



Social Trends Institute

STI “Expert Meeting”

Personalized Medicine
A Multidisciplinary Approach to Complexity



Campus Bio-Medico University of Rome, Italy

February 2-4, 2020

Organizers:

Marta Bertolaso, Chiara Beneduce.

Staff:

Valentina Favorito.

Location:

Room R1 (“PRABB” building) & Club House (“PRABB” building) - Campus Bio-Medico University of Rome, Via Álvaro del Portillo, 21 00128 Rome (Italy).

Contacts

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PROGRAM

Feb 2, 2020 (Sunday)

Opening Dinner h. 7:30 PM
Ristorante Adelaide – Vilòn Luxury Hotel
Via dell'Arancio, 69 - 00186 - Roma

Feb 3, 2020 (Monday) – R1

8.30 – Welcome and coffee

9.00 - 11.00 – session 1: Personalized Medicine and Complex Diseases

9.00 - 9.25

speaker: **Mariano Bizzarri** (“La Sapienza” University of Rome, Italy) - *Personalized Treatments: where patient’s history and biological background meet*

9.25 - 9.40

discussant: **Andrea Pensotti** (University Campus Bio-Medico of Rome, Italy)

9.40 - 10.05

speaker: **Anya Plutynski** (Washington University in St. Louis, USA) - *Why Precision Oncology is not Very Precise (and why this should not surprise us)*

10.05 - 10.20

discussant: **Jacob Stegenga** (University of Cambridge, UK)

10.20 - 10.45

speaker: **Maël Montévil** (Institute of Research and Innovation, Paris, France) - *Conceptual and Theoretical Specifications towards Accuracy in Medicine*

10.45 - 11.00

discussant: **Guglielmo Militello** (University of the Basque Country (UPV/EHU), Spain)

11.00 - 11.30 – coffee break

11.30 - 12.30 – general discussion

12.30 - 13.30 – **light lunch**

13.30 - 14.10 – **session 2: Personalized Medicine and Nutrition**

13.30 - 13.55

speaker: **Vincenzo Fogliano** (Wageningen University & Research, The Netherlands) - *Personalized Nutrition: overrated or misconceived?/Personalized Nutrition: are we there yet?*

13.55 - 14.10

discussant: **Laura Dugo** (University Campus Bio-Medico of Rome, Italy)

14.10 - 15.30 – **session 3: Personalized Medicine and New Biotechnologies**

14.10 - 14.35

speaker: **Barbara Osimani** (Center for Philosophy, Science, and Policy, Univpm, Ancona, Italy /MCMP, LMU, Munich, Germany) - *Pharmacovigilance as Personalized Evidence*

14.35 - 14.50

discussant: **Julian Reiss** (Institute for Philosophy and Scientific Method, JKU Linz, Austria)

14.50 - 15.15

speaker: **Sara Green** (University of Copenhagen, Denmark) - *Patient-derived Organoids in Personalized Medicine – towards a science of the individual?*

15.15 - 15.30

discussant: **Henrik Vogt** (Norwegian University of Science and Technology, Norway)

15.30 - 16.00 – **coffee break**

16.00 - 16.40 – **session 4: Personalized Medicine and Ethics of Innovation**

16.00 - 16.25

speaker: **Xavier Guchet** (University of Technology of Compiègne, France) - *From Ecogenetics to Exposomics: what is new in molecular epidemiology?*

16.25 - 16.40

discussant: **Massimo Ciccozzi** (University Campus Bio-Medico of Rome, Italy)

16.40 - 17.30 – **general discussion**

dinner (discretionary), h. 7:30 PM
Restaurant at Hotel American Palace Eur
Via Laurentina, 554, 00143 Roma

Feb 4, 2020 (Tuesday) – Club House

8.30 – coffee

9.00 - 9.40 – [prosecution of] **session 4: Personalized Medicine and Ethics of Innovation**

9.00 - 9.25

speaker: **Antonella Ficorilli** (Società per l'epidemiologia e la prevenzione "GA Maccacaro", Milan, Italy) - *Personalized Medicine and Research Biobanking: from traditional informed consent to participatory governance*

9.25 - 9.40

discussant: **Maria Rosaria Brizi** (University Campus Bio-Medico of Rome, Italy)

9.40 - 11.00 – **session 5: Personalized Medicine: the Societal and Economical Impact**

9.40 - 10.05

speaker: **Maria Sophia Aguirre** (The Catholic University of America, USA) - *U.S. Opioid Epidemic: An Integral Approach to Prevention, Treatment, and Prognosis.*

10.05 - 10.20

discussants: **Alessandra Santacroce** (IBM Italy Institutional Relations Director) & **Daniela Scaramuccia** (Director, Industry Solutions & Business Development, IBM, Italy).

