

Meeting of the ETH Board on 4/5 March 2020

24 new professors appointed at the two Federal Institutes of Technology

At its meeting of 4/5 March 2020 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 24 professors and awarded the title of professor to two individuals. It also took note of the resignations of twelve professors and thanked them for their services.

Bern, 5 March 2020

Appointments at ETH Zurich

Dr Nicholas Bokulich (*1986), currently a postdoctoral researcher at Northern Arizona University, Flagstaff, USA, as Tenure Track Assistant Professor of Food Systems Biotechnology. Nicholas Bokulich's research concentrates on complex microbial communities in human beings as well as in foods and the environment. He also focuses on the biotic and abiotic factors that influence the diversity and characteristics of these complex microbial ecosystems. Nicholas Bokulich uses the very latest bioinformatic analysis methods. His appointment strengthens ETH Zurich's research in the field of complex microbial ecosystems.

Professor Gion A. Caminada (*1957), currently Associate Professor at ETH Zurich, as Full Professor of Architecture and Design. Gion A. Caminada is known as an exceptional architect and teacher of design in Switzerland and internationally, and is a key figure in the Department of Architecture. Until very recently, he deliberately restricted his practical work to the narrower field of his native Graubünden. In only a few years, he succeeded in transforming the village of Vrin, with its 300 inhabitants, into a centre for forward-looking yet historically rooted Alpine architecture. Today, Gion A. Caminada is rightly considered to be the leading theoretician of Alpine construction.

Dr Annapaola de Cosa (*1984), currently Research Fellow at the University of Zurich, as Assistant Professor of Particle Physics. Annapaola de Cosa's research focuses on analysing data recorded by the CMS experiment at the CERN Large Hadron Collider (LHC). She also helps operate a central component of this large-scale experiment – the pixel detector. The Swiss National Science Foundation awarded her an SNSF Eccellenza Professorial Fellowship for her research. By appointing Annapaola de Cosa, ETH Zurich is further increasing its involvement with the CMS experiment at CERN, particularly in relation to the search for dark matter.

Professor Christian Degen (*1976), currently Associate Professor at ETH Zurich, as Full Professor of Spin Physics. The aim of Christian Degen's research is to combine magnetic resonance with atomic force microscopy in such a way as to reap the full benefits of both processes, so that three-dimensional images of individual viruses or large protein molecules, for example, can be achieved at very high resolution. In recent years Christian Degen has expanded his laboratory and conducted experiments in the field of quantum sensing. One important result was the ability to measure a single nuclear spin. He has already been awarded two ERC grants for his work.

Dr Kristy Deiner (*1979), currently Research Associate at the Museum of Natural History, London, United Kingdom, as Assistant Professor of Environmental DNA. The central objective of Kristy Deiner's research is to understand the impact of species extinction on the functioning of ecosystems. She focuses mainly on freshwater habitats. Her groundbreaking research has demonstrated that rivers are carriers of biodiversity information in the form of environmental DNA. Kristy Deiner was recently awarded an ERC Starting Grant. She will use this to study aquatic environmental DNA in order to observe the overall biodiversity present in terrestrial and aquatic ecosystems.

Professor Christian Franck (*1973), currently Associate Professor at ETH Zurich, as Full Professor of High Voltage Engineering. In recent years Christian Franck has built up an interdisciplinary team to devise technologies for high voltage transmission over long distances and medium-voltage distribution. He focuses in particular on the development of environmentally friendly insulation gas mixtures to replace the current standard sulphur hexafluoride (SF₆) – an extremely potent greenhouse gas. Christian Franck's work is of great relevance to society, given the need to transform the current energy systems.

Dr Helmuth Gehart (*1984), currently postdoctoral researcher at the Hubrecht Institute, Utrecht, Netherlands, as Assistant Professor of Tumour and Stem Cell Dynamics. Helmuth Gehart's scientific interests lie in the investigation of mechanisms, signalling pathways and molecules that regulate cell differentiation during organ development and tumour formation. Over the next few years he will be researching the heterogeneity and dynamics of clonal tumour populations and analysing how heterogeneous cell populations respond to therapies. He has received a number of awards for his results, including an ERC Proof of Concept Grant.

