



St. John's College, University of Cambridge
Saturday 26th October 2019

welcome — conference program
— invited speakers — posters abstracts

hosted by:



co-organised by:



in partnership with:



sponsored by:



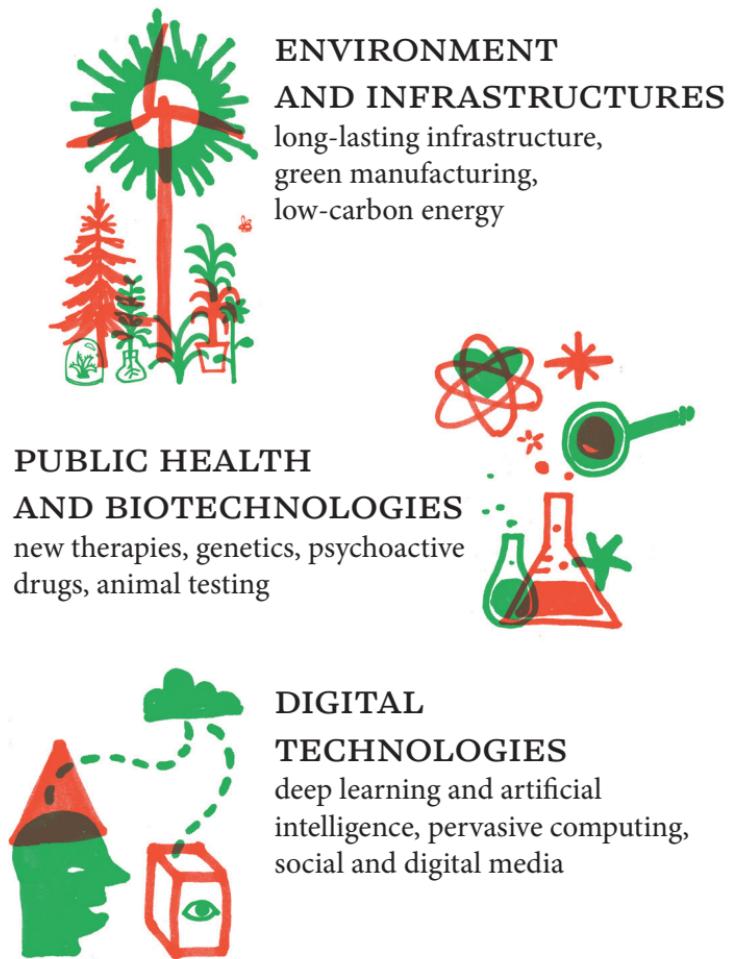
welcome



SPP ITALY 2019 is a one-day conference exploring the relationship between science, policy and the public in Italy. In the globalised world we live in, it has never been easier for researchers to move across borders. Science and technological innovation are seen by many as an international enterprise.

However, most policy decisions are still taken by governments at the national and local level. SPP Italy will give researchers working in the UK the opportunity to engage with policy makers and science communicators from Italy and to reflect on the way science can support good policy decisions.

The discussion will focus on important policy issues from 3 areas of science and technology:



The conference invites Italian researchers, as well as other researchers with an interest in Italian affairs, to meet with policymakers and science communicators from Italy. Young researchers (PhD and Postdoc level) are given the chance to engage in science policy by presenting research evidence in their field of expertise.

conference program



9.00 — 9.30 registration

9.30 — 9.50 welcome speech

9.50 — 10.25 — KEYNOTE: Science advice in the UK
Prof. Carole Mundell

10.25 — 11.25 — ENVIRONMENT & INFRASTRUCTURE PANEL
Dr. Giorgia Giardina, Prof. Andrea Taramelli

11.25 — 11.40 coffee break

11.40 — 12.15 — KEYNOTE: Science in society:
trends in public perception and attitudes in Italy
Prof. Massimiano Bucchi

