

NEW ANALYTICAL TOOLS AND TECHNIQUES FOR ECONOMIC POLICYMAKING

OECD-NAEC and Baillie Gifford

In association with Partners for a New Economy (P4NE); Rebuilding Macroeconomics; Institute for New Economic Thinking (INET) Oxford; European Commission Joint Research Centre; International Institute for Applied Systems Analysis (IIASA); Fields Institute, Complex System Institute of Paris idF; the Santa Fe Institute; and Capital Fund Management (CFM)

Bios - moderators

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OECD Conference Centre, Paris, CC4

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Understanding of economic issues such as growth, financial crises, systemic risk, innovation and sustainability can benefit from the revolution taking place across a range of scientific disciplines and in the social sciences. This revolution is being driven by the interaction between technological progress in computing and communications and the new sources and greater quantities of data this makes available.

This [NAEC](#) conference offers a timely opportunity for policy-makers, academics and researchers in economics to discuss the state-of-the-art policy applications emerging from the new analytical tools and techniques. It will look at how methodological innovations and inter disciplinary approaches such as agent-based modelling, nowcasting, machine learning, and network analysis could contribute to better understanding of the complexity and interaction of our economic, financial, social and environmental systems.

Monday 15 April

10:00 – 11:00

Session 1: Why Do We Need New Analytical Tools and Techniques?



Moderator: [Gabriela Ramos](#), OECD Chief of Staff and Sherpa

Gabriela Ramos is the OECD Chief of Staff and Sherpa to the G20. Besides supporting the Strategic Agenda of the Secretary General, she is responsible for the contributions of the Organisation to the global agenda, including the G20 and the G7. She leads the Inclusive Growth Initiative and the New Approaches to Economic Challenges and also oversees the work on Education, Employment and Social Affairs (including gender).

Previously, she served as Head of the OECD Office in Mexico and Latin America, co-ordinating several reports on Mexico to advance the health and education reform. She developed the OECD's Mexico Forum and edited and launched the "*Getting it Right!*" flagship publication series.

Prior to joining the OECD, Ms Ramos held several positions in the Mexican Government, including Director of Economic Affairs (and OECD issues) in the Ministry of Foreign Affairs and Technical Secretary at the Office of the Minister for the Budget. She has also held several positions as Professor of International Economy at the Universidad Iberoamericana and at the Instituto Tecnológico Autónomo de México. Ms Ramos holds an MA in Public Policy from Harvard University, and was a Fulbright and Ford MacArthur fellow. She was decorated with the Ordre du Merit by the President of France, François Hollande, in 2013.

11:15 – 12:30

Session 2 : Nowcasting



Moderator: [Lucrezia Reichlin](#), Professor of Economics, London Business School

Lucrezia Reichlin is Professor of Economics at the *London Business School*, non-executive director of *AGEAS Insurance Group* and *Eurobank Ergasias SA* as well as Chairman & co-founder of *Now-Casting Economics Ltd* and a Trustee of the *International Financial Reporting Standards Foundation*. Since September 2018 she is also non-executive Vice Chairman at Banca Carige. She is a columnist for the

Italian national daily *Il Corriere della Sera* and a regular contributor of *Project Syndicate*. Reichlin received a Ph.D. in economics from New York University. She has held a number of different academic positions. From 2005 to 2008 she was the Director General of Research at the *European Central Bank*. From 2009 – April 2018 she was non-executive director of *UniCredit Banking Group* and from 2013-2016 she was Chair of the Scientific Council at the Brussels based think-tank *Bruegel*. Reichlin has been an active contributor to the life of the *Centre for Economic Policy Research (CEPR)* over the years. She has been research director in 2011-2013, first Chairman of the CEPR Euro Area Business Cycle Dating Committee, co-founder and scientist in charge of the Euro Area Business Cycle Network and she is now a trustee.

Reichlin has published numerous papers on econometrics and macroeconomics. She is an expert on forecasting, business cycle analysis and monetary policy. She pioneered now-casting in economics by developing econometrics methods capable of reading the real time data flow through the lenses of a formal econometric model. These methods are now widely used by central banks and private investors around the world. Her papers have appeared in top scientific journals, including the *American Economic Review*, *Review of Economic Studies*, *Review of Economics and Statistics*, *Journal of Econometrics*, *Journal of Monetary Economics* and *Journal of the American Statistical Association*.

