

Meeting of the ETH Board on 25/26 September 2019

25 new professors appointed at the two Federal Institutes of Technology

Bern, 26 September 2019 – At its meeting of 25/26 September 2019 and upon application of the President of ETH Zurich, Professor Joël Mesot, and the President of EPFL, Professor Martin Vetterli, the ETH Board appointed a total of 25 professors and awarded the title of professor to 5 individuals. It also took note of the resignations of 6 professors and thanked them for their services.

Appointments at ETH Zurich

Professor André Bardow (*1974), currently Professor at RWTH Aachen University, Germany, as Full Professor of Energy and Process Systems Engineering. André Bardow is an internationally acclaimed scientist. The main focus of his research lies at the interface between energy technology and process engineering, and his aim is to develop sustainable technologies for the transformation of energy and materials. He thus contributes to the development of renewable energy systems, including by utilising carbon from biomass and carbon dioxide. The appointment of André Bardow enables ETH Zurich to strengthen strategic areas of energy science and technology, as well as process engineering and the teaching of key disciplines.

Professor Laura De Lorenzis (*1974), currently Professor at the Technical University of Braunschweig, Germany, as Full Professor of Computational Mechanics. Laura De Lorenzis is a recognised expert in computer-aided simulation methods. She applies them over different length and time scales in order to predict complex material behaviour. Her research, which has received an ERC Starting Grant (among other awards), takes a decidedly interdisciplinary approach and investigates topics such as failure mechanisms in a wide range of materials. By appointing Laura De Lorenzis, ETH Zurich will be able to expand its competencies in the fields of solid mechanics, modern simulation methods, and fracture and failure analysis.

Professor Teresa Galí-Izard (*1974), currently Associate Professor at Harvard Graduate School, Cambridge, USA, as Full Professor of Landscape Architecture. Teresa Galí-Izard's research focuses on the interface between landscape architecture and agronomy and on regenerative interactions between people, animals and landscape. She is particularly interested in sustainability in this respect. Her results help to preserve the biological value and structure of landscapes, thus also helping to counter the rapid loss of biodiversity. Through the appointment of Teresa Galí-Izard, ETH Zurich is reinforcing the links between landscape architecture design and the areas of soil science, plant physiology and ecology.

Professor Dennis Hofheinz (*1979), currently Full Professor at Karlsruhe Institute of Technology, Karlsruhe, Germany, as Full Professor of Computer Science. Dennis Hofheinz is a specialist in cryptography who has wide links with the international research community. His research focuses on mathematical security definitions for various types of cryptographic processes and on the development of new methods for security proofs. Through his findings he makes significant contributions to topics such as e-voting, blockchain systems and digital money. The appointment of Dennis Hofheinz enables ETH Zurich to strengthen the increasingly important area of cybersecurity.

Professor Gabriela Hug (*1979), currently Associate Professor at ETH Zurich, as Full Professor of Electric Power Systems. Gabriela Hug is an internationally acclaimed, prize-winning scientist. Her work lies in the field of designing and optimising the energy networks of the future. Its emphasis is on integrating renewable energies into the energy networks, thus supporting the gradual withdrawal from fossil fuels. She is striving to achieve the optimal control of network management by means of dispersed, decentralised control systems. Her strong practical orientation is demonstrated by prestigious industry partnerships. By appointing Gabriela Hug to a full professorship, ETH Zurich is securing a highly innovative and productive scientist with great potential.

Professor Giacomo Indiveri (*1967), currently Associate Professor at the University of Zurich, as Associate Professor of Neuromorphic Cognitive Systems. Giacomo Indiveri conducts research into natural neural structures and processes in the brain with a view to replicating them artificially and utilising them in the computer sciences. He aims to make use of neuromorphic principles in order to build autonomous cognitive systems such as cochlear implants – a type of auditory prosthesis for the deaf. Giacomo Indiveri's work has already been awarded two ERC Grants. With his appointment to a dual professorship, ETH Zurich is strengthening its competencies in the field of neuromorphic engineering and deepening its collaboration with the University of Zurich.

