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March 25, 2022



# The European Strategy Forum on Research Infrastructures (ESFRI) 20th Anniversary Conference

Information Booklet

europe2022.fr
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www.esfri.eu
www.academie-sciences.fr



# **Summary**

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# Welcoming address from Frédérique Vidal, Minister of Higher education, Research and Innovation

The efforts made over the last two years have enabled Europe to develop ambitious programmes in the fields of higher education, research and innovation, with the launch of major new initiatives such as the European universities, the European Innovation Council and the European Missions. This is further amplified by the establishment of a new cooperation framework, since we are now relying on a renewed governance of the European research and education areas. The French Presidency is therefore taking place at a key moment, since an implementation phase is now beginning which commits us to making the ambitions of European cooperation a reality.

In terms of higher education, research and innovation, the French Presidency will pursue three objectives:

- Promote European knowledge policies to support economic recovery and the green and digital transitions, by strengthening the synergies between higher education, research, innovation and services to society;
- Affirm the international dimension of these policies in order to contribute to the deployment of European power in the world and to strengthen the attractiveness of Europe for teachers, researchers and students;
- Finally, to deepen the sense of European belonging, by supporting European universities in their action to transmit the European way of life and by removing obstacles to transnational cooperation between institutions in Europe.

In this context, nearly one hundred events will be organised in France, at ministerial level but also many of the French higher education and research establishments and organisations, in order to illustrate how much Europe owes to research and universities.

I hope that this conference to mark the 20th anniversary of the European Strategy Forum on Research Infrastructures will highlight the importance of the equipment policy pursued in Europe for the development of high-level scientific research capable of meeting the major contemporary challenges.

On behalf of the French Presidency of the Council of the European Union, I am proud to welcome you to the *Académie des Sciences* in Paris to celebrate the twentieth anniversary of the European Strategy Forum on Research Infrastructures, which works hard to build a solid network of world-class and shared research infrastructures.

# Presentation of the event

As part of the French Presidency of the Council of the European Union and under the auspices of the French *Académie des sciences*, France will host the **ESFRI 20th anniversary conference**: **European Research Infrastructures at the heart of scientific discoveries**.

The conference, taking place in Paris on March 25, will celebrate the achievements of the European Strategy Forum on Research Infrastructures (ESFRI), highlighting the role it plays in enhancing European excellence in research and innovation. The conference will bring together key stakeholders, including policy experts, facility managers and leading researchers, to explore the drivers behind the development of the rich European research infrastructures landscape and to discuss emerging trends and the challenges for the future. The conference provides an important opportunity to explore the range of cutting-edge work being undertaken across the research domains that are reliant on the services provided by European research infrastructures. Several outstanding scientists will share with the audience their major discoveries and illustrate how they have benefited from these unique European research infrastructures.

# **Programme**

# The ESFRI 20th Anniversary Conference: European Research Infrastructures at the Heart of Scientific Discoveries3

March 25<sup>th</sup>, 2022

Auditorium of the Institute de France (Académie des sciences), 3 Mazarine – Paris

	Welcome & opening
9 am 9:10 am 9:20 am	Patrick Flandrin, President of the Académie des sciences Claire Giry, General Director for Research and Innovation, on behalf of the French Presidency Jean-Éric Paquet, Director General for Research and Innovation (European Commission)
	Session 1 – 20 Years of European Research Infrastructures
9:30 am	Stéphane van Damme, École normale supérieure, PSL University A historical view on research infrastructures
9:50 am	ESFRI 20 Years' film screening
10:00 am	Panel: Past & Future ESFRI  Barbara Weitgruber, Director General for Scientific Research and International Relations, BMBWF, Austria  Jean-Éric Paquet, Director General for Research and Innovation, European Commission Giorgio Rossi, ESFRI chair 2016-2018  Jana Kolar, ESFRI Chair 2022-2023
11:00 am	Coffee break
11:20 am	Session 2 – Fundamental and applied science through European research infrastructures Chair: Catherine Cesarsky, Académie des sciences, SKA Observatory Reinhard Genzel, Max Planck Institute for Extraterrestrial Physics, 2020 Laureate Nobel Prize in Physics Testing General Relativity and the Existence of Black holes with Large Telescopes and Interferometry
11:50 am	Young researcher: Mark Visser, Radboud University, European Social Survey (ESS)  A medley of studies featuring the European Social Survey
12:00 am	Marine Cotte, European Synchrotron Radiation Facility (ESRF) & CNRS  Deciphering and preserving artworks thanks to synchrotron microscopes
12:20 am	Philippe Bourges, French Alternative Energies and Atomic Energy Commission (CEA)  Neutron diffraction and spectroscopy at the next generation neutron source ESS
12:40 am	Lunch break