She is a Fellow of the *Econometric Society*, the *British Academy*, the *European Economic Association*,

and *Academia Europaea*. She is on the advisory board of several research and policy institutions around the world. In 2016 she received the Birgit Grodal Award, European Economic Association, and the Isaac Kerstenetzky Scholarly Achievement Award.

14:00 - 16:00

Session 3 : Agent Based Modelling

Moderator: [J. Doyne Farmer](#), Director of Complexity Economics, Institute for New Economic Thinking, University of Oxford

J. Doyne Farmer is Director of the Complexity Economics programme at the Institute for New Economic Thinking at the Oxford Martin School, Baillie Gifford Professor in the Mathematical Institute at the University of Oxford, and an External Professor at the Santa Fe Institute.

His current research is in economics, including agent-based modeling, financial instability and technological progress. He was a founder of Prediction Company, a quantitative automated trading firm that was sold to the United Bank of Switzerland in 2006. His past research includes complex systems, dynamical systems theory, time series analysis and theoretical biology.

During the eighties he was an Oppenheimer Fellow and the founder of the Complex Systems Group at Los Alamos National Laboratory. While a graduate student in the 70's he build the first wearable digital computer, which was successfully used to predict the game of roulette.

16:30 – 18:00

Session 4 : Network Analysis

Moderator: [David Chavalarias](#), Director of the Complex System Institute of Paris idF

David Chavalarias is Director of the Complex Systems Institute of Paris Ile-de-France and CNRS Research Director, Centre d'Analyses de Mathématiques Sociales (CAMS), Ecole des Hautes Etudes en Sciences Sociales (EHESS)

Normalien agrégé de Mathématiques, docteur de l'École Polytechnique, HDR de l'EHESS

His research interests include Web mining and Quali-quantitative Epistemology, scientometrics, information visualisation, automatic mapping of electronic corpus, semantics, co-authorship, classification.

Tuesday 16 April

9:30 – 11:00

Session 5: Machine Learning and Big Data

Moderator: [Martine Durand](#), OECD Chief Statistician

Martine Durand was appointed Director of Statistics and Chief Statistician of the OECD in 2010. She is responsible for providing strategic orientation for the Organisation's statistical policy and oversees all of OECD's statistical activities. She was formerly Deputy-Director of Employment, Labour and Social Affairs where she was responsible for OECD's work on employment and training policies, social policies, health policies and international migration published in OECD flagship reports such as the *OECD International Migration Outlook*, the *OECD Employment Outlook*, *Pensions at a Glance* and *Health at a Glance*.

Martine Durand joined the OECD in 1983 as an economist in the Economics Department where she worked on a number of policy issues related inter alia to international competitiveness, oil and commodity markets and labour markets in OECD countries. She later worked on the *OECD Economic Surveys* of the United Kingdom, Canada, Australia and New Zealand.

In 1991, she was appointed senior economist, heading the team responsible for ensuring world consistency of OECD projections published twice yearly in the *OECD Economic Outlook*. Between 1994 and 1997 she was responsible for preparing general assessments of economic and policy developments in OECD Member countries for publication in the *OECD Economic Outlook*. During that period, she also assumed the G-10 Secretariat responsibilities, in collaboration with representatives from the IMF and the BIS.

In 1997, Martine Durand was appointed Counselor to the OECD Chief Economist, advising him on a wide range of policy issues. In early 2001, Martine Durand took up the position of Deputy-Head of the OECD Secretary-General's Private Office where she worked on a number of national and international policy issues requesting the attention of the Secretary-General and his Deputies.

Prior to joining the OECD, Martine Durand worked in a French research and consultancy institute providing services to business and industry. During her career at the OECD, Martine Durand has co-authored numerous articles and publications in the area of international competitiveness, foreign trade and investment, public finances, labour markets and international migration. She is one of the principal authors of the *OECD Growth Study*. She was a member of the *Editorial Board of OECD Economic Studies*. Martine Durand graduated in mathematics, statistics and economics from the Paris VI University, the Ecole Nationale de la Statistique et de l'Administration Economique (ENSAE) and the University of Wisconsin-Madison. She is married with three children.

11:15 – 12:45

Session 6: Complexity and Social Science

Moderator: [Angus Armstrong](#), Director of Rebuilding Macroeconomics Network

Angus Armstrong is the Director of the Rebuilding Macroeconomics Network. In addition, Angus also assumes the role of Chief Economic Adviser to Lloyds Banking Group.