12.15 — 12.35 — Poster Session · Elevator Pitch

12.35 — 13.40 lunch

13.40 — 14.40 — PUBLIC HEALTH & BIOTECHNOLOGIES PANEL
Prof. Carlo Rinaldi, Marco Cappato

14.40 — 15.15 — KEYNOTE: The life of a scientist in the Italian Parliament
Elena Fattori MP

15.15 — 15.30 coffee break

15.30 — 16.30 — DIGITAL TECHNOLOGIES PANEL
Dr. Silvia Chiappa, Riccardo Luna

16.30 — 16.45 — Presentation of “#ScienzaInParlamento” initiative

16.45 — 17.45 — CONCLUDING PANEL:
How can we bring more science into Italian politics?

17.45 — 18.00 closing remarks

18.00 — 19.00 farewell drinks

thematic panels



ENVIRONMENT & INFRASTRUCTURE PANEL

Moderator: Prof. Carmine Galasso

| | |
|--------|--------------------------------|
| 5 min | Introduction |
| 15 min | Talk by Dr. Giorgia Giardina |
| 15 min | Talk by Prof. Andrea Taramelli |
| 10 min | Questions from the moderator |
| 15 min | Questions from the audience |

PUBLIC HEALTH & BIOTECHNOLOGIES PANEL

Moderator: Prof. Massimiano Bucchi

| | |
|--------|------------------------------|
| 5 min | Introduction |
| 15 min | Talk by Prof. Carlo Rinaldi |
| 15 min | Talk by Marco Cappato |
| 10 min | Questions from the moderator |
| 15 min | Questions from the audience |

DIGITAL TECHNOLOGIES PANEL

Moderator: Dr. Marco Basaldella

| | |
|--------|------------------------------|
| 5 min | Introduction |
| 15 min | Talk by Dr. Silvia Chiappa |
| 15 min | Talk by Riccardo Luna |
| 10 min | Questions from the moderator |
| 15 min | Questions from the audience |

invited speakers



Massimiano Bucchi

Full Professor of Sociology of Science and Communication,
Science and Technology, University of Trento

Marco Cappato

Treasurer, Associazione Luca Coscioni

Silvia Chiappa

Staff Research Scientist, DeepMind

Elena Fattori

MP, Senate of the Italian Republic

Giorgia Giardina

Lecturer, University of Bath

Riccardo Luna

Journalist at La Repubblica

Carole Mundell

Chief Scientific Adviser,
Foreign and Commonwealth Office

Carlo Rinaldi

Associate Professor, University of Oxford

Andrea Taramelli

Associate Professor, IUSS University Pavia



Massimiano Bucchi

Full Professor of Sociology
of Science and Communication,
Science and Technology,
University of Trento

Massimiano Bucchi is Full Professor of Sociology of Science and Communication, Science and Technology at the University of Trento and has been visiting professor in Asia, Europe, North America and Oceania. Since 2018, he is director of the Master in Communication of Science and Innovation. He is the author of several books (published in more than twenty countries) and papers in journals such as *Nature* and *Science*. Among his books in English are *Science and the Media* (Routledge, 1998); *Science in Society* (Routledge, 2004); *Beyond Technocracy* (Springer, 2009). He is the editor of the international peer reviewed journal *Public Understanding of Science* (Sage) and regularly contributes to newspapers and TV programmes.



Marco Cappato

Treasurer, Associazione Luca Coscioni

Marco Cappato is Coordinator of the World Congress for freedom of scientific Research, Treasurer of Luca Coscioni Association and one of the promoters of Science for Democracy. Former member of the European Parliament (1999-2009) and EP Rapporteur on: privacy in electronic communication; human rights in the world for 2007; production of opium for medical purposes in Afghanistan; public access to EU documents. Nominated for the “Politician of the year” award organised by Wired in 2003; winner of the ‘European of the Year’ award organised by the European voice. He is a former member of Milano City Council (2011-2016), and leader of the Italian campaign for euthanasia legalization. He is a civil disobedience activist on science, drugs and end-of-life decisions.