	Session 3 – Fundamental and applied science led in European research infrastructures Chair: Francis-André Wollman, Académie des sciences, CNRS
2:00 pm	Janet Thornton, Royal Society, European Molecular Biology Laboratory, ELIXIR,  The ELIXIR data infrastructure empowers research and discovery in the Life Sciences
2:20 pm	Young researcher: Kaja Dobrovoljc, University of Ljubljana, the Common Language Resources and Technology Infrastructure (CLARIN)  Open language resources for smarter artificial intelligence
2:30 pm	Maria Ina Arnone, Stazione Zoologica Anton Dohrn Napoli, European Marine Biological Resource Centre (EMBRC) What determine the form and the evolution of a living organism: lessons from the sea
2:50 pm	Young researcher: Alexander Schumacher, Max Planck Institute for Social Law and Social Policy, the Survey of Health, Ageing and Retirement in Europe (SHARE)  Determinants of SARS-CoV-2 vaccinations in the 50+ population
3:00 pm	Pearl Dykstra, Erasmus University Rotterdam, Open Data Infrastructure for Social Science and Economic Innovations (ODISSEI)  Science for Policy Requires Research Infrastructures for Policy
3:20 pm	Young researcher: Rami Alshembari, University of Exeter, European Plate Observing System (EPOS)  Modelling volcano deformation: A Perspective on Recent Developments and Future Challenges
3:30 pm	Coffee break
3:50 pm	Session 4 – Research infrastructures: impact on society facing contemporary challenges Moderation by Christian Chardonnet, CNRS
	Round table 1 : Protecting the environment, countering climate change
	Chair and speaker: Sylvie Joussaume, CNRS, Institut Pierre Simon Laplace
	Speaker 1: Sanna Sorvari Sundet, Naturel Resources Institute Finland Speaker 2: Peter Heffernan, European Union's Mission Board for Healthy Oceans, Seas, Coastal and Inland Waters
	Round table 2 : Human health
	Chair and speaker: Pierre Corvol, Académie des sciences and Collège de France
	Speaker 1: <b>Jean Weissenbach</b> , Genoscope, <i>Académie des sciences</i> Speaker 2: Marialuisa <b>Lavitrano</b> , University of Milano-Bicocca
	Round table 3: Industry involvement in research infrastructures
	Chair and speaker: <b>Sébastien Candel</b> , <i>Académie des sciences, Centrale-Supelec</i>
	Speaker 1: <b>Philippe Rioufreyt</b> , Safran-Reosc Speaker 2: <b>Anton Ussi</b> , European infrastructure for translational medicine (EATRIS)

5:20 pm	ERIC Plates ceremony
	Jean-Éric Paquet, Director General for Research and Innovation, European Commission ERIC plates handover: Euro-BioImaging ERIC, ELI ERIC and AnaEE-ERIC
5:30 pm	Closing statements
	Frédérique Vidal, French Minister for Higher Education, Research and Innovation, on behalf of the French Presidency Petr Gazdík, Minister of Education, Youth and Sport(Czech Republic) Jean-Éric Paquet, Director General for Research and Innovation (European Commission)
5:45 pm	End