Professor Janneke Hille Ris Lambers (*1972), currently Full Professor at the University of Washington, Seattle, USA, as Full Professor of Plant Ecology. In her research, Janneke Hille Ris Lambers focuses on fundamental and applied questions in the area of plant community ecology. She is interested in exploring the processes underlying species coexistence, and in how to predict the effects of climate change on the distribution, dynamics and structure of plant communities. The appointment of Janneke Hille Ris Lambers enables ETH Zurich to strengthen its expertise in ecology and the understanding of biological diversity and ecosystem processes.

Professor Carlo Menon (*1977), currently Full Professor at Simon Fraser University, Vancouver, Canada, as Full Professor of Biomedical and Mobile Health Technology. Carlo Menon's research interests bring together the fields of biomedical technology, biosignal processing, robotics and smart materials. He and his group are developing inconspicuous wearable technologies for monitoring, supporting and treating older adults and persons with chronic diseases. Carlo Menon's appointment enables ETH Zurich to strengthen the areas of medical and rehabilitation technology and the recently launched Rehab Initiative.

Dr Stefano Mintchev (*1986), currently a post-doctoral student at EPFL, as Assistant Professor of Environmental Robotics. Stefano Mintchev's research focuses on understanding multimodal locomotion in robots, and helps with the development of robots whose mobility and functions make them similar to flying creatures. The Swiss National Science Foundation awarded him an SNSF Eccellenza Professorial Fellowship for his work. With the appointment of Stefano Mintchev, ETH Zurich is strengthening the links between robotics and the use of robotic systems in environmental research, particularly forest research.

Dr Denise M. Mitrano (*1986), currently Research Associate at Eawag, Dübendorf, as Assistant Professor of Environmental Chemistry of Anthropogenic Materials. Denise M. Mitrano's research explores the distribution and impacts of anthropogenic materials in technical and environmental systems. She is particularly interested in developing new analytical methods. Her research findings are improving our understanding of the risks of anthropogenic pollutants and helping develop the sustainable management of water and soil. She was awarded an SNSF Eccellenza Professorial Fellowship by the Swiss National Science Foundation for her work.

Dr Gabriel Neurohr (*1983), currently postdoctoral researcher at Massachusetts Institute of Technology, Boston, USA, as Assistant Professor of Cell Size in Cell Homeostasis. In recent years Gabriel Neurohr has developed an innovative approach to understanding the cellular networks that control the volume of individual cells. He discovered that the concentration of cytoplasmic protein plays an important role as a cell size sensor. By appointing this outstanding scientist, ETH Zurich will be able to build on its leading global position in biological research. Gabriel Neurohr was awarded an SNSF Eccellenza Professorial Fellowship by the Swiss National Science Foundation for his research.

Professor Nicolas Noiray (*1981), currently Tenure Track Assistant Professor at ETH Zurich, as Associate Professor of Combustion and Acoustics for Power & Propulsion Systems. Nicolas Noiray's research explores fundamental and applied aspects of combustion. He has developed a new type of sequential combustion chamber which he uses to investigate the combustion systems of large gas turbines, with special emphasis on thermoacoustic instabilities and turbulent self-ignitable flows. Nicolas Noiray has received numerous awards, including an ERC Consolidator Grant. He already plays a pivotal role in teaching at ETH Zurich.

Professor Kaveh Razavi (*1987), currently Tenure Track Assistant Professor at the Vrije Universiteit, Amsterdam, Netherlands, as Tenure Track Assistant Professor of Secure Systems Engineering. Kaveh Razavi is particularly interested in the security of the interfaces between hardware and software, and in how this can be improved. Starting from the assumption that hardware is basically insecure, he pursues the goal of finding fundamentally secure ways of building computer systems. By appointing Kaveh Razavi, ETH Zurich is contributing to the further development of computer security – a topic of huge importance to society and industry.