10.20 - 10.45

speaker: **Roger Strand** (University of Bergen, Norway) – *The Impact of a Fantasy*

10.45 - 11.00

discussant: **Edwin Morley-Fletcher** (President of "Lynkeus").

11.00 - 11.30 – coffee break

11.30 - 13.00 – final discussion

13.00 – lunch & farewell

Other participants:

William Peden (Polytechnic University of Marche, Italy)

Julia Tinland (Sorbonne University, Paris, France)

Silvia Caianiello (Institute for the History of Philosophy and Science in the Modern Age, Naples, Italy)

Carlos Cavallé (Social Trends Institute, Barcelona, Spain)

Tracey O'Donnell (Social Trends Institute, Barcelona, Spain)

Personalized Medicine

A Multidisciplinary Approach to Complexity

Academic Leaders:



Marta Bertolaso · University Campus Bio-Medico of Rome, Italy

Marta Bertolaso is Professor for Philosophy of Science in the Faculty of Science and Technology for Humans and the Environment and at the Institute of Philosophy of Scientific and Technological Practice, at University Campus Bio-Medico of Rome, Italy.

Her expertise in Philosophy of life sciences, of scientific practice and in Philosophy of complex organized systems with a strong scientific

background has allowed her to promote and collaborate in very interdisciplinary research and educational projects.

She has been focusing her research on the Epistemology of science and Philosophy of biology and medicine, too. In particular, both her previous laboratory works in oncology and current endeavours in the Philosophy of science have dealt with different aspects of regulatory and control issues of complex biological systems, organizations, and growth.

She has also studied how different explanatory theories evolve in science, and how (mechanical) models can be considered a way towards discovery in the bio-technological field. How science works in practice, from biology to bio-engineer, has also been one of her most recent areas of research and philosophical reflection. A particular attention has been paid to Systems Biology as it has been strictly connected with contemporary research on the organismic dynamics.

More recently, she has been involved in research program exploring the impact of modern philosophy of science's main trends in our understanding of human work and its future mediated by the new AI technologies.



Chiara Beneduce · Radboud University, Nijmegen, The Netherlands - University Campus Bio-Medico of Rome, Italy

Chiara Beneduce is postdoctoral researcher at the "Center for the History of Philosophy and Science" of Radboud University, Nijmegen (The Netherlands) and teaching assistant in Philosophy of Science at Campus Bio-Medico University of Rome (Italy). Previously, she worked as postdoctoral researcher in Italy, the Netherlands, and the USA. Her research is placed at the intersection of the History of

Philosophy, the History of Science, and the Philosophy of Medicine. The main expertise she developed is on the relationship between natural philosophy and medicine in the late Middle Ages and the Renaissance. Her current main project focuses on how the sense of touch was conceptualized from the late thirteenth to the early seventeenth century (NWO Veni project 2019-2023: "The Sense of Touch. From Anomaly to Paradigm", see <https://www.ru.nl/ptrs/chps/research/research-projects/nwo-veni-project-chiara-beneduce/>). More information about Chiara's research can be found at her academia.edu page <https://radboud.academia.edu/ChiaraBeneduce>.

Speakers:



Mariano Bizzarri · “La Sapienza” University of Rome, Italy

Personalized Treatments: where patient’s history and biological background meet

Mariano Bizzarri PhD, M.D., is Associate Professor of Clinical Pathology in the Department of Experimental Medicine at “La Sapienza” University of Rome (Italy). He was appointed as member of the Italian Space Agency (ASI) Scientific Committee in 2005 and he was elected President of that Committee in 2011-2014. He is a co-founder of the Italian Society for Space

Biomedicine and Biochemistry (2006). Head of the Interdepartmental Systems Biology Center (SBGLab) and member of the Space Research Interdepartmental Center of the University La Sapienza (CRAS). He is the Editor in Chief of the international journal ORGANISMS and associate Editor of Cancer Cell International. He has authored 120 scientific essays, as well as of dozen of scientific books, among which Systems Biology (Springer Protocols, 2017) and Network-based Pharmacology and Personalized Systems Approach in Bio-medicine: Approaching Human Complex Diseases: Network-Based Pharmacology and Systems Approach in Bio-Medicine (Springer, 2020).

Main research fields can be summarized as follows:

- Systems Biology approach in the integrative understanding of cell and tumor biology, namely by focusing on cell phenotypic transition, tumor reversion and cell-microenvironment cross-talk;
- Biophysical constraints in carcinogenesis and cell fate commitment;
- Inositol in physiology and pathology;
- Metabolism and pharmacodynamics of network pharmacology, focusing on Inositol and Melatonin as pleiotropic-like drugs;
- Cytoskeleton and fractal shape analysis;
- Space Biomedicine.