# Institutions and places

# The Académie des sciences

Since its creation in 1666 by Colbert, the *Académie des sciences* brings together French and foreign academics. These specialists constitute an assembly of reflection in which the greatest current and future questions relating to political, ethical and societal issues are posed. This academy currently has 274 members. The management of this institution is entrusted to a board, that decides on the axes of intervention, and strategic choices to be treated. The Board is supported by several governing bodies: the



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« Restricted committee », the « Secret committee » and three delegations. The members are divided into different sections classified in two divisions: mathematical and physical sciences, sciences of the universe, and their applications and Chemical, biological and medical sciences, and their applications. By encouraging and protecting research as well as the progress of sciences, the Academy provides the expertise and advice necessary for public policy to inform societal debate and choices. To this end, the Academy produces reports, books, notices and recommendations. The *Académie des sciences* supports research, is committed to the quality of science education and promotes scientific life at the international level.

#### **ESFRI**

ESFRI, the European Strategy Forum on Research Infrastructures, is a strategic instrument to develop the scientific integration of Europe and to strengthen its international outreach. The competitive and open access to high quality Research Infrastructures supports and benchmarks the quality of the activities



of European scientists, and attracts the best researchers from around the world. ESFRI operates at the forefront of European and global science policy and contributes to its development translating political objectives into concrete advice for research infrastructures in Europe.

The mission of ESFRI is to support a coherent and strategy-led approach to policy-making on research infrastructures in Europe, and to facilitate multilateral initiatives leading to the better use and development of research infrastructures, at EU and international level. ESFRI's delegates are nominated by the Research Ministers of the Member and Associate Countries, and include a representative of the Commission, working together to develop a joint vision and a common strategy.

# **Biographies**

#### Rami Alshembari



Rami Alshembari is a PhD student in geophysics and volcanology at the University of Exeter. His main area of expertise is the application of physics-based models to help understand the processes controlling the dynamics of active volcanoes and improve eruption prediction capabilities. His research focuses primarily on the use of numerical modeling methods to analyze and interpret volcano deformation during episodes of volcanic unrest, including the integration of other multidisciplinary (geological and geophysical) data sets. The results obtained are used to estimate the rate, timing, mechanism, volume and location of magma supply. The objective of his project is to elucidate the links between magma supply, magma

properties, reservoir characteristics and surface deformation in light of the new conceptual model of the transcrustal magma system (TCMS). Rami Alshembari is also interested in seismic hazard assessment, seismic site response analysis and liquefaction-induced failure mechanisms.

#### Maria Ina Arnone



Maria Ina Arnone, biochemist by training, is a developmental molecular biologist with expertise in gene expression analysis, functional genomics and gene regulatory network (GRN) studies. After a period of three years (1995-1998) at the California Institute of Technology, Pasadena, CA, where she contributed to a seminal work on the organization and function of genomic regulatory systems, she established her group at Stazione Zoologica in Naples with the aim of studying evolution of organs and body parts by comparison of the GRNs that control the formation of such parts in

different animals. Using the sea urchin embryo as main model system, she recently developed a novel approach integrating various 'omics' technologies to study developmental GRNs and their evolution.

# Philippe Bourges



Philippe Bourges is a research director at CEA (French Atomic Institute), working at the laboratory Léon Brillouin, UMR mixte CEA/CNRS, in the Paris-Saclayuniversity. He was scientific responsible of a neutron spectrometer around the reactor Orphée in Saclay, and is now involved in the building of a novel neutron instrument at the upcoming European Spallation Source (ESS). He mainly focusses his research on magnetic correlations in unconventional superconductors to identify a novel mechanism of superconductivity of high critical temperature in several families of superconducting materials. He discovered a spontaneous magnetic order by diffraction of polarized neutrons, which illuminates in an original way the physics of these materials. This order is described by the circulation of microscopic currents at the atomic scale, which

potentially represents a new state of quantum matter. He was awarded in 2020 by the French Sciences Academy of the CEA "Science and Innovation" prize.