Silvia Chiappa

Staff Research Scientist, DeepMind

Silvia Chiappa is Staff Research Scientist in Machine Learning at DeepMind. She received a Diploma di Laurea in Mathematics from University of Bologna and a PhD in Machine Learning from École Polytechnique Fédérale de Lausanne (IDIAP Research Institute). Before joining DeepMind, she worked in the Empirical Inference Department at the Max-Planck Institute for Intelligent Systems (Prof. Dr. Bernhard Schölkopf), in the Machine Intelligence and Perception Group at Microsoft Research Cambridge (Prof. Christopher Bishop) and the Statistical Laboratory, University of Cambridge (Prof. Philip Dawid). Her research interests are based around Bayesian & causal reasoning, graphical models, variational inference, time-series models, deep learning, and machine learning fairness and bias.



Elena Fattori

MP, Senate of the Italian Republic

Elena Fattori is an Italian politician, currently serving as senator of the Italian Republic for the Five Star Movement. After obtaining an undergraduate degree in biology, she obtained her PhD in molecular biology from the University of Zurich in Switzerland. From 1990 to 2009 she was a research scientist at the Istituto di Ricerche di Biologia Molecolare (IRBM) in Pomezia, Rome. She is an expert in molecular biology, translational medicine, vaccine development, gene therapy, and virology. She was elected senator with the Five Star Movement for the first time in 2013. She is the author of “Il Medioevo In Parlamento”, in which she describes her life as a scientist in the Italian parliament, touching upon controversial topics such as the Stamina therapy, anti-vaccination movements, and animal testing.



Giorgia Giardina

Lecturer, University of Bath

Dr. Giorgia Giardina is a lecturer in the Department of Architecture & Civil Engineering at the University of Bath. An expert in structural damage, infrastructure assessment, remote sensing, soil-structure interaction, and earthquake engineering, before her current position she obtained a PhD in Civil Engineering and Geosciences from TU Delft (Netherlands) and she was a Research Associate in the Department of Engineering at the University of Cambridge. Her latest research focuses on new space radar techniques to detect deformation in structures, and has shown promising applications in risk and damage assessment of critical infrastructure. In a collaboration with NASA's Jet Propulsion Laboratory in California, this research was applied to analyse signs of distress of the Ponte Morandi in Genoa, Italy, which collapsed in August 2018.



Riccardo Luna

Journalist at La Repubblica

Riccardo Luna is a journalist at *La Repubblica* and former editor-in-chief of AGI (Agenzia Giornalistica Italia). He is the Italian protagonist in the transformation of journalism in the digital age: from 2014 until last summer he was Italy's Digital Champion, a figure responsible for leading national initiatives to "help every European become digital". In 2009 Riccardo Luna has promoted the candidacy of the Internet for the Nobel Peace Prize; in 2012 he has founded Wikitalia, the association that endeavors to promote transparency, open data and participation in Italian politics using the internet; he is vice president of Make in Italy Foundation since 2013. He has worked for the most important Italian newspapers, such as *Repubblica* (for more than 10 years), and he founded and has been editor of three magazines: Campus, Il Romanista and Wired, the online magazines CheFuturo! and StartupItalia!, outlets and community dedicated to startupper. Luna is a presenter of tv and radio programs and he is a protagonist of several initiatives and connected events in the world of digital start-ups.



Carole Mundell

Chief Scientific Adviser,
Foreign and Commonwealth Office

Professor Carole Mundell was appointed Chief Scientific Adviser (CSA) at the Foreign and Commonwealth Office in October 2018. She is Professor of Extragalactic Astronomy, Head of Astrophysics at the University of Bath and a Fellow of the Institute of Physics. Her career highlights include: Royal Society Wolfson Research Merit Award (2011 to 2016) for the study of black hole-driven explosions and the dynamic Universe; FDM Everywoman in Technology Woman of the Year (2016); Science and Technology Facilities Council (STFC) Board Member and STFC Skills and Engagement Advisory Board Chair (2015). Carole studied at the University of Glasgow where she gained a BSc in Physics before working at the Jodrell Bank Observatory, University of Manchester, where she completed a PhD in Astrophysics. She later moved to the University of Maryland before joining Liverpool John Moores University, where she received her first professorship in 2007. A world-leading scientist, she is a frequent guest speaker at international conferences. She sits on a number of strategic advisory panels for UK and international groups, is a committed communicator of science, and is an advocate for diversity in science.