Anya Plutynski · Washington University in St. Louis, USA

Why Precision Oncology is not Very Precise (and why this should not surprise us)

Professor Plutynski is a historian and philosopher of biology and medicine. Her most recent book is *Explaining Cancer: Finding Order in Disorder* (2018, OUP). She has also written on the history and philosophy of evolutionary biology and genetics, the role of

modeling in science, and scientific explanation. *A Companion to the Philosophy of Biology* (co-edited with Sahotra Sarkar) (2007, Wiley), is a collection of concise overviews of philosophical issues raised by all areas of biology. *The Routledge Handbook to Philosophy of Biodiversity* (co-edited with Justin Garson and Sahotra Sarkar) (2016, Wiley) is a collection of essays by biologists, philosophers, historians and social scientists on the meaning, measurement, and value of biodiversity, as well as challenges facing conservation in practice. Other research interests include biomedical research ethics, particularly issues surrounding precision oncology, cancer genomics, and risk communication. Her current research is on the history of the cancer genome atlas project (TCGA) and the development of precision oncology.



Maël Montévil · Institute of Research and Innovation, Paris, France

Conceptual and Theoretical Specifications towards Accuracy in Medicine

Maël Montévil is a theoretical biologist, working at the crossroad of experimental biology, mathematics, and philosophy of science. His work focuses on the theoretical foundations of biology, and the role that mathematics can play in this field. He also applies the general frameworks that he develops to current issues such as endocrine disruptors and more

generally the Anthropocene.

He is currently a researcher at Institut de Recherche et d'Innovation.

Previously, he was a postdoctoral fellow at MSC, Paris Diderot, funded by the Labex "Who AM I?", before he was a postdoctoral fellow at IHPST, Paris 1 Panthéon-Sorbonne, on a grant from DIM-ISC of the île-de-France region and before a postdoctoral associate in Tufts University, dept. of Anatomy and cell biology, Soto and Sonnenschein Lab.



Vincenzo Fogliano · Wageningen University & Research, The Netherlands

Personalized Nutrition: Overrated or Misconceived?

Vincenzo Fogliano is a food scientist. After 20 years of career at the University of Naples as professor in Biochemistry, Food Chemistry and Functional Foods, since 2013 he has become chair of the Food Quality & Design group and Editor in Chief of Journal of Functional Food since 2017.

He is author of more than 330 publications on indexed journals covering many aspects of Food science. He is one of the few Wageningen scientists constantly listed in the Thomson Reuter list of the Highly Cited.

The focus of his research is on the design of innovative healthy foods adopting a chain perspective from the selection of raw materials, through processing and formulation up to the physiological functionality and consumer behavior.

He is well known at international level for the studies on the modification induced by food cooking and in particular for all aspects related to Maillard Reaction.



Barbara Osimani · Center for Philosophy, Science, and Policy, Univpm, Ancona, Italy /MCMP, LMU, Munich, Germany

Pharmacovigilance as Personalized Evidence

Barbara Osimani is Director of the Center for Philosophy, Science, and Policy and Associate Professor of Logic and Philosophy of Science at the Polytechnic University of the Marche, Italy.

She is currently heading an ERC project, which also runs at the Munich Center for Mathematical Philosophy, LMU: "Philosophy of Pharmacology: Safety, Statistical Standards, and Evidence

Amalgamation" (GA StG 639276). She is an ordinary member of the Open Science Center at the Ludwig-Maximilians Universität, Munich, and Visiting Professor at the MCMP, LMU. Her current research interests are focused on philosophy of statistics and scientific inference in research contexts characterised by strategic behaviour. She is developing a "Formal Epistemology of Medicine"

with the aim to analyse the complex interaction of methodological, social and regulatory as well as ethical dimensions in medicine. Her scientific interests include: the precautionary principle, evidence hierarchies, causality, and statistical inference in medicine. Her recent papers analyse issues around philosophy of evidence (reliability, bias, reproducibility, coherence) from a Bayesian perspective. Within her ERC Grant she developed a Bayesian framework for the integration of heterogeneous items of evidence and higher order evidence for the purpose of causal assessment of drug-induced harm ("E-Synthesis"), in collaboration with Drug Agencies across Europe.



Sara Green · University of Copenhagen, Denmark
Patient-derived Organoids in Personalized Medicine – towards a science of the individual?

Her research focuses on modelling and explanation in systems biology as well as the epistemic and social implications of personalized medicine and health technologies.

She works as Assistant Professor at the Section for History and Philosophy of Science at Department of Science Education.