# Sébastien Candel



Sébastien Candel is Professor Emeritus at CentraleSupélec, Université Paris-Saclay. His research deals with fundamental issues in the fields of combustion and aeroacoustics with applications in the energy and aerospace propulsion sectors. Among many awards, Sébastien Candel has received the Marcel Dassault Grand Prize from the French Academy of Sciences, the Pendray Aerospace literature award from the American Institute of Aeronautics and Astronautics, the Combustion Institute's silver and gold medals, and the Distinguished alumni award from the California Institute of Technology. Sébastien Candel is currently Chairman of the Scientific Council of EDF. He is a member of the French Academy of Sciences, where he served as vice president (in 2015 and 2016) and then

president (in 2017 and 2018). He is a founding member of the French Academy of Technology, a member of the French Air and Space Academy, and a foreign member of the US National Academy of Engineering and the Chinese Academy of Engineering.

# Catherine Cesarsky



After leading the French school of theoretical work in high-energy astrophysics, Catherine Cesarsky played a key role in the evolution of European and French space astronomy towards infrared astronomy, and then launched the major current ground-based astronomy projects, directing the European Astral Observatory from 1999 to 2007. High Commissioner at the CEA until 2012, she chaired the High Council for Very Large Research Infrastructures from 2013 to 2018. Delegate for international relations at the Académie des Sciencesuntil 2017, she has been President of the Board of Directors of the SKA (Square Kilometre Array) project since January 2018.

# Christian Chardonnet



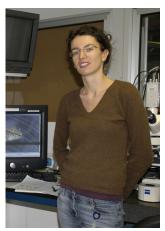
Christian Chardonnet is research director at the Centre National de la Recherche Scientifique (CNRS), a physicist and a former director of Laboratoire de Physique des lasers of Université Sorbonne Paris Nord. He was the founder of the recently labelled French research infrastructure REFIMEVE concerning high precision time and frequency transfer by optical fiber at the European scale. He was deputy scientific director of CNRS for the domains of quantum, theoretical and laser physics (2005-2009). He was the Head of the department of research infrastructures at the French ministry of High Education, Research and Innovation from 2014 to 2019. During this period, he was a French delegate at ESFRI and was a member, then the chair of the Implementation group of ESFRI.

# Pierre Corvol



Pierre Corvol is Professor Emeritus and Honorary Administrator of the *Collège de France*. His clinical and experimental work has focused on the hormonal mechanisms of regulation of cardiovascular hemodynamics. He established the crucial role of the renin aldosterone system in the control of renal and cardiac function and contributed to the development of inhibitors of the renin system. He conducted the first studies on the genetics of human hypertension. He is president of the *Académie des sciences* rom 2019 to 2020, a member of the National Academy of Medicine and the American Academy of Arts and Sciences.

#### **Marine Cotte**



Following a PhD thesis carried out at the Centre of Research and Restoration of French Museums, (C2RMF, formerly UMR171 CNRS, Paris), on lead-based cosmetics and pharmaceutical compounds used in Antiquity, and a post-doctoral fellowship at the ESRF (European Synchrotron Radiation Facility), Marine Cotte obtained a CNRS research scientist position at LAMS (Structural and Molecular archaeology laboratory), UMR-8220, Sorbonne University, Paris. She is currently seconded at the European Synchrotron Radiation Facility (ESRF) as the beamline scientist in charge of the ID21 beamline, a beamline dedicated to X-ray and infrared micro-spectroscopy, with various applications in the fields of cultural heritage, biology and environmental sciences as well. More particularly, she combines development and application of synchrotron-based microscopes for

the study of ancient and artistic materials sampled in historical paintings, ceramics, papyrus, photographs, among others. These micro-analyses usually aim at revealing masters' secrets or at understanding degradation phenomena for the better preservation of our heritage.

