The World Economy.*
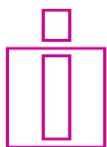
We use data from the World Input-Output Database to fit a closed multiregional input–output model in order to estimate the size of spillover effects of Germany's final demand on GDP, employment and the trade balance in Southern European countries. We find that spillover effects are rather small. Germany alone will hardly make a significant contribution to the external adjustment process in the European South.

Backer, K., Lombaerde, P., and Iapadre, L. (2018). Analyzing Global and Regional Value Chains. *International Economics.*

This paper introduces a Special Issue on Analyzing Global and Regional Value Chains. It presents a state-of-the-art of the literature and explores the frontiers of our knowledge on GVCs with a double focus: on the one hand, we will further investigate to what extent the phenomenon of GVCs is also a regional phenomenon (i.e. RVCs) and how it interacts with regional policies and processes of regional economic integration. On the other hand, we will deepen our understanding of the measurement aspects of GVCs and their scope, including at the regional level.

Del Prete, D., Giovannetti, G., and Marvasi, E. (2018). Global value chains: New evidence for North Africa. *International Economics .*

This paper analyzes the participation and the position of North African countries in global value chains (GVCs). Exploiting the recently released Eora multiregional Input-Output tables, we describe regional and country GVC involvement. North African countries have not so far been able to fully integrate into international production networks. However, a large part of their (low) trade is due to value added related activities, mainly in the upstream phases, and the importance of foreign linkages has been increasing over time. We complement the Input-Output analysis with sectoral evidence from selected case studies and policy experiences. Overall, our results suggest that enhancing the GVC participation of North African countries has potential to substantially benefit local industries, countries and indeed the whole area. However, the ability to retain such benefits relies on specific local conditions, such as a favorable environment for foreign investments, and lower trade barriers, thus leaving room for policy intervention.

Li, Y., and Bosworth, D. (2018). R&D spillovers in a supply chain and productivity performance in British firms. *The Journal of Technology Transfer.*

It is well known that there are incentives for cooperation and collaboration along the supply chain, as the performance of any one firm is dependent on that of its suppliers. However, R&D by any firm or sector may affect the performance of other firms and sectors that it supplies irrespective of whether collaboration takes place or not, as reflected in endogenous growth models where positive spillovers play a major role. This paper studies the impact of R&D spillovers on productivity performance in British firms, focusing on spillovers in a supply chain. The results show that R&D spillovers along the supply chain has the largest positive and most significant impact on labour productivity, followed by own-sector spillovers, then by own-internal R&D and own purchases of external R&D. Moreover, R&D spillovers tend to stimulate firms' R&D and innovation spending and these, in turn, increase labour productivity.

Johnson, R. C., and Noguera, G. (2017). A Portrait of Trade in Value-Added over Four Decades. *Review of Economics and Statistics.*

We combine data on trade, production, and input use to document changes in the value-added content of trade between 1970 and 2009. The ratio of value-added to gross exports fell by roughly 10 percentage points

worldwide. The ratio declined 20 percentage points in manufacturing, but rose in nonmanufacturing sectors. Declines also differ across countries and trade partners: they are larger for fast-growing countries, for nearby trade partners, and among partners that adopt regional trade agreements. Using a multisector structural gravity model with input-output linkages, we show that changes in trade frictions play a dominant role in explaining all these facts.
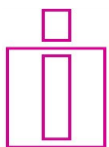
Zhang, Z., Zhu, K., and Hewings, G. J. (2017). A multi-regional input–output analysis of the pollution haven hypothesis from the perspective of global production fragmentation. *Energy Economics.*

Pollution haven hypothesis is an important debate on the environmental effects of international trade, the pattern of which has been reshaped obviously by global production fragmentation recently. The production process is distributed globally, and the pollution haven effect of international trade is becoming more complicated. For instance, intermediate product trade corresponds to the largest share of embodied emissions, and the share of emissions induced by the global value chain related trade is increasing gradually. The aim of this paper is to make a comprehensive analysis on the pollution haven hypothesis in carbon emissions embodied in three different trade patterns from global, bilateral, and national perspectives. We propose a method to parcel the pollution haven hypothesis in a multi-regional input–output analysis and discuss the contribution of production

fragmentation for global emissions. It is found that international production fragmentation generates global emissions savings. The intermediate product trade has a negative balance of avoided emissions. The final product trade becomes increasingly less environmentally effective during the period 1995–2009. There are significant differences in the environmental effects of different trade patterns for each country.

