

Une aventure

Une histoire

Un rêve

THE FUTURE OF MOON Exploration and Settlement

Lundi 25 mars 2019
De 9h à 13h

Amphi 310 / Entrée libre



Image © Joseph Hascoet



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SCHEDULE

25 March 2019

9.00 to 9.30 am Arrive and get seated (coffee at the cafeteria)
9.30 am Start

9.30 to 9.40 am Welcome – By Director of Faculty Architecture,
Philippe Bach

9.40 to 10.10 am Introduction: ARCHES – Emmanuel DUFRASNES
ISU – Chris Welch
MVA – Giuseppe Reibaldi

o Moon Village Challenges and Opportunities:

10.10 to 10.30 am Technical - John Mankins – VP MVA

10.30 to 10.50 am Human:
- Michel Tognini
- Claudie Haignere

10.50 to 11.00 am Economical - Alain Dupas

11.00 to 11.35 am Long-term prospective:
- CNES - François Spiero

Views from industry
- Large industry - To be announce
- Stéphane LEVIN scientific explorer
- To be announce

11.35 to 11.45 am Cultural:
- Jacques Rougerie

11.45 to 12.05 am Educational:
ISU MSS19A Team Project Moonwalk
- A sustainable approach for the establishment and
evolution of a lunar settlement for science and
exploration purposes
-by Monika Lipinska and Charlotte Nassey

Winner of 2018 ARCHES/MVA Architecture competition:
-by Kyunghwan Kim

Announcement of a new MVA/ARCHES competition in 2019*
by Emmanuel Dufrasnes/Giuseppe Reibaldi

Maurille Larivière «the substenable design School »

12.05 to 12.15 am Outreach:
- Emeline De Antonio

12.15 to 12.20 am MVA French Network Presentation
by Sebastien Drochon

12.20 to 12.50 am Q/A
12.50 to 13.00 am Ministry of culture

INTENTION

In this 21st century, we are trying to reach the moon and the stars once again. But this time we want to settle there.

This event is to present the main challenges and opportunities of the Moon Village and the contribution that MVA is bringing to its implementation. This event will represent the opening of the MVA French network and explain how people can join MVA.



space architects Ro



INTRODUCERS



Philippe BACH is appointed Chairman of the Board of Directors of the School of Architecture of Strasbourg between 1997 and 2003. Director of the National School of Architecture of Strasbourg from 2003 to 2014. Philippe BACH becomes director of the National School of Architecture of Paris-Val de Seine in August 2014. He is a knight in the order of arts and letters. He is knight in the order of the academic palms.



Giuseppe Reibaldi is a Senior Space Policy Adviser. Apart from being President of the MVA he also acts as the Executive Secretary of the «The Hague Space Resources Governance Working Group».



Emmanuel DUFRANES ARCHES assistant professor at ENSAS, member of AMUP research unit. He founded this scientific network and will coordinate it with Denis BRUNEAU (I2M) from the University of Bordeaux between 2017 and 2020. He has more than 10 years of experience in consulting firms in Belgium and France in the field of construction and sustainable development. As such, he is regularly commissioned as an expert on topics related to the construction of positive energy buildings or sustainable urban development. He also acts as a Research Tax Credit Expert on behalf of the Ministry of Higher Education and Research.



Chris Welch - ISU Chris Welch is Professor of Space Engineering at the International Space University in Strasbourg. Although technically a physicist-turned-engineer, Chris sees himself more as a 'spaceist', interested in all aspects of space. He is a former Vice-President of the International Astronautical Federation and member of the European Commission H2020 Space Advisory Committee. Chris is currently a board member of the Aluna Foundation, an advisor to the Moon Village Association, and Vice Chair of the World Space Week Association. He wrote what he believes to be one of the first papers on the design of extraterrestrial gardens and currently has a payload and a poem on the International Space Station.