# Kaja Dobrovljc



Kaja Dobrovoljc, a research associate at the University of Ljubljana and Jozef Stefan Institute, holds an undergraduate degree in translation studies and a doctoral degree in Slovene linguistics. Her main research interests lie in the design, creation, and evaluation of machine-readable language resources, and their use in applied linguistic research. This includes the interdisciplinary field of natural language processing, where she has contributed to the development of fundamental language resources and technologies for Slovenian. She is currently involved in two national projects ('Development of Slovene in a Digital Environment', 'SLED - Monitor Corpus for

Slovene'), the Horizon 2020 'ELEXIS – European Lexicographic Infrastructure' project, and acts as the Secretary of the Slovenian Language Technologies Society.

# Pearl Dykstra



Pearl Dykstra is professor of Empirical Sociology at Erasmus University Rotterdam. She is the Scientific Director of ODISSEI, the Open Data Infrastructure for Social Science and Economic Innovations in the Netherlands, which received Netherlands Roadmap for Large-scale Scientific Infrastructure funding in 2020. In 2015 she was appointed as member of the group of European Commission Chief Scientific Advisors, and served as its Deputy Chair from 2016 to 2020. She currently holds the position of invited expert to the European Commission. She is an elected member and previous Vice-President of the Netherlands Royal Academy of Arts and Sciences (KNAW), fellow of the Gerontological Society of America, and elected member of Academia Europaea. She received an ERC Advanced Investigator Grant in 2012 for the research project "Families in context", which focuses on the ways in which policy, economic, and cultural contexts structure

interdependence in families.

# Patrick Flandrin



Patrick Flandrin is a CNRS research director at the Physics Laboratory of the *École normale supérieure* in Lyon. His work focuses on the representation, analysis and processing of signals, with a special focus on non-stationary and multi-scale situations. He has contributed to the development of "time-frequency" and "time-scale" methods whose multiple applications concern both natural phenomena (ranging from physics to biomedical engineering) and technological achievements (ranging from mechanics to Internet traffic). Member of the French Academy of Sciences since 2010, he is currently its president.

#### Reinhard Genzel



Reinhard Genzel, born 1952 in Germany, is one of the Directors of Max Planck Institute for Extraterrestrial Physics, Professor in the Graduate School of the University of California, Berkeley and an Honorary Professor at the Ludwig Maximilian University, Munich. He is a Scientific Member of the Max Planck Society and a member of the US National Academy of Sciences.

His research interests include astrophysics of galactic nuclei, star formation, kinematics and cosmic evolution of galaxies, massive black holes and experimental infrared, submillimeter and millimeter astronomy. He has received numerous honours and awards, including the Shaw Prize of The Shaw Prize Foundation and the Crafoord Prize in Astronomy. In 2020, he received the Nobel Prize in Physics, jointly with Andrea Ghez, for the discovery of a supermassive compact object at the centre of our galaxy.

# Peter Heffernan



Peter Heffernan, recently retired as Chief Executive of the Marine Institute, Ireland's national agency for marine research and development, which he led the from November 1993 to October 2019. He obtained his PhD in Marine Science at the National University of Ireland, Galway and then went on to become Associate Professor/Research Scientist at the University of Georgia (USA) before returning to Ireland to become Manager in the Ryan Institute at NUI Galway. Peter is a Member of the Royal Irish Academy (MRIA); served on the EU Research, Innovation and Science Policy Experts (Advisory Body to EU Commissioner for Research & Innovation) and as an Adjunct Professor Marine Science NUI

Galway. He was also awarded the Royal National Lifeboat Institution Maritime Person of the Year Award (2003), the National University of Ireland, Galway. for Natural Sciences (2008) and Portugal's Mare Excellens Award in 2018. In 2013 Peter acted as an inspiration and Irish EU Presidency ambassador for the creation of the Atlantic Ocean Research Alliance (AORA) with the signing of the *Galway Statement* on Atlantic Ocean Cooperation at the Marine Institute headquarters in May, between Canada, the European Union and the United States of America Alumni Foundation Award Peter was appointed in 2019 as a member of the EU Horizon Europe Mission Board for *Healthy Oceans, Seas, Coastal & Inland Waters*. He acts as a Special Advisor of the Board of the Oceano Azul Foundation, Portugal and is on the Strategic Advisory Board, Field Earth & Environment, Helmholtz Association, Germany. He was appointed by the President of Ireland as the Chairman of the Council of the Dublin Institute for Advanced Studies in 2020.