Moreover, she is part of the research project "Personalized Medicine in the Welfare State", [MelInWe](#), at the Center for Medical Science and Technology Studies in Copenhagen (PI: Mette Nordahl Svendsen). In this context, she explores how and whether more "precise" health-related knowledge about individuals can be established from data on the many, and how notions of health, disease and the person are shaped through data. Moreover, she is interested in how intensified data sourcing influences biomedical research and health practices.



Xavier Guchet · University of Technology of Compiègne, France
From Ecogenetics to Exposomics: what is new in molecular epidemiology?

Professor of Philosophy and Ethics of Techniques, empowered to Direct Research in Philosophy (17th section of the CNU) and in Epistemology and History of Science and Technology (72nd section of the CNU). His research work is part of the international trend in technical philosophy called "empirical turning point", bringing together the philosophy of

techniques and the social studies of science and technology. After a thesis devoted to the philosophical scope of the concept of technical evolution, he constantly associated philosophical reflection and field surveys and participated in several researches in collaboration with sociologists.

Xavier Guchet has devoted himself since 2006 to the philosophical challenges of nanotechnologies. He participated in the ANR Bionanoethic program (2006-2008) and coordinates the ANR Nano2e program (2010-2012) dedicated to the cross-study of the epistemological and ethical aspects of nanotechnologies. Between 2007 and 2009, he co-organized a seminar on nanotechnologies within the framework of the Research and Innovation Institute (Center Georges Pompidou).



Antonella Ficorilli · Società per l'epidemiologia e la prevenzione "GA Maccacaro", Milan, Italy

Personalized Medicine and Research Biobanking: from traditional informed consent to participatory governance

Antonella Ficorilli is Bioethicist and Ethical Consultant. She graduated in Philosophy at "La Sapienza" University of Rome, where she also achieved the Master's degree in "Practical Ethics and Bioethics". She achieved a Ph.D degree in Bioethics at Bologna University.

Since 2019, she is working on the ethical issues related to the field of citizen science and participatory epidemiological studies as member of the Italian group of the European project Horizon 2020 "Citizen Science for Urban Environment and Health" (Cities-Health).

She worked on the ethical and regulatory issues of biomedical research involving human biological samples and associated data from 2016 to 2018. She firstly started to work on this topic when she worked on a research project about ethical aspects of the relationship between doctor and patient in the multiple sclerosis field in collaboration with the Italian association "Consulta di Bioetica" and an Italian public centre of multiple sclerosis in the Hospital "San Luigi Gonzaga" in Orbassano (Turin). During this job, the biobanking subject emerged as an ethical problem that the multiple sclerosis centre needed to solve. Successively, when she worked on the ethical and regulatory issues related to the biobanking in the epidemiological field and the citizen science field, providing ethical consultation to a civic project called "Fondazione Bioteca di Popolazione". She wrote information sheets and informed consent forms for the collection, storage and use of human biological samples and associated data for research purposes. In addition, she is continuing to work on this topic based on specific goals of the Italian pilot study involved in the Cities-Health project.

She taught bioethics and medical ethics in University Masters. Since 2019, she is teaching bioethics at Milan University as contract professor.

Another research interest of her is about ethics of scientific research with attention to the social responsibility of the scientists. She began dedicating time to this research interest when she were a Postdoctoral Fellow at Turin University in order to work on the subject of ethical and social responsibility of scientists in the field of communication of science from 2012 to 2013. Since then she is going on to follow this subject.

She was member of the Bioethics Committee at the hospital "Policlinico Militare Celio" in Rome from 2005 to 2013.



Maria Sophia Aguirre · The Catholic University of America, USA

U.S. Opioid Epidemic: An Integral Approach to Prevention, Treatment, and Prognosis

Sophia Aguirre is an Ordinary Professor of Economics in the Department of Economics at the Catholic University of America. She is the founder of the Integral Economic Development Programs at this Department. She earned her Ph.D. in Economics from the University of Notre Dame and joined Catholic University in 1994. Professor Aguirre's professional

background also includes degrees in accounting and banking finance, earned in Argentina. She earned her undergraduate degrees, CPA and MBA in Argentina as well. Dr. Aguirre also held appointments at the University of Chicago and Northwestern University's Economics Department.

Her specialization is in international finance and integral economic development. She has researched and published in the areas of exchange rates and economic integration, as well as on theories of population, human and social capital and family as it relates to integral economic development. Her work has been published, among others, in *International Advances in Economic Research*, *Journal of Economic Studies*, *International Review of Economic and Finance*, *Journal of Economic and Finance*, *Atlantic Economic Journal*, *Journal of Economic Integration*, *International Journal of Social Economics*, *Review of*

International Economics, and *Journal of Public Law*. She is also the author of *Determinants of Economic Growth, Population, and Family Wealth: The Case of Guatemala* and of several book chapters. Recognizing her contributions to the field, she has received a Citation of Excellence for her paper published in *Journal of Economic Studies*, 25:6, 1998, ANBAR Electronic Intelligence, 1999, awarded the Magister en Gestión Educativa by the Consejo Iberoamericano in 2004, and has been selected for inclusion in *Who's Who Among America's Teachers*, March 1996 and 2006. She has also been the recipient of several grants to support her research and is a Fulbright Scholar.