Carlo Rinaldi

Associate Professor, University of Oxford

Carlo Rinaldi completed his medical education in 2005 and his residency in adult neurology in 2010 both with distinction at the University of Federico II, Naples, Italy. In 2009 he joined the Neurogenetics Branch at the National Institute of Health (Bethesda, MD, USA) under the supervision of prof. Fischbeck, to work on the mechanisms of pathogenesis of spinal and bulbar muscular atrophy (SBMA or Kennedy's disease) and other genetic diseases of the motor unit and where he also obtained a PhD in Neuroscience with the thesis entitled: 'From Disease Gene Identification to Therapeutic Targets in Neuromuscular Diseases'. In 2015 he joined the lab of prof. Wood at the University of Oxford as a Clinical Research Fellow and in December 2016 was awarded a Stage 2 Wellcome Trust Clinical Research Career Development Fellowship. He is an Honorary Consultant Neurologist at the John Radcliffe Hospital in Oxford and at the National Hospital for Neurology and Neurosurgery in London.



Andrea Taramelli

Associate Professor, IUSS University Pavia

Prof. Andrea Taramelli is Faculty Professor at IUSS Pavia, reader in Remote Sensing and Surface Coastal Process Science at the Institute for Environmental Protection and Research Rome, Adjunct Research Scientist at Eucentre and Lecturer at UME School, Pavia. He has degrees from the University of Perugia and Master Business Administration applied to environment from Scuola Superiore Sant'Anna, as well as a PhD on landslide singularities (power-law concept) from the University of Perugia. After his PhD he was research associate at LDEO of Columbia University, assessing topography and surface changes using SAR techniques and multispectral imagery. He is Italian national delegate at the European Commission Copernicus User Forum and Copernicus Committee and national expert at the European Maritime Spatial Planning technical group. He is a member of the “Coordination Committee for Space” at Italy’s Prime Minister’s Office.

posters abstract



Jasmine Allegra Anouna

University of Oxford

Assunta Baratta

Università telematica Pegaso

Laura Convertino

University College London

Lukas Gast

University of Cambridge

Giovanni Giustini

Imperial College London

Paola Grimaldi

University of Naples Suor Orsola Benincasa

Michele Win Tai Mak

University of Cambridge

Corrado Mazzaglia

University of Cambridge

Jasmine Allegra Anouna

University of Oxford

Title — Social Media: A New Tool for Peacebuilding

Abstract — In recent years, gender-based violence has become a prominent focus of contemporary discourse in Italy. Notwithstanding the intensified emphasis on the issue, the homogeneity of the discourse limits its capacity to transform conditions of violence. Following Johan Galtung's conceptualisation of violence, I argue that the contemporary discourse on gender-based violence has neglected a fundamental dimension of violence: cultural violence. Accordingly, I explore the ways that sites of cultural production in Italy, namely, schools and the media, are complicit in reproducing cultural violence. The governmental lack of interest in reassessing the structure and content within these institutions sustains norms legitimising violence.

Beyond exposing the ways in which cultural violence is manifested, this study shows how it is being addressed and considers one tool that remains largely dismissed in the project to ameliorate violence: social media.