Professor Christoph Müller (*1978), currently Associate Professor at ETH Zurich, as Full Professor of Energy Science and Engineering. Christoph Müller is an internationally prominent scientist with excellent networks both in the scientific community and within ETH Zurich. He received an ERC Consolidator Grant in 2018. He works on research problems at the interface between the mechanical and chemical engineering sciences, with the aim of developing new energy conversion processes with massively reduced CO₂ emissions. In his work, he has successfully developed both numerical and experimental methods. By appointing Christoph Müller as a full professor, ETH Zurich is securing a brilliant scientist who is highly committed to the development of the Federal Institute.

Professor Romain Quidant (*1978), currently Professor at the Institute of Photonic Sciences, Barcelona, Spain, as Full Professor of Nanophotonics. Romain Quidant's work deals with nanophotonic principles and devices and he is a global leader in a number of key topics. For example, he developed the plasmonic nanotweezer, which can be used to handle samples of biomolecules and small viruses down to 10 nanometres in size. He was also one of the founders of nano-optomechanics, in which laser beams cause nanoparticles to float so that they can be investigated. Romain Quidant's research adds an important dimension to the activities of ETH Zurich in the areas of biomaterials, biomechanics and robotics.

Professor Konrad Tiefenbacher (*1980), currently Tenure Track Assistant Professor at the University of Basel and at the Department of Biosystems at ETH Zurich, as Associate Professor of Synthesis of Functional Modules (dual professorship with the University of Basel). Konrad Tiefenbacher's research in the field of self-assembled catalytically active molecular capsules grapples with a very challenging supramolecular topic at the interface between organic chemistry and biochemistry. The outstanding quality and originality of Konrad Tiefenbacher's research has been recognised by the award of an ERC Starting Grant, among others. With his appointment to an associate professorship, ETH Zurich is boosting its profile in a future-oriented field of study.

Appointments at EPFL

Professor Andrea Ablasser (*1983), currently Tenure Track Assistant Professor at EPFL, as Associate Professor of Life Sciences. Andrea Ablasser is a promising young researcher. She investigates the question of how cells defend themselves against viral and bacterial attack and, in particular, how microbes are recognised by immune cells. Her focus is on the functioning of the innate immune system, and she is working to develop new therapies in the field of immunology. Andrea Ablasser has already been awarded an ERC Starting Grant for her research results, and she received the national Latsis Prize in 2018. By promoting her, EPFL is strengthening its international position in the area of biomedicine.

Dr Mitali Banerjee (*1980), currently Associate Research Scientist at Columbia University, New York, USA, as Tenure Track Assistant Professor of Physics. Mitali Banerjee is a scientist with exceptional potential. She attracted particular international attention for designing and setting up an experimental installation for measuring thermal conductivity in two-dimensional materials. In doing so, she rose to an exceptionally difficult challenge which many experts had regarded as impossible. With her appointment, EPFL is recruiting a scientist who will make key contributions to both research and teaching.

Dr Anne-Florence Bitbol (*1986), currently Researcher at Sorbonne University, Paris, France, as Tenure Track Assistant Professor of Life Sciences. Anne-Florence Bitbol is an up-and-coming biophysicist with a solid grounding in physics, mathematics and computer science as well as a strong methodological approach to biology. Her main subject is the modelling of protein-protein interactions. She makes use of methods she developed herself in order to predict the form of interaction partners from phylogenetic data in protein sequences. Anne-Florence Bitbol's profile is an excellent fit with EPFL's strategy of strengthening the future-oriented field of computational and quantitative biology.

Professor Anne-Clémence Corminboeuf (*1977), currently Associate Professor at EPFL, as Full Professor of Theoretical and Computational Chemistry. Anne-Clémence Corminboeuf has attracted international recognition for her ground-breaking contributions to theoretical and computational chemistry, particularly for her novel approaches of electronic structures driven by non-covalent phenomena, opening promising perspectives in the domains of catalysis and organic electronic materials. Her work based on non-covalent interactions was already supported by two ERC Grants and has major impact on the design of homogeneous catalysts and organic semi-conductors. By promoting Anne-Clémence Corminboeuf, EPFL is strengthening its position in a future-oriented field of study.