MODERATORS

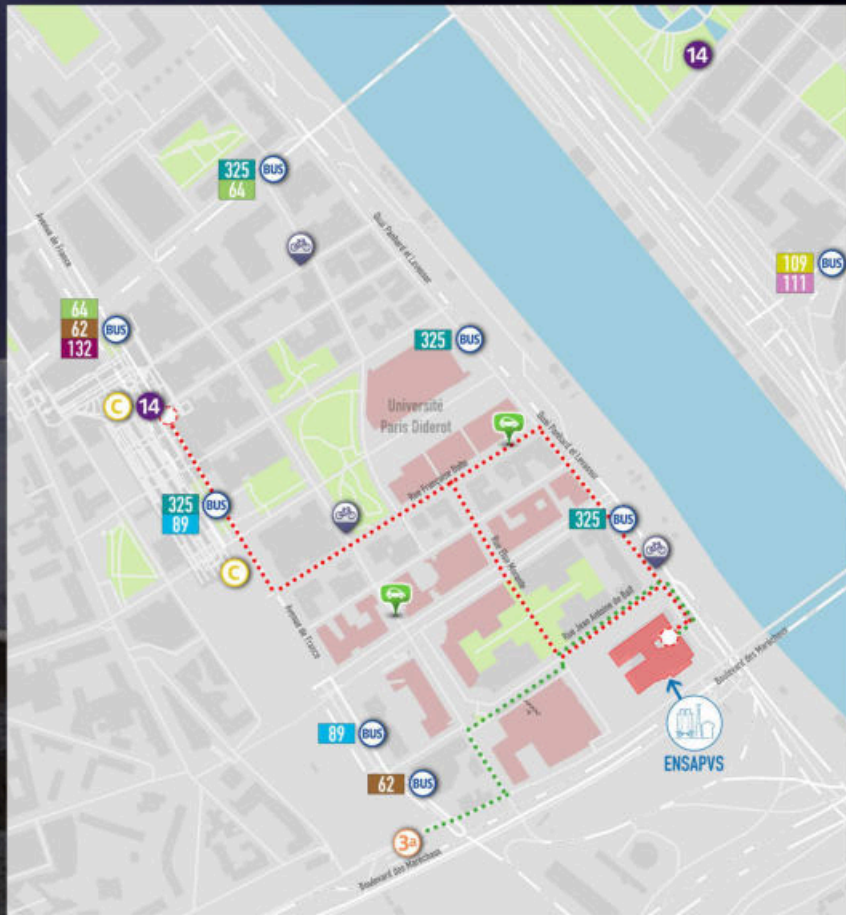


Olivier Walter Is Architecte DPLG from Paris Val de Seine in 1995. He began teaching at the ENSA Paris Val de Seine immediately after in a certificate "architecture in extreme environments". Topics ranged from Earth to Space. This certificate was stopped in 2005. He was also a professor at Strate College on space design from 2004 to 2009. He is currently responsible for the ARCHES network for space.



Emeline de Antonio Is the Secretary / Public Relations and Communication Manager of MVA. She is the Deputy representative for CNES at the Embassy of France in Moscow, Russia. She joined the International Space University as a participant in SSP17 in Cork, Ireland. She is a co-founder and contributor at Astropreneurs. In 2016, she worked as Space policy analyst for the CNES Permanent representation at the Embassy of France in Washington D.C, The United States.

WHERE:
The SCHOOL OF
ARCHITECTURE
DE PARIS
VAL DE SEINE



ACCÈS RAPIDES À L'ENSA PARIS-VAL DE SEINE

62 Porte de France	Avenue de France	Accès depuis Bibliothèque François Mitterrand
64 Pont de Tolbiac	Bibliothèque F. Mitterrand Sortie 5 : Rue des grands moulins	Accès depuis le boulevard des Maréchaux
89 Porte de France	Bibliothèque F. Mitterrand Sortie 2 : Rue Boschny	Rue Françoise Dolto Rue Marie-Andrée Lagroua
132 Bibliothèque F. Mitterrand	Quai Panhard et Levasor Rue Marie-Andrée Lagroua	
325 Watt		

SPEAKERS



John C. Mankins
Vice President MVA
Is President of Artemis Innovation Management Solutions LLC and of Mankins Space Technology, Inc. He is Vice President of the Board for the Moon Village Association, and a member of the Boards for the National Space Society and SPACE Canada. Mankins was formerly Chief Technologist for Human Exploration and Development of Space at NASA HQ. His 25-year career at NASA and the Jet Propulsion Laboratory ranged from flight projects and space mission operations, to systems-level innovation and technology management.



Michel Tognini
After being the head of the European Astronaut Division, he was the head of the European Astronaut Center at the European Space Agency in Cologne, Germany. He is now in France to defend manned flights with the general public and to help universities for work on inhabited space exploration.
He is the president of the Aeronautical Group of the Ministry of Air (Gama), member of the board of directors of the Van Allen Foundation with the University of Montpellier. Corresponding Member of the Academy of Air and Space since 2004. Member of the International Academy of Astronautics. Commander of the National Order of the Legion of Honor. Officer of the National Order of Merit. Order of Peoples' Friendship.