Roger Strand · University of Bergen, Norway
The Impact of a Fantasy

Roger Strand is Professor at the Centre for the Study of the Sciences and Humanities and the Centre for Cancer Biomarkers at the University of Bergen, Norway, and Adjunct Professor at Department of Biotechnology and Food Science, the Norwegian University of Science and Technology, Trondheim, Norway. Originally trained as a natural scientist (PhD, biochemistry 1998), Strand developed research interests in the philosophy of science and has worked on issues of scientific uncertainty and complexity, including the theory of post-normal science. This has gradually led his research into

broader strands of social research, philosophy and broader issues of policy, decision-making and governance at the science-society interface. He has coordinated two EU FP7 projects (TECHNOLIFE and EPINET), which both addressed the need for more dynamic governance of science in society. He was a member of the National Research Ethics Committee for Science and Technology in Norway (2006-2013) and Chair of the European Commission Expert Group on Indicators for Responsible Research and Innovation (2014-2015). He is one of the Directors of the European Centre for Governance in Complexity. Recently, he co-authored an open access book on circular economy policies, see <https://www.amazon.com/Circular-Economy-Europe-Perspectives-Sustainability-ebook/dp/B07Z6RFCKN>.

Discussants:



Andrea Pensotti · University Campus Bio-Medico of Rome, Italy – Actire Ltd

Graduated in Pharmaceutical Chemistry at University of Milan in 2009, he finalized his studies with a professional training in management in London and starting from November 2018 he is PhD student at University Campus-Biomedico. Andrea has been partner of Lead2b Limited since 2013 and has been managing the Life Science department of Actire Ltd since 2016.

Andrea is member of the Systems Biology Group Lab (University La Sapienza) under the head of prof. Mariano Bizzarri.

He has followed for Lead2b, as Life Sciences Partner, research development projects for: Milestones Scientific Inc., Cornhill & Harvest Ltd., Azerbaijan National Academy of Sciences, EPMA (European Predictive, Preventive and Personalised Medicine Association), EMA (European Medical Association) and Westmount Capital.

In 2013 he worked as scientific advisor for Fondazione Lang Italia and starting from 2014 he is Scientific Director of Fondazione Lang and Samiarc for which he has managed research projects involving six Universities in the medicine and biophysics field. His previous experiences were in Astrazeneca, Fondazione Veronesi, Istituto Neurologico Casimiro Mondino, Diatech srl, Meda Pharma, Ecker Technologies and Noventure, in which he has managed scientific research and communication project.

Andrea is scientific director of Saluteuropa, an Italian Representative Organisation of EMA (European Medical Association) and Italian partner of LSI (Interdisciplinary Life Science Institute).

Saluteuropa is managing multidisciplinary research teams and for example they edited a book “Energia Vitale – dalle molecole alle organizzazioni, viaggio tra le radici comuni della vita” Franco Angeli Publisher in 2015 and presented one of their researches on cognitive sciences at the international Science of Consciousness congress hold in San Diego (California).

In 2010 Andrea acted as Executive Producer of an Italian TV network program on health education topics: “La Natura della Salute”.

During his career study he worked as Assistant and Executive Producer for the main national tv networks such as: Rai, Mediaset, Sky and OdeonTv. Starting from 2008 he was Executive Producer for Libero srl and Blue Bastille srl.



Jacob Stegenga · University of Cambridge, UK

Jacob Stegenga is a Reader in the Department of History and Philosophy of Science at the University of Cambridge. Prior to joining Cambridge he taught in the United States and Canada, and he received his PhD from University of California San Diego. His research area is philosophy of science, including methodological problems of medical research, conceptual questions in biology, and fundamental topics in reasoning and rationality. His research employs empirical findings, analysis, and formal methods to establish prescriptive conclusions about science. He is the author of *Medical Nihilism and Care and Cure: An Introduction to*

Philosophy of Medicine, and he is currently writing a book on the sciences of sexual desire.



Guglielmo Militello · University of the Basque Country (UPV/EHU), Spain

After having taken a bachelor and a master degree in philosophy at the University of Pisa (Italy), Guglielmo Militello is currently doing a doctorate in philosophy of biology at the University of the Basque Country (Spain) under the supervision of Prof. Álvaro Moreno and Dr. Leonardo Bich. The PhD thesis aims at exploring the structural and organizational conditions for the appearance of a functionally integrated individual in the transition from prokaryotic to eukaryotic cell. Guglielmo's research interests include specific topics in philosophy of biology (e.g. biological individuality, major transitions in evolution,

explanation in life sciences), the epistemology of biological practice, and the dissemination of scientific knowledge.