Professor Sereina Z. Riniker (*1985), currently Tenure Track Assistant Professor at ETH Zurich, as Associate Professor of Computational Chemistry. Sereina Z. Riniker's research focuses on computer simulations of matter. Along with her research group, she develops and studies atomistic models to describe molecular interactions and calculate free-energy differences. She combines this work with chemoinformatic and data-driven approaches. The interplay between thematic breadth and academic depth is a notable feature of her work. Sereina Z. Riniker's research has won a number of awards, including the Latsis Prize from ETH Zurich.

Professor Christian Rüegg (*1976), currently Adjunct Professor at the University of Geneva and Member of the Board of Directors of the Paul Scherrer Institute (PSI), Villigen, as Full Professor of Physics at ETH Zurich and EPFL. Christian Rüegg is an internationally acclaimed solid-state physicist. In 2019, the Federal Council appointed him as the new director of the PSI. He will take up this post on 1 April 2020. At the same time, the two Federal Institutes of Technology have each appointed him to a full professorship in recognition of his scientific achievements. Christian Rüegg's work has a particular focus on quantum phenomena in magnetism. He has been awarded prestigious prizes. In addition, he has received an ERC Consolidator Grant.

Professor Rico Zenklusen (*1981), currently Tenure Track Assistant Professor of Mathematics at ETH Zurich, as Associate Professor of Mathematics. Rico Zenklusen conducts research in the field of combinatorial optimisation. This lies at the interface between mathematics and information technology and explores fundamental questions regarding the efficient solution of complex mathematical problems. In addition to making theoretical discoveries, Rico Zenklusen has also succeeded in solving key practical problems for industry using new algorithmic techniques. In 2018 he was awarded an ERC Consolidator Grant for his scientific results.

Appointments at EPFL

Professor Rüdiger Fahlenbrach (*1974), currently Associate Professor at EPFL, as Full Professor of Finance. Rüdiger Fahlenbrach is an internationally recognised expert in corporate finance and governance. His research, which is impressive in terms of quantity, quality and impact, focuses on ownership issues, such as the influence of large shareholders, and on incentives for managers. His findings have been put to practical use in the form of corporate management guidelines and compensation systems for senior managers. Rüdiger Fahlenbrach makes a significant contribution to teaching at EPFL, and boosts the university's reputation in a subject area that is of major public interest.

Professor Sophia Haussener (*1983), currently Tenure Track Assistant Professor at EPFL, as Associate Professor of Mechanical Engineering. Sophia Haussener's research approach, which combines numerical simulation and experimental methods, has enabled her to establish an international position in the competitive field of renewable energies and solar fuels. Her goal is to develop efficient, cheap as well as sustainable solutions for the utilization and conversion of renewable energies. In future, Sophia Haussener's research will have a particular focus on solar energy storage and, at the same time, she will continue her substantial contribution to teaching at EPFL.

Professor Sylvie Roke (*1977), currently Associate Professor at EPFL, as Full Professor of Bioengineering. Sylvie Roke is one of the world's leading researchers into the use of ultra-fast non-linear optical techniques for describing the structure and dynamics of water at interfaces. She has developed new technological approaches for identifying and analysing molecular details in aqueous systems at nano and micro level. Sylvie Roke's research and teaching activities strengthen EPFL's international reputation in the field of fundamental biophotonics.

Dr Pasquale Scarlino (*1986), currently Research Associate at the University of Copenhagen, Denmark, as Tenure Track Assistant Professor of Physics. Pasquale Scarlino is a talented young experimental physicist with great potential. His main focus is on quantum dots for spin qubits, a promising technology for quantum computers. The results he has already achieved have provided a real stimulus in the area of circuit quantum electrodynamics based on semiconductor quantum dots, and have attracted international attention. At EPFL, Pasquale Scarlino will build on this foundation and press ahead in the field of hybrid quantum circuits.

Professor Fabien Sorin (*1978), currently Tenure Track Assistant Professor at EPFL, as Associate Professor of Materials Science. Fabien Sorin's research focuses on the integration of complex functionalities in flexible materials for applications in a wide range of areas. These include personalized healthcare, smart textiles and robotics. In the course of his research activities, he has developed various new experimental processes, which has provided international recognition in the field of smart, flexible materials and their development. An accomplished educator, the promotion of Fabien Sorin strengthens the long-term position of teaching and innovative research at EPFL.

