

esa closed habitats forum

Where Earth and space team up to build the future

SPEAKERS AND COMMITTEES

Organisation Committee

Alessandro Bergamasco (ESA)
Théodore Besson (UNIL)
Suren Erkman (UNIL)
Sylvie Ijsselstein (ESA)
Brigitte Lamaze-Lefebvre (ESA)
Christophe Lasseur (ESA)

Scientific Committee

Prof. Suren Erkman (chair)
Prof. Francesc Gòdia
Istvan Kenyeres
Martin Wilderer

Keynotes Speakers

Professor Suren Erkman (splinter 1)
Professor Marilyne Andersen (splinter 2)
Professor Jean-Pierre Flandrois (splinter 3)
Professor Denis Lalanne (splinter 3)

Moderators

Istvan Kenyeres (splinter 1)
Olivier Scheffer (splinter 2)
Professor Francesc Gòdia (splinter 3)

Profiles



Marilyne Andersen

Head of Interdisciplinary Laboratory of Performance-Integrated Design (LIPID)
Dean, Architecture, Civil and Environmental Engineering School
Ecole Polytechnique F.d.rale de Lausanne (EPFL)

Member of the Scientific Committee and Keynote Speaker (splinter 2)

Marilyne Andersen is Full Professor of Sustainable Construction Technologies and Dean of the School of Architecture, Civil and Environmental Engineering (ENAC) at EPFL. She is also head of the Interdisciplinary Laboratory of Performance-Integrated Design (LIPID) whose [research activities](#) focus on building performance in the architectural context in general, and the use and optimization of daylight in buildings in particular. Before joining EPFL, she was Associate Professor at MIT, USA where she founded the MIT Daylighting Lab in 2004. She holds a MSc in Physics and specialized in daylighting through her PhD at LESO, EPFL and as a Visiting Scholar at the Lawrence Berkeley National Laboratory, USA.



Suren Erkman

Head of Industrial Ecology Group
Vice-Dean for research, communication and quality, Faculty of Geosciences and Environment
University of Lausanne, Switzerland

Member of the Scientific Committee and Keynote Speaker (splinter 1)

With a background in philosophy and biology, Suren Erkman started his career as a registered science/technology and business journalist and editor. He has been a Senior Consultant for UNEP, UNDP, GEF (Global Environmental Facility), Swiss and foreign government agencies, media, foundations, NGOs and various private companies. Since the beginning of the 1990s, he has been contributing to the emerging field of industrial ecology. In 1995, he founded Industrial Ecology Praxis (EIP), the first international network devoted to the promotion, dissemination and implementation of industrial ecology. In addition, he occupied several positions in various academic institutions, particularly at EPFL and UNIL. He is presently Head of the Industrial Ecology group, at the Faculty of Geosciences and Environment of the University of Lausanne. He is also a co-founder and Chairman of the Board of SOFIES International, a leading consultancy company on industrial ecology and circular economy (www.sofiesinternationale.com).

His main ongoing research projects at UNIL are about:

- Valorization of CO₂ in the perspective of industrial ecology.
- Resource flow analysis of dynamics of food consumption in emerging countries.
- Eco-industrial development strategies, with a focus on Eco-industrial parks.
- Detection and evaluation of industrial symbiosis: development of tools and methodologies.
- Understanding social practices in relation to electricity consumption at the household level.
- Manned interplanetary missions: relevance for terrestrial sustainability (Oikosmos program).
- Artificial Closed Ecosystems as drivers for eco-innovation.



Jean-Pierre Flandrois

Professor
Bioinformatics, Phylogeny and Evolutionary Genomics Group
Universit. Claude Bernard Lyon 1, France

Keynote Speaker (splinter 3)

Jean-Pierre Flandrois is Full Professor at the Université Claude Bernard Lyon 1, where he was Director of the Doctoral School "Evolution, Environment, Microbiology, Mathematical Modelling", University of Lyon, from 2000 to 2012, and Director of the Biomath-health department, UMR 5558 CNRS-INRIA-LYON1 "Biometry and Evolutionary Ecology", from 2010 to 2014. He belongs to the Research Group 'Bioinformatics, Phylogeny and Evolutionary Genomics Group'. He has published 171 papers. He acts as a consultant for organizations like CNES-MEDES (2014) and bioMérieux (2014-2016).

He endorsed many responsibilities at national and European levels:

- President of the French Microbiological Society from 1995 to 2001.
- Councillor in the French Research Council at Ministry for Research from 1997 to 2002.
- President of the Microbiological Expert Committee of the French food protection agency (AFSSA) from 1999 to 2003 and management of food safety, risk analysis, safety alerts and impact on regulation.
- Member of the French Planetary Protection Committee (CNRS and Ministry of Research) from 1999 to 2003 as clinical microbiologist and statistician in the frame of the Mars Sample Return Project (NASA-CNES).
- Expert in the European Research Council - Theseus project 2010-2012. Cluster 4: Habitat Management. Head of Subgroup 1: Environmental Microbiology.