# Sylvie Joussaume



Sylvie Joussaume is a senior scientist in climate modelling at CNRS. She has been involved in IPCC assessment reports from the third (2001) to the fifth (2014) reports. Previously she was appointed as director of the "Institut National des Sciences de l'Univers" from CNRS, which coordinates national research in the fields of Earth sciences and Astronomy. She has been a member of the ESFRI environment committee for the preparation of 2008 and 2010 ESFRI roadmaps and member of the national committee on research infrastructures from 2013 to 2019. She coordinates since 2009 the

European infrastructure project IS-ENES, which integrates the European climate models in a common infrastructure and supports the access to climate model data from the internationally coordinated experiments on which IPCC reports are based, and coordinates the associated national research infrastructure CLIMERI-France.

# Marialuisa Lavitrano



Marialuisa Lavitrano is full professor of Pathology, director of Molecular Medicine Unit and of the Executive Masters' in Management of Research Infrastructures at Milano-Bicocca University where she was Pro-Rector for International Affairs [2006-2013]. Over the years, she contributed to the international strategies of the Ministries of Research and of Health and coordinated the Italian participation in the BioMedical Sciences ESFRI roadmap. In 2013 she was appointed BBMRI.it Node-Director. Professor Lavitrano has a long-term experience in research, management and in bioethical aspects of science, being co-Director of BBMRI-ERIC Common Service ELSI and participating at Bioethical Commissions of the Council of Europe, of the Vatican, and of the Italian

government. In December 2020 professor Lavitrano has been elected in the board of eight directors of the EOSC Association and has been nominated vice-president.

# Phillipe Rioufreyt



After several missions in the field of Optronics, Philippe joined Sfim Industries in 1996. He became Head of R&D department and notably contributed to the merge of Optronics activities with Sagem. In 2007, Philippe became Program Director and led the development, serial production and deployment of Optronic systems. In 2012, he became Technical Director of the Optronics and Defense Division and led the development of new product lines and their sub-assemblies.

Since 2016, Philippe has been the General Manager of Safran Reosc where he participates in the management of contracts for polishing the mirrors of the Extremely Large Telescope as well as in the development of the Space business.

# Alexander Schumacher



Alexander Schumacher is a member of the German country team and junior researcher at the Survey on Health, Ageing and Retirement in Europe (SHARE). SHARE is the largest pan-European social science panel study, providing internationally comparable longitudinal micro data on people aged 50 or older which allow insights in the fields of public health and socio-economic living conditions of European individuals. Besides coordinating the collection of survey data in Germany, Alexander's current research focuses on the SHARE Corona Surveys, specifically the determinants

of vaccine acceptance and financial hardship during the pandemic. He graduated Ludwig Maximilian University of Munich with an MA in Sociology and Statistics.

# Sanna Sorvari Sundet



Sanna Sorvari Sundet, Vice president, Research Infrastructure Services Unit at Natural Resources Institute Finland (LUKE), has made a long career with research infrastructures at the European, Nordic, and National level. Sorvari Sundet coordinated and led ESFRI research Infrastructure ACTRIS – Aerosols, Clouds, Trace gases in its ESFRI roadmap process, preparatory phase and first years of implementation towards ERIC organisation. Sorvari Sundet has also been a member of ICOS ERIC – Integrated Carbon Observation System set up team (2011 - 2015) and chaired eight years of collaborative board of 24 European environmental RIs (ENVRI/BEERI). Currently Sorvari Sundet is participating European RI work via ESFRI Environmental Strategic Working Group. Addition to

RI work, Sorvari Sundet has involved in open research data activities, e.g. by co-chairing OECD expert group on global data infrastructures, participating in European Open Science Cloud projects and acting as vice-chair for H2020 Expert Advisory Board for RIs and e-RIs. New focus area in her work is food production, sustainable use of natural resources and bioeconomy, and developing RI services related to these fields.