Kaplan, L.C., Kohl, T., and Martínez-Zarzoso, I. (2017). Supply-chain trade and labor market outcomes: The case of the 2004 European Union enlargement. *Review of International Economics.*

The structure of international trade is increasingly characterized by fragmentation of production processes and trade policy. Yet, how trade policy affects supply-chain trade is largely unexplored territory. This paper shows how the accession of 10 Central and Eastern European Countries (CEECs) to the European Union affected European supply-chain trade. We find that accession primarily fostered CEECs' integration in global value chains of other entrants. Smaller integration benefits stem for East–West trade in services for lower-skill activities. These increases in value-added exports translate into sizeable job creation.

Highlights in Books

Handbook on Supply, Use and InputOutput Tables with Extensions and Applications.
Studies in Methods, Handbook of National Accounting. Published by United Nations, Department of Economic and Social Affairs, Statistics Division
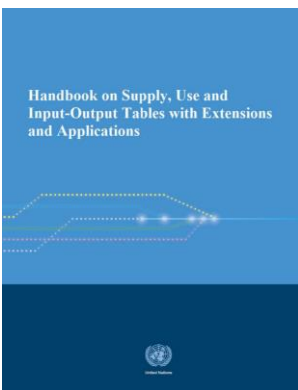
The Handbook on Supply, Use and Input-Output Tables with Extensions and Applications has been prepared as part of a series of handbooks on national accounting in support of the implementation of the System of National Accounts 2008 (2008 SNA). The objective of this Handbook is to provide a step-by-step guidance for the compilation of Supply and Use Tables (SUTs) and Input-Output Tables (IOTs) and an overview of the possible extensions of SUTs and IOTs which increase their analytical usefulness.

Tables from the I-O world

FIGARO tables

The FIGARO team is happy to announce the dissemination of the FIGARO tables for the year 2010 on Eurostat website. FIGARO tables are available here.

The FIGARO tables represent EU Inter-Country Supply, Use and Input-Output tables. Tables are available in csv and R format. A dedicated discussion forum is open if you would like to join the conversation (link).

The FIGARO team is composed of José M. Rueda-Cantuche[1] (Project Leader), Paola Rocchi[1], Juan M. Valderas-Jaramillo[1], Agustín Velázquez[1], Antonio F. Amores[1], Mattia Cai[1], M. Victoria Román[1], Isabelle Remond-Tiedrez (Project Leader) [2], Pedro Martins-Ferreira[2], Pille Defense[2], Maaike C. Bouwmeester[2], Riina Kerner[2], Evangelos Pongas[2], Veijo Ritola[2].

[1] Joint Research Centre [2] Eurostat

Australian MRSUT data

Australian MRSUT data available via figshare

The datasets accompanying the publication *New multi-regional input–output databases for Australia – enabling timely and flexible regional analysis* (Lenzen et al., 2017, *Economic Systems Research*, 29, 275-295) have recently been made available on the Springer Nature Figshare Repository:

Multi-regional input-output databases for Australia for the period 2008-2015

The referring publication can be found at Economic Systems Research - Volume 29, 2017 - Issue 2: Virtual Laboratories for Collaborative Input-Output Analysis:

New multi-regional input–output databases for Australia – enabling timely and flexible regional analysis.
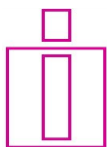
Interregional Input-Output Tables for Greece, 2010 and 2013