List of publications:

Militello G and Moreno A (2018) Structural and organisational conditions for being a machine. *Biol Phil* 33:35 <https://doi.org/10.1007/s10539-018-9645-z>.

Militello G (2019) Motility Control of Symbionts and Organelles by the Eukaryotic Cell: The Handling of the Motile Capacity of Individual Parts Forges a Collective Biological Identity. *Front Psychol* 10:2080. <https://doi.org/10.3389/fpsyg.2019.02080>.



Laura Dugo · University Campus Bio-Medico of Rome, Italy

Dr. Laura Dugo is an associate Professor of Food Chemistry at the Departmental Faculty of Medicine and Surgery (Research unit of Food science and Nutrition), Campus Bio-Medico University of Rome (Italy). She has gained her degree in Pharmacy *summa cum laude* at the University of Messina (Italy) in 1997. Afterwards, she continued her studies in the United States, at the Virginia Polytechnic Institute and State University (Blacksburg, VA) with a project about analytical technique for food analyses, and in the United Kingdom, where she

obtained the PhD in Pharmacology at the William Harvey Research Institute (Queen Mary University of London) in 2006. Her research activity during the PhD focused on in-vivo experimental models of inflammation and shock, for the study of the biological modulation of the inflammatory process by pharmacological inhibitors of the insulin pathway. She was post-doctoral fellow at the department of Experimental Pathology of the same institute for two years, moving into in-vitro work and studying the immunological mediators of inflammation in human and murine cell models. In 2007, she returned to Italy as research assistant professor of Biochemistry at the University Campus Bio-Medico of Rome. Her current research activity focuses on the study of bioactive compounds present in food, with particular interest to the modulation of the inflammatory process and the oxidative stress. Teaching activity involves Food Chemistry and Nutritional Biochemistry undergraduate and graduate classes. She is also part of the Doctoral school board. She is co-author of over 90 papers published on international journals with referee committee and presented her research data at many national and international meetings in form of poster or oral presentation. On January 2020, in Scopus database there are 91 documents with 4489 citations and H-index of 43.



Julian Reiss · Institute for Philosophy and Scientific Method, JKU Linz, Austria

Julian Reiss is Professor of Philosophy at Johannes Kepler University Linz (since October 2019) and Head of the Institute of Philosophy and Scientific Method. He held previous appointments at Durham University (2012-19), Erasmus University Rotterdam (2007-12), Complutense University Madrid (2005-7) and the London School of Economics and Political Science (2001-4).

Reiss read economics and finance at the University of St Gallen and HEC Paris before completing a PhD in the philosophy of science at the LSE. He is the author of *Causation, Evidence, and*

Inference (2015), *Philosophy of Economics: A Contemporary Introduction* (2013), *Error in Economics: Towards a More Evidence-Based Methodology* (2008; Erasmus Philosophy International Research Prize), and over 60 papers in leading philosophy and social science journals and edited collections.

In his current research Reiss focuses on questions concerned with the methodological foundations of the sciences (e.g., What sort of property about a fact makes a fact evidence for a hypothesis? When does evidence constitute proof?), the metaphysics of the sciences (e.g., What is the nature of causal relations? How do causal claims and counterfactuals relate?) and the intersection of ethics and science (e.g., How ought science to be organised so that it serves the public good? Where do values enter in science and how can we improve the role they play? What is the proper role of scientific experts in democracy?). His work addresses these questions mainly in the context of the social sciences, especially economics, and of biomedical research.



Henrik Vogt · Norwegian University of Science and Technology, Norway

Henrik Vogt is a Medical Doctor who has also studied History of Science. His Ph.D. investigates what the up and coming field of Systems Medicine will mean for Primary Care.

His educational background is purposefully broad and generalistic. It is a combination of a primarily scientific education (Medicine), a humanistic one (History and some Philosophy) and a pragmatic communicational one (Journalism). He specialized in History of Science and Professionalism (the subject name was “Knowledge and Power”). In combination with a single semester course in

Philosophy of Life and Ethics this gives him a Cand.mag degree (equivalent of four years of University level studies) in addition to his medical studies. He has also previously worked as a journalist, mostly for Norwegian Aftenposten and A-magasinet. For the time being he is also writing popular science articles and commentaries in the lay press in addition to part time work in a primary care practice in Oslo.