Francesc Gòdia

Professor of Chemical Engineering & Overall Manager of the MELiSSA Pilot Plant
Universitat Autònoma de Barcelona, Spain

Member of the Scientific Committee and Moderator (Splinter 3)

Francesc Gòdia is Full Professor of Chemical Engineering at Universitat Autònoma de Barcelona, where he teaches in Biotechnology and Chemical Engineering. His research activities focus on Biochemical Engineering, Animal Cell Technology and Life Support in Space. He is the author of more than 85 papers, 5 patents, and advisor of 28 PhD thesis. He is the Overall Manager of the MELiSSA Pilot Plant since 1995. He coordinates the Animal Cell Technology International Course of ESACT (European Society of Animal Cell technology). He participated as Committee Member in several Congresses and chaired the ESACT Meeting in 2003 and 2015, and the European Congress of Biotechnology in 2009. He is a Member of the Executive Board of the European Federation of Biotechnology and the President of Fundació Parc Taulí (Hospital Parc Taulí, Sabadell, Barcelona). He contributes as a Member to the Bureau of the Working Party Biotechnology, Nanotechnology and Converging Technologies of the OECD.



Guillaume Habert

Professor, Chair of Sustainable Construction
Swiss Federal Institute of Technology, Switzerland

Keynote Speaker (splinter 2)

After studying biology and geology, Guillaume Habert graduated in 1999 from the Ecole Normale Supérieure in Paris, with a degree in earth, atmospheric and oceanic studies. In 2004 he completed his PhD in Toulouse (France) on structural geology. After a post doctorate position at the Federal University of Paraíba (Brazil) on affordable building materials, Guillaume worked at the Laboratoire Central des Ponts et Chaussées in Paris on the development of sustainable concrete. This led him to address the environmental evaluation of building materials as well as the development of new binders such as geopolymers. Since August 2012, Guillaume holds the Chair of Sustainable Construction and is associate professor at the ETH Zürich.



Nicolas Henchoz

Director
EPFL+ECAL Lab, Switzerland

Keynote Speaker

Born in 1967, Nicolas graduated from the Ecole Polytechnique de Lausanne as materials engineer and then moved to journalism. He worked as a reporter for the Journal de Genève and then for the Swiss Television, where he presented the news. His free-lance activities brought him to the position of artistic Director, before joining the Ecole Polytechnique de Lausanne (EPFL), as Member of the Presidency Board. He founded in 2007 the EPFL+ECAL Lab, a new unit of the EPFL (Ecole polytechnique fédérale de Lausanne) in cooperation with ECAL (University of art and design Lausanne) and other major Design Schools. Its mission is to foster innovation at a crossroads between technology and design, and to turn emerging technologies into user experiences. The Lab bases its activities along three axes: giving new meaning to technologies developed in the scientific labs, fueling innovation by widening the scope of designers' work and forming new links between research and applications for society. EPFL+ECAL Lab is the winner of the International Design Festival Berlin 2010 and has been already invited by many international Institutions like the Center for Architecture of New York, the Laboratory at Harvard or the Royal College of Art in London. In 2011, Nicolas has been awarded as "Chevalier des Arts et des Lettres" by the French Minister for Culture and Communication.



István Kenyeres

President
BIOPOLUS Institute, Hungary

Member of the Scientific Committee and Moderator (splinter 1)

A chemical engineer and biotechnologist by profession, István started his carrier as a Researcher at the Budapest Technical University, focusing on bioreactor and artificial ecosystems design and bio refinery processes. After 15 years he left academia and founded and led several successful companies, including Organica Water, Inc., now a global player on the cutting edge of the water treatment market, having introduced an entirely new paradigm to the industry, based on his inventions. In 2012 István left Organica to start the BIOPOLUS Group and within that the BIOPOLUS Institute, this latter a non-profit private R&D organization to develop solutions and to facilitate to close the water, food, waste and energy loops, combining urban water reuse with distributed biological manufacturing, in densely populated urban environment. István is a globally recognized thought leader in ecological engineering and urban circularity. He holds the Silver Merit Cross of the President of the Republic of Hungary for his achievements in establishing the modern clean-tech industry in Hungary.