Previously, Angus Armstrong was the Director of Macroeconomics at the National Institute of Economic and Social Research (NIECR). In addition, he was Head of Macroeconomic Analysis at Her Majesty's Treasury from mid-2004, where he was closely involved in the UK's response to the financial crisis, including representation at G20 Officials Meetings. Prior to joining the Treasury, Armstrong was Chief Economist Asia and a Managing Director at Deutsche Bank. He is an Adjunct Professor at Imperial College Business School. His research interests are the application of finance to family decision making and comparative macro-financial systems.

Angus has a PhD in economics and is an Honorary Professor Stirling University. Fields of expertise include macroeconomics, financial systems, international monetary system and constitutional economics (Scotland and Brexit).

14:30 - 16:00

Session 7: Young Researchers

Moderator: [Alan Kirman](#), Chief Advisor to the NAEC Initiative

Alan Kirman is Directeur d'Etudes at the Ecole des Hautes Etudes en Sciences Sociales in Paris and Professor Emeritus at Aix Marseille University. He has an M.A. from Oxford and his Ph.D is from Princeton. He has been professor of economics at Johns Hopkins University, the Université Libre de Bruxelles, Warwick University, the European University Institute in Florence. He is a Fellow of the Econometric Society and of the European Economic Association.

He was awarded the Humboldt Prize in Germany, has been a member of the Institute for Advanced Study in Princeton and was elected as a foreign member of the Accademia dei Lincei in Rome. He was awarded a Doctorate Honoris Causa at the University Jaume 1 in Castellon Spain in 2018. He is Senior Adviser to the OECD's New Approaches to Economic Challenges programme.

He has published 160 articles in international journals and is also on the editorial board of several international journals. He is the author and editor of 15 books among which are *Complex Economics: Individual and Collective Rationality* published by Routledge in 2010 and *Complexity and Evolution: Towards a New Synthesis for Economics* edited with David Sloan-Wilson and published by MIT press in 2016.

His original interests focused mainly on theoretical economics and in particular general equilibrium theory and game theory. However, as the problems with the foundations of modern theoretical economics have become clearer his interests have turned to looking at the empirical evidence as to how the economy in general and some markets in particular function. He has become increasingly involved in modelling the economy and markets as complex adaptive systems in which aggregate behaviour emerges from the interaction between rather simple economic agents with limited knowledge. Economic actors are perhaps closer to ants than to homo oeconomicus.

16:30 – 17:55

Session 8: Roundtable on New Approaches to Macroeconomic Modelling

Moderator: [Laurence Boone](#), OECD Chief Economist

Laurence Boone is the OECD Chief Economist, G20 Finance Deputy and Head of the Economics Department.

Before joining the OECD, she was the Chief Economist at AXA Group, Global Head of Multi-Asset Client Solutions & Trading and Securities Finance, AXA Investment Managers, France; an independent director of Kering's board and remains a member of the Strategic committee of Agence France Trésor.

Prior to this, she was Special Advisor to the President of the French Republic; Chief Economist and Managing Director at Bank of America Merrill Lynch; Managing Director and Chief Economist France, Barclays Capital; Economist, OECD; Economist, CEPII, France and Quantitative Analyst for Merrill Lynch Asset Management. She is a member of the Cercle des Economistes as well as of SDA Bocconi. She taught at the École Polytechnique, ENSAE (the National School of Statistics) and the École Normale Supérieure and Sciences Po (Paris School of International Affairs). She has a PhD in Applied Econometrics from the London Business School; a MSc in Econometrics & Macroeconomic Modelling from Reading University; a Master's Degree in Economics from Université Paris X Nanterre and a postgraduate diploma (DEA) in Modelling and Quantitative Analysis from University Paris X Nanterre.

17:55

Closing remarks

[William Hynes](#), NAEC Co-ordinator, OECD

William Hynes is the Acting Head of the New Approaches to Economic Challenges Unit (NAEC) which provides a space to question traditional economic ideas and offer new economic narratives, new tools, methods and policy approaches. He previously worked as an Advisor in the Sherpa and Global Governance Unit, a policy analyst in the Development Co-operation Directorate and an economic affairs officer at the World Trade Organisation. William is an Adjunct Professor in International Economics at the Johns Hopkins University School of Advanced International Studies, has a doctorate from Oxford University and was a Marie Curie Fellow at the London School of Economics.