Academically, he is interested in why doctors think the way they do and how this affects their practice (and vice versa). He is also interested in the degree to which and how the theoretical foundations of medicine can incorporate both the natural scientific and humanistic worldviews in a comprehensive manner. In his own Ph.D. project he employs his own broad, educational background within the fields of General Practice and Community Medicine, which offer and need the most comprehensive (or “holistic”) and general approach to human beings and their health. This project is anchored to the needs of primary care doctors and their patients and has led him to investigate theoretical questions of special interest to them. He is working at the General Practice Research Unit at the Institute of Community Medicine.



Massimo Ciccozzi · University Campus Bio-Medico of Rome, Italy

Prof. Massimo Ciccozzi obtained a degree in Biological science and a master's degree in epidemiology and biostatistics, a graduation in molecular Biology (Catholic University of Rome), a graduation in epidemiology and Biostatistics (Johns Hopkins University Baltimore). Worked as researcher since 1990 at the National Institute of Health in Rome and is now Associate Professor and director of the Medical Statistic and Molecular Epidemiology Unit at the Campus Bio-Medico University in Rome. He is a consultant epidemiology for

WHO in different countries. He made Studies on field epidemiology and surveillance systems and molecular epidemiology.

He is expert in phylogenetic and evolutionary analysis of microorganism and infectious diseases. These studies has been also conducted in several countries where Prof. Ciccozzi has been named as expert consultant (Albania, Montenegro, Bulgaria, Egypt, Turkey, and USA). He has been the Principal Investigator in many National and international project on AIDS. He is epidemiologist expert in Molecular epidemiology, Surveillance System of infectious diseases and global health. He is author of more than 250 international publications, editor and reviewer for many journals.



Maria Rosaria Brizi · University Campus Bio-Medico of Rome, Italy

Maria Rosaria Brizi has a qualification as Licensed lawyer, with a PhD on international relations.

She is Co-lecturer in Human Ecology and Sustainability at University Campus Bio-Medico of Rome, Faculty of Engineering. She has also been Lecturer in International negotiation, political and juridical means of dispute settlement at Tallinn University of Technology School of Economics, Department of International Relations, and Lecturer in International arbitration at ERIICTA University (European Regional Academy), Faculty of Law, Yerevan, Armenia

Previously, she has been Administrative officer Ministry of Transport and Infrastructure at Rome, Italy. Currently, she has a research and communication affiliation with Home Renaissance Foundation London, UK, and she is a Research fellow (energy and environmental policy) at Luiss – Guido Carli University – Department of political science.



Alessandra Santacroce · IBM Italy Institutional Relations Director

Since 2008 Alessandra Santacroce has been the IBM Italy Institutional Relations Director. This function is dedicated to promote the value of innovation on Italian and European policies. Santacroce professional career includes experiences in Public Sector and Multinational Companies, where she has gained skills in multiple areas such as employment and health policies as well as management and coordination of

multidisciplinary teams at international level. She graduated in Political Sciences at the University La Sapienza in Rome, she also attended the specialization course in Business Administration at the ISTAO Management Institute of Ancona.

"Lecturer" at various universities, she regularly participates as a speaker at conferences on ICT policies. She is the author of numerous articles and publications on economic policy issues. In IBM Italy, Santacroce is a member of the management team, President of the IBM Italy Foundation and Executive Sponsors for Cultural Diversity. Represents the company within the relevant Association Bodies, as member of the Board at Anitec-Assinform as well as Unindustria. Since 2019 she is also member of the Board of Valore D, an association of companies dedicated to the gender's diversity promotion.



Daniela Scaramuccia · Director, Industry Solutions & Business Development, IBM, Italy

Daniela Scaramuccia leads the IBM Italy Business Development Team.

This unit is focused on supporting Companies from all sectors and Institutions in their large innovation and digital transformation projects, leveraging on the deep and breath IBM portfolio of solutions, resources and competencies, from consultancy to new technologies. Her team enables the smooth implementation of state of the art IBM research solutions, from AI to computational biology

and quantum computing, from pilot projects to complex business problems. Daniela has strong experience in the healthcare and life sciences industries, achieved by serving healthcare providers and payers as strategic consultant and directly acting as Minister of Health for Tuscany Region.

Throughout more than 15 years of working experience, Daniela served multiple industries and geographies on strategy, marketing, sales and organization issues, leading Italian and multinational companies, especially in the Healthcare, Life Sciences, Infrastructure and Energy industries.

Edwin Morley-Fletcher · President of "Lynkeus"



Edwin Morley-Fletcher is President of "Lynkeus" (www.lynkeus.eu) and former Professor of Administration Science within the Faculty of Politics, University of Rome "La Sapienza". Member of the National Council for Economy and Labour (CNEL) and chairman of the CNEL Working Group on the Social Market from 1995 to 2000, Senior Fellow at the School of Public Policy at the UCLA on 1999, Jean Monnet Fellow at the EUI in 1989. He has been for several years advisor of the Gaslini Foundation, Genoa, has led the "Healthcare governance and technology" working group within the ASTRID Foundation, Rome, and is currently advisor of the Bambino Gesù Hospital in Rome.