The Italian collective imagination on social media has been largely dominated by its negative implications. In contrast, my research sheds an optimistic light on social media by exposing how certain projects on Instagram address cultural violence. Two projects in particular convey the point: Freeda and Meglio delle Donne. Through a content analysis of the images, articles, and videos shared on the projects, I illustrate how they serve as unique and valuable resources on gender education; the content of the projects contrasts significantly to that offered in official informational institutions. The projects thus fruitfully disrupt traditional patterns of cultural formation and help to build a more confidently critical citizenship in ways that merit greater attention not only from academics but also from policy-makers.



Assunta Baratta

Università telematica Pegaso

Title — 20 years after the Bologna Process:
Quality assurance through learning analytics:
a new paradigm in the design of online learning

Abstract — The universities of the future will become increasingly international, connected to the labour market, technologically advanced, designed and organized with the students at the center. Italy is a candidate for a leading role in the process of renewing European university education, projected for 2020. In fact, the meeting of the 48 Ministers of the countries of European Higher Education Area will be held in Rome, to decide on developments in the university world over the next ten years. Italy obtained the chairmanship of the Secretariat of Bologna Process from 2018 to 2020. Rapid technological expansion has favoured the development of e-learning studies, and although we are witnessing a progressive digitalisation and dematerialisation of procedures in traditional universities, these cannot keep up with telematics universities, digital natives with just-in-time courses. The clear demarcation between traditional non-digital universities and telematics universities, has not helped a proper assessment of the quality of training offered, ending up encouraging confusion between the mode of delivery of a course and the quality of the same, feeding the reservations about e-learning by the more traditional component of public and non-public universities.

The evaluation of quality e-learning is a central issue for the quality assurance of any master degree course, in relation to the different levels of integration of the technology from which it is concerned. Telematics universities, as well as all universities, must be able to operate in a national system based on clear, shared and sustainable rules, dictated by the awareness that the competitive environment goes beyond national borders, collaborates with higher education systems in other parts of the world. This contribution aims to develop a shared approach on quality assurance, highlighting the benefits of teaching and research of telematics universities, analyse the application of learning analytics techniques, according to the principles stated in the Bologna Process and subsequent ESG.



Laura Convertino

University College London

Title — Research on Psychoactive drugs: the lack of evidence-based policies in Italy

Abstract — Psychoactive drugs are strictly regulated worldwide, with the theoretical aim to reduce the negative effect that their use could have for the users and for society. However, strict policies have often been guided by cultural and moral judgment rather than scientific evidence.

Ideology and misjudgements contributed to build a social narrative, which progressively condemned not only the recreational use, but even the discussion about illegal compounds. At the same time, drug-trafficking has become an international economic power, with a profit of about 25 million euros only in Italy, which empowers organised crime in the first place. In recent years, many researchers have shown how some of the so-called “drugs of abuse”, such as MDMA, LSD and psilocybin, can have beneficial therapeutic effects, where legalised psychoactive drugs fail to treat invalidating symptoms, or lack a satisfying level of efficiency and reliability (refer to Nutt et al, 2013, for a consistent review). Despite the increasing international rise of awareness, Italy seems to be late and deaf about the issue. As a direct effect, public investment on new psychoactive drugs is insufficient, and national regulations make it difficult to undertake research in the field.

I aim to review the latest scientific evidence on the beneficial therapeutic use of psychoactive drugs, and to propose alternative policies (bringing examples from other states, and from present international proposals) for an evidence-based change of paradigm. Moreover, I will compare the molecular mechanisms of legal and illegal drugs, trying to understand the historical process that drove Italy to the current legislation. Starting from distinguishing economic, social and cultural reasons from science evidence is a first fundamental step to move further steps for the present and future society.



Lukas Gast

University of Cambridge

Title — Industrial Symbiosis and its Contribution to a Circular Economy: An overview of Industrial Symbiosis in Italy

Abstract — “Industrial Symbiosis” (IS) is one of the strategies to reduce the use of natural resources and fossil fuels through a more efficient utilisation of industrial waste. Worldwide and also in Italy, there are several examples of an industrial symbiosis. A research project by the Italian agency for new technologies, energy and sustainable economic development (ENEA) funded the development of a framework for the development and implementation of the first Italian Platform for Industrial Symbiosis implemented in Sicily (2011-2015) [1]. The poster takes a detailed review paper by Luciano et al. (2015) as a starting point for addressing the following three questions:

- 1) How has the ENEA project contributed to industrial symbiosis in Italy?
- 2) What is the contribution of industrial symbiosis to a circular economy?
- 3) What are research gaps and which policies could support further industrial symbiosis in Italy?