# Janet Thornton



Professor Dame Janet Thornton is a research scientist. She is widely credited, alongside others, with the establishment of the new field of Bioinformatics. She graduated in physics before completing her PhD in Biophysics. After research at Oxford University, Birkbeck College and UCL, she became Director of EMBL's European Bioinformatics Institute in Hinxton, Cambridge from 2001 – 2015. During this time, she led the establishment of ELIXIR - the ESFRI distributed infrastructure for life sciences information. Today, as a Senior Scientist at EMBL-EBI, she works on proteins and the impact of variants on diseases. Professor Dame Janet is a Fellow of the Royal Society, a member of the European Molecular Biology Organisation

as well as a foreign association of the US National Academy of Sciences. She combines her research with many advisory roles, including serving as Vice President of the European Research Council (2018-2020).

#### **Anton Ussi**



Anton Ussi MSc is Operations & Finance Director at EATRIS ERIC, the European infrastructure for translational medicine. Joining EATRIS in 2010, he was co-responsible for the operational design and statutory incorporation of the infrastructure, and has been in his current role as executive director since 2015. Ussi has a background in mechanical engineering in the automotive industry, small business administration, and more recently in technology transfer in the area of medicine and engineering. He specialises in public-private and public-public collaboration for the advancement of research and innovation in medicine. Ussi is currently Vice Chair of the ERIC Forum, a membership organisation comprising large European

Research Infrastructures covering all scientific domains.

# Stéphane Van Damme



Former professor of history of science at the European University Institute, Stéphane Van Damme is a professor in the history department of the *École Normale Supérieure* (Paris). His research focuses on modern sciences and European culture from the 16th to the 19th century, examining the founding fathers (Bacon, Descartes, Linnaeus), scientific disciplines (philosophy, botany, chemistry, archaeology), scientific academies and capitals, and imperial projects. In 2020 he published *Seconde Nature. Rematérialiser les sciences entre Bacon et Tocqueville*.

#### Mark Visser



Mark Visser is an Assistant Professor in the Department of Sociology at Radboud University (Nijmegen, the Netherlands). His research interests include labor market outcomes, with a specific focus on older workers and retirement, radical voting, social capital and the welfare state. He is particularly interested in answering social inequality questions by taking a life course and/or cross-national approach. Although still in the early stages of his academic career, he has already published widely on these topics in renowned scientific journals. In 2019, he got awarded the Jowell-Kaase Prize, named after the founders of the European Social Survey, which recognizes excellence in the field of comparative social research by a promising early career researcher. Currently he is the principal investigator of the international research project 'Understanding old-age inequality'.

# Iean Weissenbach



Jean Weissenbach has directed the Genoscope - Centre national de séquençage within the CEA Genomics Institute (1997-2015). He played a pioneering role in the exploration and analysis of genomes, in particular the human genome. His current research focuses on the genomics and biochemical capabilities of the microorganisms in the environment. He is particularly interested in exploration of the biocatalytic biodiversity of living systems. Jean Weissenbach is a member of Académie des sciences, gold medal of the CNRS and has received prizes and distinctions in France and abroad.

# Wollman Francis-André



Francis-André Wollman is Emeritus Research Director at the *Centre National de la Recherche Scientifique* (CNRS), a member of the French Academy of Sciences, a member of EMBO. He received the 2000 Silver Medal from the CNRS. In the mid 1970ies, he joined the Photosynthesis laboratory of Pierre Joliot at the *Institut de Biologie Physico-Chimique* (IBPC) in Paris and became its Director in the late 90ies before being appointed Director of IBPC in 2007. His research focused on the biogenesis, regulation and evolution of oxygenic photosynthesis. Throughout his career, he used the genetics of the microalga *Chlamydomonas reinhardtii*, for biophysical, biochemical and structural studies. These studies provided a dynamic view of chloroplast gene expression, enabling photosynthesis to be highly

responsive to an ever-changing environment through its bioenergetic integration and metabolic flexibility.







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