Professor Beat Fierz (*1978), currently Tenure Track Assistant Professor at EPFL, as Associate Professor of Biophysical Chemistry. Beat Fierz has gained worldwide recognition as one of the top specialists in the structure, regulation and dynamics of chromatin – the main component of chromosomes. His research approach combines biophysics and chemical biology in a unique way; he has already been awarded an ERC Consolidator Grant and has been published in leading academic journals. Beat Fierz has the increasingly important ability to work successfully in a multidisciplinary context. His dynamism and high potential will further strengthen the international reputation of EPFL.

Professor Anna Fontcuberta i Morral (*1975), currently Associate Professor at EPFL, as Full Professor of Materials Science and Engineering. An internationally renowned scientist, Anna Fontcuberta i Morral specializes in the synthesis of nanostructures within semiconductors and, in particular, in nanowire crystal growth techniques. The results of her research aid in the development of materials with innovative physical and chemical properties and are used, for example, to increase the efficiency of photovoltaic cells and in quantum computing. The promotion of Anna Fontcuberta i Morral underlines EPFL's strong position in materials science and engineering.

Dr Mika Göös (*1987), currently a post-doctoral student at the Institute for Advanced Study, Princeton, USA, as Tenure Track Assistant Professor of Computer Science and Communication Systems. In his scientific work, Mika Göös focuses on solving fundamental theoretical problems in the computer sciences and mathematics. His approach starts by investigating the problems in simpler models before going on to confirm the results in more complex systems. He has published or co-authored an unusually large number of publications for someone of his age, including important articles on communication complexity and circuit complexity. Mika Göös is a highly productive researcher who will strengthen EPFL's position in a fundamental area.

Dr Charlotte Grossiord (*1987), currently a post-doctoral student at the Federal Institute for Forest, Snow and Landscape Research (WSL), Birmensdorf, as Tenure Track Assistant Professor of Terrestrial Ecology. Charlotte Grossiord is a highly innovative young researcher. She has achieved international recognition for her work on the contribution of biodiversity to the ability of forests to withstand climate change. In recent years she has focused on the survival potential and acclimatisation of plants as temperatures rise. Among other experiments, she used heat-controlled chambers to investigate the effects of drought on trees under real conditions. Charlotte Grossiord will work closely with WSL, which is co-funding her professorship at EPFL.

Professor Frédéric Kaplan (*1974), currently Tenure Track Assistant Professor at EPFL, as Associate Professor of Digital Humanities. Frédéric Kaplan is a talented and internationally acclaimed scientist. His work makes a substantial contribution to positioning EPFL as a leading institution in digital humanities, which combine information technology, big data and methodological practice in the human and social sciences. The "Venice Time Machine" project, which facilitates the spatial visualisation of history and historical documents from the State Archives of Venice, is one example of Frédéric Kaplan's trailblazing approach.

Professor Adam Marcus (*1979), currently Assistant Professor at Princeton University, New Jersey, USA, as Tenure Track Assistant Professor of Mathematics. Adam Marcus is regarded as one of the most talented mathematicians of his generation. He attracted worldwide attention in 2013, when he and other scientists solved the Kadison-Singer problem – a problem posed in 1959 in the theory of operator algebras and functional analysis. At EPFL; Adam Marcus will build up a strong research group in combinatorial analysis, continuing the Federal Institute's long tradition in this field. He will also help strengthen the link between mathematics and theoretical computer science.

Dr Alexander Mathis (*1983), currently a post-doctoral student at Harvard University, Cambridge, USA, and at Eberhard Karls University of Tübingen, Germany, as Tenure Track Assistant Professor of Life Sciences. Alexander Mathis is a scientist who has already made significant contributions. He investigates the processing of neural data and the mechanisms for encoding adaptive behaviour in the brain. His achievements include developing a well-regarded theory on the coordinated activity of grid cells. He has also obtained results relating to the encoding of olfactory stimuli and adaptive behaviour in motor control. By appointing Alexander Mathis, EPFL is gaining important expertise at the interface of theory and experimental methods.

Dr Mackenzie Mathis (*1984), currently Scientist at Harvard University, Cambridge, USA, as Tenure Track Assistant Professor of Life Sciences. At a young age, Mackenzie Mathis has attracted considerable attention internationally with her work towards understanding the neural mechanisms that enable bodily movements to recalibrate constantly. Among other achievements, she developed the first behavioural model for investigating motor adjustments in the movement sequences of mice, and discovered that the somatosensory cerebral cortex plays a key role here. Mackenzie Mathis and her research approaches are an excellent fit with existing research activities at EPFL.