Claudie Haigneré
ESA
Doctor, doctor in neuroscience astronaut
Deputy Minister for Research and New Technologies
Minister Delegate for European Affairs
Ambassador and Advisor to the Director of the European Space Agency



Alain Dupas
Bachelor of Science, Senior Lecturer at Paris 11 University (1997), Alain Dupas is a specialist in aerospace policies, technologies and programs. He has been a researcher at CNES in the field of space systems and programs for more than 20 years. He is an associate researcher at the Space Policy Institute at George Washington University and an aerospace consultant for the European Bank of Reconstruction and Development.
He is the founder with Jean-Pierre Haigneré and Laurent Gathier of the European Astronaut Club (2005).



François Spiero
CNES
After his studies in France and in the USA. François Spiero joined in 1990 the research center of the European Space Agency. At the end of 1997, François Spiero joined the CNES Headquarters in Paris. In 2004, he became the Human Space flight Manager at CNES. He is the Program Manager at CNES for the French astronaut Thomas Pesquet's PROXIMA mission in 2016-2017. After this mission, François Spiero took the responsibility of CNES Strategic Roadmaps in the summer of 2017. He is leading a think tank on future human bases on the Moon and Mars.



Stéphane LEVIN
scientific explorer
Stephane is a known personality of the scientific and technical world as well as the general public to personally expose himself for the benefit of medical and technical research during experiments in extreme conditions. He puts his great versatility and adaptability all environments at the service of science and exploration during experiments dedicated to satellite applications and space exploration. An accomplished speaker, author, photographer and director, he directs the Institute of Extreme Exploration and Adaptation Data Institute.).



Jacques Rougerie
visionary architect born in 1945, pursues his two passions, the Sea and architecture. He bases his research and the structures he builds on the principle of biomimicry, whilst taking sustainable development into account. Jacques Rougerie has built underwater habitats, laboratories, marine research centers, vessels with see-through hulls, subaquatic museums. He has designed underwater villages and structures to raise awareness on the beauty of the sea and its fundamental role in the great history of humanity.
He was elected in 2008 at the Institut de France - Academy of Fine Arts.



Monika Lipinska
ISU
Space architect from Poland, currently studying International Space University in France (Master of Space Studies). She graduated from Lund University in Sweden with a Master of Science in Architecture with specialization in spatial experiments; extreme environments, computational design additive manufacturing. Her work focuses on the investigation of low technology readiness level extraterrestrial construction methods, merging architecture with biology and human factor in space exploration.



Charlotte Nassey
Space studies (MSS19)
Strasbourg, Alsace, France
Études/recherche ISU
Charlotte graduated from the University of Paris-Sud with a Master in Space Law and Telecommunications. She is currently a student of the Master of Space Studies at the International Space University. Her individual project focuses on exploring strategies and architectures for growing the Moon Village.



Kyunghwan KIM
Winner of 2018 Architect ADE from Paris La-Villette in 2018. Space architect. Founder of BIB Inno-Collaboration lab.
Member of RSTArches, MVA and Space Architecture Technical Committee, Winner of 2018 ARCHES/MVA Architecture competition



Maurille Larivière
Designer
Professeur à Polytechnique
Co-fondateur & Directeur de The SDS.
Co-fondateur du Strate Collège



Sebastien Drochon
Engineer, Scientific advisor on space technologies at the Schiller Institute
MVA French Network coordinator

MOON VILLAGE ASSOCIATION

<https://moonvillageassociation.org>

MOON
VILLAGE ASSOCIATION

Background

The Moon Village is a global community aiming to explore, use and develop the resources of the Moon in a sustainable, open and peaceful manner, for the benefit of all humanity and with the opportunities for all people to contribute to its success. Successfully implementing the Moon Village vision will increase the economic sphere of Earth and enable humanity to go beyond the Moon, benefiting the global quality of life for all.

The Moon Village Association (MVA) fosters the implementation of the Moon Village vision by providing a platform for collaborative global discussions and bringing together efforts from the private sector, governments, academia, and others. This vision includes space-faring and non-space-faring nations as well as the public and offers an opportunity for all countries and organizations to play a role in this endeavor. The implementation of the Moon Village will be a major step forward for humanity – including the enhancement of knowledge, progress and world peace.

Purpose

The purpose of the Principles of the MVA is to make a significant contribution to Moon Village "Coordination and Cooperation", without necessarily requiring the existence of formal international framework agreements or regulatory instruments. The Moon Village Principles represent a general consensus point-of-view of the Moon Village Association but are strictly non-binding.