Professor Devis Tuia (*1980), currently Full Professor at the University of Wageningen, Netherlands, as Associate Professor of Environmental Sciences and Computational Engineering. Devis Tuia is an environmental scientist with a particular focus on remote sensing and geoinformation. He is heavily involved with the development of new methods to allow better interpretation of images and recordings of the earth's surface. He makes use of machine learning and efficient human-machine interaction, among other things. Prof. Tuia will join EPFL's Alpine and Polar Research Centre at Sion, where he will carry out a research program based on remote sensing and image analysis, thus increasing the Federal Institute's national and international visibility.

Professor Thomas Weber (*1969), currently Associate Professor at EPFL, as Full Professor of Operations, Economics and Strategy. A prominent and internationally renowned researcher, Thomas Weber is an outstanding and talented academic. Highly productive, Weber has an extensive record in research and publishing in the field of economics and operations research, with a focus on decision-making from an economic perspective — a subject he explores using complex mathematical methods. Respected by his peers, Weber significantly contributes to EPFL's international reputation on issues of economic analysis.

Award of the title of "Professor" at ETH Zurich

Dr Paolo Crivelli (*1976), currently Senior Scientist at ETH Zurich and Laboratory Head at CERN, as Adjunct Professor at ETH Zurich. Paolo Crivelli is an internationally acclaimed specialist in exotic atoms and dark matter. He investigates these by means of high-precision experiments. He was awarded an ERC Consolidator Grant for his research.

Dr Giacomo Scalari (*1972), currently Senior Scientist at ETH Zurich, as Adjunct Professor at ETH Zurich. Giacomo Scalari is an internationally recognised researcher in the field of terahertz photonics, with a focus on quantum cascade lasers and ultra strong light-matter interactions in the terahertz range. He was awarded an ERC Consolidator Grant for his research.

Departures from ETH Zurich

Professor Markus Aebi (*1955), currently Full Professor of Mycology at ETH Zurich, is to retire at the end of July 2020. Markus Aebi is internationally known for his research into the molecular basis for the glycosylation of proteins. His focus is on microbial glycobiology, particularly N-linked protein glycosylation and the role of carbohydrates in the developmental and interaction biology of higher fungi. He has used his findings to investigate the molecular origin of hereditary diseases. Markus Aebi joined ETH Zurich in 1994 and was promoted to his present post in 1998. He has carried out key roles in the department and for the ETH.

Professor Hans-Dieter Daniel (*1955), currently Full Professor of Social Psychology and Research on Higher Education at ETH Zurich, will retire at the end of July 2020. Hans-Dieter Daniel was appointed to ETH Zurich in 2002. The main focus of his work and research has been social psychology, as well as research into higher education and evaluation. He is mainly interested in quantitative studies, particularly peer review research and evaluative bibliometrics. In recent years he has undertaken key tasks for ETH Zurich and many other academic institutions in Europe.

Professor Pavel Hora (*1955), currently Full Professor of Virtual Production and Forming Technology, is to retire at the end of July 2020. Pavel Hora joined ETH Zurich in 1992 and was promoted to associate professor in 2004 and full professor in 2012. He gained international recognition for his findings in areas such as extrusion simulation. Pavel Hora's current research has a focus on virtual modelling. He has also made a significant contribution to the successful transfer of technology, thanks to his close links with industry.

Professor Friedemann Mattern (*1955), currently Full Professor of Computer Science at ETH Zurich, is to retire at the end of July 2020. Friedemann Mattern's research interests cover distributed systems and ubiquitous computing, and include models and concepts of distributed computation, sensor networks and infrastructure mechanisms for the Internet of Things. Friedemann Mattern is an internationally acclaimed researcher. He has established partnerships with industry, thus promoting the transfer of technology. At ETH Zurich he undertook key roles, including that of Director of the Department of Computer Science.

Professor Dani Or (*1955), currently Full Professor of Environmental Physics of Terrestrial Systems at ETH Zurich, will retire at the end of July 2020. Dani Or's research focuses on mass and energy transport in porous media, the mechanics of abrupt landslides and avalanches, evaporation and gas exchange from porous surfaces, and links between physical processes and biological activity in soil. His results have received international attention as well as a number of awards, including an ERC Advanced Grant. He has undertaken several management roles at ETH Zurich.