Dr Christoph Merten (*1976), currently Group Leader at the European Molecular Biology Laboratory, Heidelberg, Germany, as Associate Professor of Bioengineering. His highly valued research focuses on the development of micro-fluidic technology to address complex biomedical science questions and includes the development of micro-fluidic platforms for cellular and biochemical analyses. The results of his research contribute to the development of new drugs and antibodies, which are used, for example, to advance personalized cancer therapies. As an interdisciplinary researcher, entrepreneur and start-up creator, Christoph Merten has the perfect profile to provide new impetus to bioengineering at EPFL.

Dr Julia Schmale (*1981), currently Group Leader at the Paul Scherrer Institute, Villigen, as Tenure Track Assistant Professor of Extreme Environments. Julia Schmale is an atmospheric scientist with a global reputation. She actively represents Switzerland on multidisciplinary, international research projects in the Arctic. She is a member of the Atmosphere Working Group of the International Arctic Science Committee, for example. Thanks to her innovative scientific and methodological ability, Julia Schmale will strengthen EPFL's reputation in areas that are important for the future of society, and contribute to training environmental engineers within the school.

Professor Mahsa Shoaran (*1986), currently Assistant Professor at Cornell University, Ithaca, USA, as Tenure Track Assistant Professor of Electrical and Electronic Engineering. A very promising young researcher, Mahsa Shoran has already built an international reputation in a transdisciplinary field at the intersection of circuit design, machine learning and neuroscience. Her research, conducted in close collaboration with clinicians, aims to develop new diagnostic and therapeutic devices for drug-resistant neurological disorders. Her work is perfectly integrated into EPFL's strategy, with its ambition to develop the next generation of brain-machine interfaces.

Dr Amir Zamir (*1986), currently a post-doctoral student at Stanford University, California, USA, and at the University of California, Berkeley, USA, as Tenure Track Assistant Professor of Computer Science and Communication Systems. Amir Zamir is a brilliant researcher in the fields of computer vision, machine learning, artificial intelligence and robotic perception. He has set himself the challenging target of developing a digital visual perception method that functions as part of a larger intelligent system. By appointing Amir Zamir, EPFL is securing an ambitious and talented scientist whose broad-based systemic vision and transdisciplinary approach are an excellent match with the Federal Institute's strategy.

Award of the title of "Professor" at ETH Zurich

Dr Jürg Schweizer (*1960), currently Head of the WSL Research Unit for Snow Avalanches and Prevention SLF in Davos, and Lecturer at ETH Zurich, as Adjunct Professor at ETH Zurich. Jürg Schweizer is one of the world's leading researchers in the field of snow mechanics, avalanche science and avalanche rescue. He has excellent connections both within Switzerland and internationally, and is a committed member of several national and international scientific bodies. His teaching at ETH Zurich is consistently rated by students as being very good.

Award of the title of "Professor" at EPFL

Professor Jocelyne Bloch (*1968), currently Associate Professor at the University of Lausanne, as Adjunct Professor at EPFL. Jocelyne Bloch is an internationally acclaimed neurosurgeon and neuroscientist. She collaborates closely with EPFL on various projects. Her formal integration into the Federal Institute reinforces the importance of clinical research for EPFL's research projects.

Professor Jacques Duparc (*1962), currently Full Professor at the University of Lausanne, as Adjunct Professor at EPFL. Jacques Duparc has gained worldwide recognition as an expert in descriptive set theory, game theory and their applications in theoretical computer science. He has been a successful teacher at EPFL for more than ten years.

Dr François Fleuret (*1972), currently Senior Scientist at IDIAP, Martigny, as Adjunct Professor at EPFL. François Fleuret is a member of the independent IDIAP Research Institute, which is affiliated with EPFL. His work focuses on machine learning, with a particular focus on computational aspects and applications in the field of computer vision.