In the last 10 years he has been leading a number of EU-funded research projects in the area of ICT for Health: Project Manager of the FP6 IP Health-e-Child (2006-2010) and of the FP7 STREP Sim-e-Child (2010-2012), he is currently Project Manager of the FP7 IP MD-Paedegree (<http://md-paedegree.eu>), Co-ordinator of the FP7 STREP Cardioproof (<http://cardioproof.eu>), and co-author of the forthcoming Roadmap on In Silico Clinical Trials within the FP7 Avicenna CSA (<http://avicenna-isct.org>). He is the author of over 100 publications.

Other participants:



William Peden · Polytechnic University of Marche, Italy

William Peden is a postdoctoral researcher in the Philosophy of science at the Polytechnic University of Marche (Univpm) in Italy. He works with Professor Barbara Osimani on evidence amalgamation, the formal modelling of science, and other issues. Prior to coming to Univpm, he was a PhD student and subsequently a Research Associate at Durham University, UK.



Julia Tinland · Sorbonne University, Paris, France

Julia Tinland is a postdoctoral researcher in Philosophy at Sorbonne Université (UMR Sciences, Normes, Démocratie), working within the Integrated Research Site on Cancer (SiRIC) CURAMUS, based at the Pitié-Salpêtrière Hospital. Her research focuses on ethical and epistemological issues in contemporary medicine, and more particularly on conceptualizations of vulnerability in preventive medicine and diagnostic categories (oncology, psychiatry). She defended her PhD thesis on the Ethics of Pre-Onset Early Detection and Interventions in Psychiatry, written under the supervision of Geoffrey

Scarre and Holger Maehle, at Durham University (UK), in 2018. Her current projects and collaborations relate to participatory medicine and patient expertise, Chronic Lymphocytic Leukemia (CLL) nosology, and rare cancers.



Silvia Caianiello · Institute for the History of Philosophy and Science in the Modern Age, Naples, Italy

Silvia Caianiello is Senior Researcher at the Institute for the History of Philosophy and Science in the Modern Age (ISPF) of the Italian National Research Council (C.N.R.) in Naples, Italy. Since 2016, she is associated to Stazione Zoologica Anton Dohrn in Naples. She is co-editor of the Book Series “Filosofia e saperi. Crossing boundaries

between humanities and life sciences” (CNR Edizioni). She is member of ISPHSSB (“International Society for the History, Philosophy, & Social Studies of Biology”); member and, since 2015, Vice-Director of Res viva. Interuniversity Research Center for the Epistemology and History of Life Sciences (www.resviva.it). Her research interests and experiences range from the History of European Philosophy since Modern Age to the History and Philosophy of Life Sciences, with a methodological focus on conceptual transfers across different scientific fields.

She conducted extensive research on the correlation between representations of time and epistemologies of history from XVIII to XX Century, and on bridging concepts between Human and Life Sciences since the XIX Century. Currently her main research field is the history and philosophy of evolutionary theory and evo-devo, (Evolutionary Developmental Biology), with particular focus on systemic and hierarchical approaches to biological organization and evolutionary change.

Observers:



Carlos Cavallé · Social Trends Institute, Barcelona, Spain

Carlos Cavallé is the President of STI. He holds a PhD in Engineering and is a Professor Emeritus of Strategy at IESE Business School, University of Navarra. From 1984 to 2001, Professor Cavallé was the Dean of IESE and guided it to become one of the world's leading business schools. He is currently the President of the PublicPrivate Sector Research Center, a founder and partner of several companies in Spain, and the director of Spanish and international companies. He is a Trustee at the New York-based Institute for Media and Entertainment, and a Fellow of the Strategic

Management Society. In 1991, Professor Cavallé was honored with Harvard Business School's Distinguished Service Award. He has received the University of Navarra's Gold Medal and the Creu de Sant Jordi, a distinction granted by the Catalan government. He has also published several books and many articles.



Tracey O'Donnell · Social Trends Institute, Barcelona, Spain

Tracey O'Donnell has been the Secretary General of the Social Trends Institute since it was founded in 2004. She has a BA in Tutorial Studies (a multidisciplinary approach to literature) from the University of Chicago, and an MSJ from Northwestern University's Medill School of Journalism. She is a freelance writer, translator and editor, and has served as a tutor in the postgraduate program in Marriage and Family Education at the Universitat Internacional de Catalunya.



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Anyone interested can contact c.beneduce@unicampus.it**