Professor Gerhard Schmitt (*1953), currently Full Professor of Information Architecture at ETH Zurich, is to retire at the end of August 2020. Gerhard Schmitt conducts research into the simulation of future cities, making use of knowledge visualisation and spatially dispersed collaborative design. From 2008 to 2017 he led the development of the Singapore-ETH Centre for Global Environmental Sustainability (SEC) in Singapore, of which he has been Director since 2017. From 1998 to 2008 Gerhard Schmitt was Vice President for Planning and Logistics on the Board of ETH Zurich. He and his team designed the "*Treffpunkt Science City*" concept and laid the foundations for the development of the ETH campus at Hönggerberg.

Professor Nicholas Spencer (*1955), currently Full Professor of Surface Science and Technology at ETH Zurich, is to retire at the end of July 2020. Nicholas Spencer was appointed to his present post in 1993. His research has focused on tribology, biocompatibility, and the modification and analysis of surfaces. Nicholas Spencer's results have received international recognition and contributed significantly to ETH Zurich's reputation in the field of materials science. He has undertaken important tasks and roles both for the ETH and for the academic community, including as Head of the Department of Materials.

Professor Renate Schubert (*1955), currently Full Professor of Economics at ETH Zurich, is to retire at the end of July 2020. Renate Schubert's research is on the topic of effective climate and environmental policy. She focuses on energy saving and environmentally responsible behaviour by individuals in different cultural contexts. She is also very interested in the future relevance of digitalisation to sustainable human behaviour. Renate Schubert was appointed to ETH Zurich in 1992. She has performed key tasks for the Federal Institute, including setting up the Equal! Office of Equal Opportunities for Women and Men in 2008.

Departures from EPFL

Professor Patrick Aebischer (*1954), currently Full Professor of Life Sciences at EPFL, is to retire at the end of April 2020. Patrick Aebischer is an internationally acclaimed neuroscientist. Between 2000 and the end of 2016 he held his current post while also serving as President of EPFL. In this role he made a decisive contribution to the school's growth, and its development into a competitive, leading scientific institution of European and global status. Patrick Aebischer enjoyed a successful international career before joining EPFL, and had already been appointed as an adjunct professor at EPFL in 1995.

Professor Aurelio Bay (*1955), currently Full Professor of Particle Physics, is to retire at the end of July 2020. Aurelio Bay took up his present post in 2003 following a successful scientific career. He and his Lausanne-based group for experimental particle physics made key contributions to the development of cutting-edge detectors. This includes the Large Hadron Collider beauty (LHCb) at CERN, the European nuclear research centre in Geneva, which is used to investigate the differences between matter and antimatter. Aurelio Bay has thus also strengthened the relationships between CERN and EPFL. His results have attracted worldwide attention.

Professor Giovanni Dietler (*1955), currently Full Professor of Living Matter Physics, is to retire at the end of July 2020. Giovanni Dietler was appointed to his present post in 2003. Since then he has made a substantial contribution to the development of physics at EPFL, especially the physics of biological systems and their investigation at molecular level. He has a particular interest in phenomena such as blood clotting, the statistical and topological characteristics of DNA, protein and cell mechanics, and the detection of antibiotic resistance in bacteria. Giovanni Dietler's findings led to the founding of a highly innovative company in the field of biomedical diagnostics.

Professor Helena Van Swygenhoven (*1955), currently Full Professor of Materials Science, is to retire at the end of August 2020. Helena Van Swygenhoven joined EPFL in 2013 after having worked at the Paul Scherrer Institute, Villigen, for many years and being appointed to an adjunct professorship at EPFL. Over the years she has played a considerable part in building relationships between both institutions. Helena Van Swygenhoven achieved international recognition for her research into plastic deformation mechanisms in nanocrystalline metals. She pioneered the introduction of atomic-scale modelling in this field.

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 both 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 assists the ETH Board in the preparation and implementation of its business.