Dr Graham Knott (*1967), currently Senior Scientist at EPFL, as Adjunct Professor at EPFL. Graham Knott is head of the technology platform at the Faculty of Life Sciences for the use of electron microscopes in biological research. As a researcher he has made key contributions to the understanding of the structure of neuronal synapses in the brain.

Departures from ETH Zurich

Professor Marc Angéilil (*1954), currently Full Professor of Architecture and Design, retired at the end of July 2019. Marc Angéilil joined ETH Zurich in 1994 and was appointed to his present post in 1997. His research interests cover developments in urban design as well as the investigation of socio-spatial structures in metropolitan regions of Europe, Asia and the USA. His focus is on drawing up strategies to support sustainable urban development processes. He has always shown great dedication to ETH Zurich and his department, and has served in a variety of leading roles and functions. Alongside his successful academic activity, he works as an architect in an architecture firm that he manages with two partners, with offices in Los Angeles and Zurich.

Professor Hans Rudolf Heinimann (*1954), currently Full Professor of Forest Engineering, will retire with effect from 1 February 2020. Hans Rudolf Heinimann joined ETH Zurich in 1991 and was promoted to his present post in 1997. During his successful career he has built up an extensive international network. Until recently he was programme director of the Future Resilient Systems research programme at the Singapore-ETH Centre. His current research interests revolve around the question of how complex, techno-social systems can be designed to be more robust and resilient. Hans Rudolf Heinimann has shown exceptional commitment to the affairs of ETH Zurich, not only in teaching and research but also in academic self-government.

Professor Karin Würtz (*1978), currently Assistant Professor of Immunoengineering and Regenerative Medicine, is leaving ETH Zurich at the end of September 2019. Karin Würtz is a globally recognised expert in inflammatory processes in tissues of the locomotor system. Her aim is to control inflammation using natural and synthetic substances so as to prevent degeneration and encourage regeneration. Karin Würtz is leaving ETH Zurich in order to take up an appointment at another university.

Departures from EPFL

Professor Kersten Geers (*1975), currently Associate Professor of Architecture, is to leave EPFL with effect from 1 February 2020. Kersten Geers is an internationally acclaimed architect and architecture theorist. He joined EPFL in 2013 and has been a dedicated teacher of both design and theory. In addition, he established important contacts with other universities, including ETH Zurich. Kersten Geers is leaving EPFL in order to continue his academic career at another institution.

Professor François Avellan (*1955), currently Full Professor of Hydraulic Machines, will retire on 1 April 2020. François Avellan joined EPFL in 1980, and was appointed to his present post in 2004. He has developed unique expertise in the field of hydrodynamics of turbines for electricity production, and has led numerous projects in Switzerland and throughout the world. His work is based not only on theoretical models but also on numerical simulations and experimental processes. François Avellan's contributions to research and teaching, as well as the industrial partnerships he founded, have significantly enhanced the development and reputation of EPFL in his research area.

Professor Tatsuya Nakada (*1955), currently Full Professor of Elementary Particle Physics, is to retire on 1 March 2020. Tatsuya Nakada has been conducting research since the 1980s at various scientific institutions in connection with experiments at CERN. For over a decade, he (among other things) played a key role in the development of the Large Hadron Collider (LHCb experiment), which was successfully taken into operation in 2008. He was appointed to a full professorship at EPFL in 2003, where he was committed to developing a close relationship between the Federal Institute and CERN. Tatsuya Nakada enjoys an excellent reputation in the worldwide scientific community and has regularly undertaken leading roles in international institutions, commissions and advisory boards.

The ETH Board would like to thank the departing professors for their services to science, teaching and academic administration.

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The ETH Board is the strategic management and supervisory body of the ETH Domain. The ETH Domain is made up of the two Federal Institutes of Technology, i.e. ETH Zurich and EPFL, as well as the four federal research institutes PSI, WSL, Empa and Eawag. The members of the ETH Board are appointed by the Swiss Federal Council. The ETH Board supervises the development plans of the institutions, is responsible for strategic management accounting and ensures coordination. It draws up the budget and the financial statements of the ETH Domain and coordinates the value maintenance and continued functionality of the properties. It is the authority responsible for appointments and represents the ETH Domain before the federal authorities. A staff unit assists the ETH Board in the preparation and implementation of its business.