This database contains two interregional input-output systems for Greece, for the years 2010 and 2013, using the method known as Interregional Input-Output Adjustment System (IIOAS), based on Haddad et al. (2016a). Both systems are estimated under the very same methodological procedure and consider the 13 NUTS2 regions in Greece whose economies are disaggregated in 44 sectors. Detailed description of the estimation method is available at: Haddad, E. A., Cotarelli, N., Simonato, T., Vale, V.A. and Visentin, J. (2018). Estimation of NUTS2 Interregional Input-Output Systems for Greece, 2010 and 2013, TD NEREUS 03-2018, The University of São Paulo Regional and Urban Economics Lab (NEREUS).
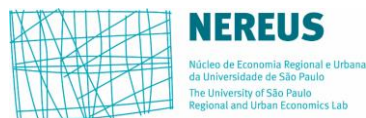
Interregional Input-Output Table for Brazil, 2011

This database contains an interregional input-output systems for Brazil, 2011, using the method known as Interregional Input-Output Adjustment System (IIOAS), based on Haddad et al. (2016). The system consider the 26 Brazilian states and the Federal District. Detailed description of the estimation method is available at: Haddad, E. A., Gonçalves Júnior, C. A. and Nascimento, T. O. Matriz interestadual de insumo-produto para o Brasil: uma aplicação do método IIOAS. Revista Brasileira de Estudos Regionais e Urbanos, v. 11, n. 4.

The Interregional Input-Output Table for Brazil is available at Brazilian Review of Regional and Urban Studies.
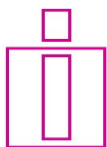
Events

General

Australia-Indonesia Virtual Lab

IT News reports on ISA's DFAT grant to promote the Australia-Indonesia Virtual Lab developed by Futu Faturay and Manfred Lenzen at the University of Sydney, in collaboration with the Indonesian Ministry of Finance. The virtual lab will be a collaborative online environment in which Indonesian and Australian researchers and analysts can share their data, tools and insights on sustainable development issues of interest to both countries.

Original article:

Futu Faturay, Manfred Lenzen and Kunta Nugraha. A new sub-national multi-region input–output database for Indonesia. Economic Systems Research, Volume 29, 2017 - Issue 2: Virtual Laboratories for Collaborative Input-Output Analysis.

Next courses

CNRS Summer School
Future Prospects in Integrated Assessment Modelling
The Climate-Energy-Economy Nexus
June 18-22, 2018

Clermont-Ferrand, France

The CERDI-CNRS is pleased to invite you to a summer school on future prospects in Integrated Assessment Modelling in Clermont-Ferrand (France) taking place from 18 to 22 June.

The goal of the summer school is to gather PhDs, postdocs and researchers working on climate, energy and/or economy in IAMs.

You are invited to visit the website of the summer school, where you can find an overview of the programme, list of speakers with bio, registration page, practical information and a link to inscribe to the forum/newsletter. Also, you are very welcome to distribute the call to interested researchers.

Next conferences

21st Annual Conference on Global Economic Analysis
"Framing the future through the Sustainable Development Goals"
June 13-15, 2018

Cartagena de Indias Convention Center
Cartagena, Colombia

The goal of the conference is to promote the exchange of ideas among economists conducting quantitative analysis of global economic issues. Particular emphasis will be placed on applied general equilibrium methods, data, and application. Related theoretical and applied work is also welcome.

The overall theme of the conference is "Framing the future through the Sustainable Development Goals"

Asian Studies Association of Australia Conference 2018
July 3-5, 2018

Co-organised by the Sydney Southeast Asia Centre, the China Studies Centre and the School of Languages and Cultures, the 2018 biennial conference of the Asian Studies Association of Australia will bring together almost 1,000 academics with a shared interest in Asia.

The conference theme, Area Studies and Beyond, builds upon traditional interdisciplinary fields of research within Asian Studies and seeks to move beyond them, to celebrate the full breadth and depth of scholarly interest in Asia.

Special panel discussion on undertaking sustainability assessments in collaborative virtual labs
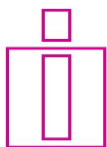
Panel members:
Dr. Arunima Malik, Dr. Kunta Nugraha and Dr. Ferry Hadiyanto

26th INFORUM World Conference

August 27-31, 2018

Lodz, Poland

The INFORUM group of international partners will hold its 26th World Conference this year in Lodz, Poland. This conference will be hosted by the Faculty of Economics and Sociology, at the University of Lodz, from August 27-31, 2018. The venue is the Lodz campus in the heart of scenic Lodz. The University was founded in 1945, and its motto is "Veritas and Liberitas" (Truth and Freedom).