The MVA will assess annually the missions and activities of various organizations with respect to the "Moon Village Principles" and state in a highly public way whether or not those missions and activities are (or are not) in line with the Principles

Principle 1: Adhere to applicable International Rules and Agreements dealing with human activities in space, such as the Outer Space Treaty of 1967 and others⁴, and conduct peaceful activities with thoughtful consideration and respect for the cultural heritage of humanity on the Moon.

Principle 2: Improve Knowledge of the lunar environment and its use for scientific research.

Principle 3: Reduce the Cost and Risk of transport to and from Earth and the Moon, and within cis-Lunar space.

Principle 4: Support the Economic Development of the lunar community.

Principle 5: Employ or establish and document open-source engineering Standards of broad applicability and/or usefulness.

Principle 6: Develop and build elements / systems that provide Critical Services for lunar missions and activities, such as navigation, communications, power, and resources.

Principle 7: Develop and demonstrate Technology enabling cost-effective, reliable and safe robotic and human operations on the Moon's surface and surroundings.

Principle 8: Make available sufficient information to allow global cooperation and engagement involving the general public in the expansion of human activities to, and eventual settlement of the Moon.

Principle 9: Contribute ethically to human society in terms of Culture, the Arts, Education or other fundamentals.



International Space University

<http://www.isunet.edu/>

ISU was founded in 1987 as a not-for-profit institution of higher learning, dedicated to the development of outer space for peaceful purposes education and research. ISU provides an interdisciplinary, intercultural, and international environment for educating and training graduates and professionals in order to develop future leaders of the global space community.

Master of Space Studies

Designed for students looking for the competitive edge that will help them obtain a career in the space sector, professionals interested in making a career move into or within the space sector, and researchers wishing to broaden their knowledge or make the move from academic life into the space industry.

Space Studies Program

Two-month course for postgraduate students and professionals of all disciplines. The curriculum covers the principal space related fields, both non-technical and technical. The shared experience of an international, interactive working environment is an ideal networking forum leading to the creation of an extensive, international, multidisciplinary professional network.

Southern Hemisphere Program

Intensive five week, live-in experience built around an international, intercultural, and interdisciplinary educational philosophy for which ISU is renowned. The program provides a multidisciplinary understanding of the key activities and areas of knowledge required by today's space professions.

Executive Space Course

Provides an overview of space-related subjects for professionals of diverse backgrounds, including marketing, finance, law & contracts management. Professionals leave with the knowledge and skills that will enable them to communicate more effectively with their technical colleagues.



RST ARCHES - Le réseau disruptif sur les architectures en milieux extrêmes

<http://www.arches.urbicoop.eu/>

Relegated for a long time to the field of building sciences, conditioning techniques – ventilation, air-conditioning, lighting, sound or odourisation systems – play a decisive role in the contemporary urban and architectural production. They are fully implemented in commercial architecture, which promotes experiential and sensory marketing. They are developed in accordance with regulations of energy efficiency in buildings that establish new requirements in terms of flux between architecture and environment. They become necessary in inhospitable climates (tropics, deserts, poles), in some constrained spaces (places of care, entertainment, conservation or specific facilities), or in extreme environments (underwater, underground or extra-terrestrial architectures). They naturally question our relation to the environment and to our living spaces, to energy and material flows, and to the visible and invisible technologies that rule our living environments.

OUR TWO SPONSORS

Jean-Jacques FAVIER - astronaut



The lines of thought developed within the "ARCHES" Network concern the International Space University (ISU) by their interdisciplinarity, including the SHS that we also deal with in our space-related ecosystem. Different topics are of interest to us, such as spin-offs from the space sector to green techs, and in general the technologies from the laboratories to advance the achievements of the general public on Earth. Our partnership with the Strasbourg School of Architecture (ENSAS) made it possible to associate our partners with partners from all over the world, but also, especially in Alsace and France

Jacques ROUGERIE - Architect



Throughout my life I gave shape to my dreams and realized them through meetings with men who believed in my vision of a prospective architecture and helped me to implement it. Without their support, many of my projects would not have been possible. Today, it is my duty to help new generations, to give them the benefit of this support that they need to build the future. This is my commitment and that of the Jacques Rougerie Foundation dedicated to space and the sea ... Because it is space and the ocean that will be born the destiny of future civilizations. I will bring my expertise to the "ARCHES" Network.

At the crossroads of architecture, technology, culture and environment, this scientific network "ARCHES" aims to eventually generate knowledge and breakthrough innovations by confronting the boundary conditions generated by extreme environments such as space and planets of the solar system, the oceans and underwater universes, the high mountain, the deserts or the ice caps of our planet, ...