The findings are visualised in a “heat map” of (major) industrial production sites and parks in Italy, a table with key results from previous IS activities and a summary of policy recommendations for further IS activities.

[1] Piattaforma di simbiosi industriale,

URL: <http://www.simbiosiindustriale.it/piattaforma>

[2] Luciano et al. (2015): The experience of the first industrial symbiosis platform in Italy; DOI:10.30638/eemj.2015.164



Giovanni Giustini

Imperial College London

Title — Towards an Italian nuclear Renaissance:
a roadmap of opportunities and challenges

Abstract — The maintenance of human civilization depends entirely on our ability to generate and distribute electricity while preserving the Earth ecosystem. Electric power generation from fossil fuels is no longer an option due to huge emissions of greenhouse gases and atmospheric pollutants typical of that now obsolete technology. In contrast, nuclear power generates electricity without releasing carbon dioxide or any other pollutant into the atmosphere. Nuclear power is integral part of the energy infrastructure of all major economies, with the exception of Italy, and despite the crucial role played by Italian scientists in the development of nuclear fission technology. Yet Italy was among the first western powers to implement a civil nuclear programme, capable of achieving in a few years the world's third largest power generation capability. 'Italian' emissions from fossil-fuel plants still need to be nullified if Italy wishes to comply with the 2015 Paris agreement on climate change, an achievement which requires the development of new nuclear plants on Italian soil. Here it is suggested what possible ways forward are there for Italy to implement a financially feasible new civil nuclear programme. Starting with a few back-of-an-envelope calculations of the likely magnitude of environmental and economic damage caused by Italy's aversion to nuclear, a set of achievable goals is established for the new Italian nuclear programme to remedy the damage done, and to realign the country to the rest of the industrialised world. It is recognised that, following the necessary lift of the current nuclear ban, crucial to the success of Italy's new energy strategy will be the promotion of policies that must ensure fair competition between nuclear and other low-carbon sources of electricity. Finally, of the innovative reactor concepts currently being developed, the most suitable for the Italian civil nuclear programme of the future are identified.



Paola Grimaldi

University of Naples Suor Orsola Benincasa

Title — Energy and sustainability between the Ecology of law, Green Law and the rights of Nature

Abstract — Pollution and climate change are pushing us one step closer to ecological default, so we need to bet on the Green Economy and the development of Green Law. The Italian doctrine (Mattei U., Capra F., Quarta A.), which has long been denouncing the ecological crisis facing Italy, proposes an ecological conversion of the main institutions of the Italian legal system, now obsolete in the face of the dramatic environmental situation in our country; all accompanied by a necessary “ecological literacy” of the individuals that helps them to reflect on the new proprietary forms and on the change of the relationship between the sovereign state and the shared global one. In the field of Energy and Sustainability, witnesses and models of success, worldwide, are those Latin American countries, where nature, elevated to a legal entity, is protected at constitutional level and where 98% of electricity is produced with renewable energies thanks to targeted Government Plans, use of clean sources and smart grids. The European Union has set a policy that pushes member states to increase the use of renewable sources and reduce fossil fuels. In Italy, the energy regulatory framework is now fragmented between different standards and above all, in the field of renewable energies, growth is slow and not at all competitive. The proposal that we intend to make to Italian politicians with this project is, first of all, the recognition of legal subjectivity to Nature as a “common good”; furthermore, that of entirely transposing Directive 2018/2001 / EU on the development of renewable sources; to introduce into our system, integrating and modifying its contents, the concept of energy as a common good rather than private property; specific rules in the field of civil offense and give rise to mandatory energy education courses in schools.