Denis Lalanne

Head of Human Centered Interaction Science and Technology
University of Fribourg, Switzerland

Keynote Speaker (Splinter 3)

Denis Lalanne is a Professor in the Department of Informatics at the University of Fribourg and heads the Human-IST research center (human-ist.unifr.ch). He is notably chair of the IHM conference on Human-Computer Interaction in 2016 (ihm16.afihm.org) and the Swiss representative in the IFIP TC13 technical committee on Human-Computer Interaction (ifip-tc13.org). After studying computer and cognitive sciences, completing a PhD at the EPFL, a postDoc in the USER group at the IBM Almaden research center, one year of teaching and research at the University of Avignon, and a great experience as a usability engineer in a Swiss start-up, he joined the University of Fribourg in 2002 to work on the SNF NCCR IM2. He was appointed Professor at the University of Fribourg in 2015 and created the Human-IST Research Center which is dedicated to research and education in Human-Computer Interaction with a strong multidisciplinary approach, combining expertise in informatics, psychology, sociology and design. Denis has solid expertise in multimodal interaction and information visualization, which he has used to develop novel ways to interact with machines using gestures, emotions, tangibles, visual and multimodal user interfaces. Since 2015 he has been involved in the [smartlivinglab \(.ch\)](http://smartlivinglab.ch) project, where together with his team he is developing the new research domain of Human-Building Interaction with goals such as gaining a better understanding of comfort from physiological and subjective data, as well as understanding humans' interactions in and with buildings.



Christophe Lasseur

Life Support R&D Coordinator
European Space Agency, The Netherlands

Member of the Scientific Committee

Christophe Lasseur is the Coordinator of Life Support R&D of the European Space Agency. He is heading the MELISSA (Micro-Ecological Life Support System Alternative) project for 26 years.

He is endorsing many responsibilities for ESA:

- Certified instructor for ESA astronauts for Life support domain.
- Chairman of the International Life Support working Group.
- European representative to the ISS Medical Panel (MMOP Microbial subgroup).

He has a background education from the Ecole Centrale D'Electronique de Paris and a PhD in Bioengineering from the Universite de Technologie de Compiegne (UTC France).



Russell Loveridge

Managing director
NCCR Digital Fabrication, Switzerland

Russell Loveridge is Managing Director of the NCCR Digital Fabrication. He studied civil engineering and architecture, completed his professional Bachelors degree in Toronto, Canada, his MAS Diploma in Architecture at ETH Zurich, and obtained his doctorate at the EPF Lausanne. He has worked professionally in construction and architecture, but also has extensive experience academics and was previously the Research Director at the Laboratory for Architectural Production (LAPA) at the EPFL. His research investigates advanced fabrication methods, smart materials, and novel construction techniques all with a specific interest on how these emerging technologies affect processes of design.



Olivier Scheffer

R&D Director
XTU Architects, France

Moderator (splinter 2)

Olivier Scheffer is the R&D Director at XTU Architects. With 20+ built buildings and numerous prizes and distinctions, XTU is an architecture studio specialized in radically modern and environmental buildings, inspired by natural systems. It recently won the French Pavilion for the 2015 Milano World Expo. XTU is the inventor and leading partner of the SymbIO₂ biofacade research program, aiming at producing microalgae in symbiosis with the building, with a first pilote project under construction near Paris. XTU and SymbIO₂ recently won the Reinventer.Paris competition with a project incorporating a 1.000 m² biofacade. Olivier coordinates the SymbIO₂ program, among other collaborative research initiatives (Wild-on-Wall, Green Concrete,...). He has numerous experience in research, innovation, new products and new business development, both in the digital information and in the construction / architecture fields. He is also a board member and the biomimetic architecture referent of [Biomimicry Europa](#) and the moderator of the Scientific Interest Group on Bio-Inspired Habitat from the European Center of Excellence on Biomimetic of the Senlis City ([CEEBIOS](#)) in the north of Paris. He is also member of the ISO/TC266 "Biomimetics" committee and member of the "eco-construction" Strategic Orientation Committee of the Advancity competitive cluster (sustainable mobility and cities). Olivier holds a Master in Business Studies from ESCP Europe (91) in management, and University College Dublin (91) in strategy and organisation, a post-graduate diploma from Paris-Dauphine University (93) in IT management, a interior design certificate from ENSAD (2010) and a post-graduate master from ENSCI-Les Ateliers (2011) in morphogenetic design applied to sustainable cities. Olivier is 47, married and has three children.



Martin Z. Wilderer

Chief Operating Officer
EQi, United Kingdom

Member of the Scientific Committee

Dr Martin Z. Wilderer is an international experienced CEO and Growth Stage Manager, driven by passion to use the power of business as a force for turning global grand challenges into opportunities, aiming for leadership agility in ever increasing complex and dynamic business environment. Martin is COO and President of EQi – the Environmental Intelligence Group. EQi is a data and technology company turning sustainability data into business intelligence. Martin’s career has been predominantly in cleantech (wastewater, power engineering, green automotive, sustainable investment), 11 years of which in China where he built and operated a facility manufacturing highly specialized engineering products from a green field turning it into a hub in the region. Martin has worked for German corporates, an Austrian family owned investment fund as well as run companies in their early stage. He is currently residing in UK. Martin has a double master in mechanical engineering and international business followed by a PhD in environmental economics/industrial ecology on the topic of Eco-Industrial Parks, Environment and Economic Growth.