Each year since 1993, Inforum has held an annual world conference. The aim of these conferences is to advance the work of empirical input-output modeling, analysis, and data development techniques through the presentation and publication of papers representing the work of INFORUM activities worldwide. Although the agenda overlaps somewhat with that of the International Input-Output Conference, it more specifically is dedicated to empirical work, especially in the areas of model building and data development. More information on the INFORUM conferences can be found here.

Organizing Committee Contact Information:

Jakub Boratynski (jakub.boratynski@uni.lodz.pl)

58th ERSA Congress

August 28-31, 2018

Cork, Ireland

Places matter for economic and social development. In an increasingly globalized world, people are looking to local and regional factors to optimize competitive advantage, inclusivity, and well-being. The ERSA congress "Places for People: Innovative, Inclusive and Liveable Regions" puts people back at the heart of regional and urban development to examine how spatial and regional analysis can work to improve people's lives. The Congress will host a large variety of themes in spatial, regional, and urban economics, economic geography, and regional policy topics like local governance and institutions.

The Congress is co-organised with the Regional Science Association International – British and Irish Section and will take place at the University College Cork.

6th Permanent Workshop Hispanic-American Input-Output Society (SHAIO)

September 27-28, 2018

Madrid, Spain

The Hispanic-American Input–Output Analysis Society (SHAIO) in collaboration with the Universidad Autónoma de Madrid and the Institute "Lawrence R. Klein" of Economic Forecast, will organize the 6th Permanent Workshop of the SHAIO on September 27-28, 2018, in Madrid, Spain.

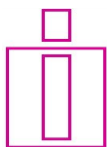**KEY DATES:**

Abstract submission: June 1, 2018

Full paper submission: June 29, 2018

Notification of acceptance: July 27, 2018

Registration: September 21, 2018
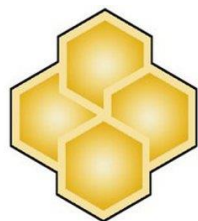
Workshop: September 27-28, 2018

65th Annual North American Meetings of the Regional Science Association International

November 7-10, 2018

San Antonio, Texas, USA

The 65th Annual North American Meetings of the Regional Science Association International will takes place in San Antonio, Texas. The meetings will be held at the Hyatt Regency Hotel from Wednesday November 7th to Saturday November 10th, 2018. Paper sessions will be scheduled from Thursday morning through Saturday afternoon.

Important dates:

Mid-April, 2018 - Opening of Abstract/Session Submission Portal & Opening of Conference Registration
July 1, 2018 - Deadline for Abstract/Session Submission
July 15, 2018 - Notification of Paper Acceptance
August 1, 2018 - Deadline for Submission to Student Paper Competitions
August 15, 2018 - Advance Registration Deadline
August 15, 2018 - Deadline for Abstract Earmarking (To Guarantee Placement on Program)
September 7, 2018 - Preliminary Program
October 16, 2018 - End of Discounted Hotel Rate
October 20, 2018 - Manuscripts Must Be Sent to Discussants
October 27, 2018 - Late Registration Fees Apply
November 7-10, 2018 - Conference in San Antonio

NARSC 2018 Call for Submissions Special Session(s) on Innovations in extended input-output modeling in regional and multi-regional systems

The session invites contributions that advance the use of input-output systems in extended, embedded or linked economy-wide models or use existing extensions in a novel or innovative manner.

Organizers:

Randall W. Jackson (West Virginia University)
Michael Lahr (Rutgers, The State University of New Jersey)
Mark Brown (Statistics Canada)
Geoffrey Hewings (University of Illinois)

Please let us know if you are interested, by sending an email to hewings@illinois.edu, with the name of authors and their affiliations with contact details, the title of the proposed presentation, the abstract, and the unique ID number at your earliest convenience, but not later than June 15, 2018. The abstract should be 2,000 to 5,500 characters and space.