Michele Win Tai Mak

University of Cambridge

Title — Towards an effective data based infrastructure management system

Abstract — Existing bridges are not as strong as we would like them to be. As new theories develop, design codes change and evolve over time. However, existing structures that were built according to superseded models remain operational. Moreover, due to repeated loading and exposure to the environment, they deteriorate and lose strength over time. Assessing their residual strength is therefore a major challenge that has drawn a lot of attention from the engineering and scientific community. The management of existing infrastructure faces high costs associated with maintenance, repair, strengthening and decommissioning. However, the current management system is not able to differentiate between low and high priorities in an effective way. This has very high societal consequences. The big impact of infrastructure deterioration was shown by the recent collapse of several bridges in Italy. Managing the infrastructure network efficiently while ensuring the safety of the community is a challenging task. Implementing a robust system that manages risks accurately and identifies priorities is paramount. This research project aims at developing a new and more accurate assessment methodology of deteriorating concrete infrastructure. With new theories based on objective data and advanced inspection methods, a more effective management system can be implemented. This would allow engineers to estimate the residual resistance of bridges more accurately, reducing the safety risks, maintenance costs and environmental impact of the infrastructure network.



Corrado Mazzaglia

University of Cambridge

Title — Creation of a 3D microfluidic device
to study lymph node transformation

Abstract — Lymph nodes (LN) are essential organs that serve as immune hubs and are responsible for starting immune reactions against external pathogens and cancer cells.

However, in many solid tumours, they fail in defending the body becoming initial sites for cancer metastasis. We still know little about the processes involved and how the LN functions in cancer or therapy and this is also due to the current available tools.

In vitro models do not incorporate the 3-dimensional nature of the microenvironment whereas animal models, in spite of their intrinsic higher level of complexity, require node dissection at each discrete time point, showing only a partial experimental datum.

In addition, they carry several ethical issues. In recent years, in fact, there has been growing concern about animal welfare and values such as the 3Rs rule have been introduced to reduce animal experimentation. In this context, the aim of this project is to create a microfluidic system that incorporates in vitro and ex vivo components to model LN transformation in a controlled, tractable system: a 3D in vitro model that would easily allow us to follow events longitudinally or to manipulate the environment. Once assessed and proofed to be consistent, this novel system will be used as a model of study as well as an alternative tool to test new drugs. In conclusion, these technologies that sit in between 2D traditional systems and animal models, have great potential to make drug testing cheaper and quicker, to reduce animal experimentation and most importantly provide new insights on cancer biology.



organising committee



CHAIR

Iacopo Russo

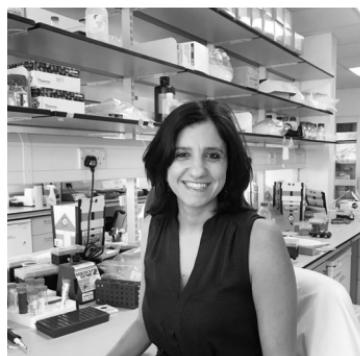
PhD Candidate in Engineering
University of Cambridge



FINANCE & SPONSORS

Gianni Jacucci

PhD Candidate in Chemistry
University of Cambridge



FINANCE & SPONSORS

**Dr. Caterina Garone,
MD PhD**

Group Leader, Mitochondrial
Translational Unit
University of Bologna



WEBMASTER

Costanza Conforti

PhD Candidate in Natural Language Processing
University of Cambridge/ Siemens Machine Intelligence



VENUE

Edoardo Maria Ponti

PhD Candidate in Computational Linguistic
University of Cambridge



PROGRAMME

Alessandro Allegra

PhD Candidate in Science and Technology Studies
University College London



EXTERNAL RELATIONS

Elisa Roccia

PhD Candidate in Biomedical Engineering
King's College London



illustration — design by Nicolò Mingolini

composed in Sole Serif