

Meeting of the ETH Board on 8/9 December 2021

20 new professors appointed at ETH Zurich and EPFL

At its meeting of 8/9 December 2021 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 7 women and 11 men as professors and awarded the title of professor to two individuals. It also took note of the resignations of six professors and thanked them for their services. In 2021, the ETH Board has made a total of 24 new appointments for women and 28 for men; the proportion of women among these new appointments amounts to 46%.

Bern/Zurich, 9 December 2021

New appointments at ETH Zurich

Professor Tae-Lim Choi (*1977), currently Full Professor at Seoul National University, South Korea, as Full Professor of Polymer Chemistry in the Department of Materials. Tae-Lim Choi's research focuses on the development of novel synthetic methods of manufacturing polymers and macromolecular objects. In view of the current demand for sustainability, his creative application of the cascade polymerisation process, through which certain target structures can be constructed quickly and efficiently, is very valuable. His ground-breaking work won South Korea's prestigious Presidential Young Scientist Award in 2014, and in 2011 and 2016 he was presented with awards recognising his commitment to teaching.

Dr Catherine Jutzeler (*1985), currently Group Leader at ETH Zurich in Basel, as Tenure Track Assistant Professor of Biomedical Data Science in the Department of Health Sciences and Technology. Catherine Jutzeler's research involves data-based methods in precision medicine. She applies population-based statistical models and machine learning to investigate and evaluate new biomarkers for neurological diseases. In 2020 she was awarded both an SNSF Spark Grant and an SNSF Ambizione Grant to enable her to set up her own research group. Catherine Jutzeler's appointment ideally complements the holistic vision of the healthcare chain at ETH Zurich.

Dr Barton E. Lee (*1992), currently Fellow by Examination at the University of Oxford, United Kingdom, as Tenure Track Assistant Professor of Political Economy and eDemocracy in the Department of Management, Technology and Economics. Barton E. Lee engages in research at the intersection of computer science and economics. He is an acknowledged expert in political economy, but also has secondary research interests in areas including organisational economics, applied theory, economics and computer science. Through the appointment of Barton E. Lee, the department is gaining a scientist who will make an excellent contribution to its goal of playing a pioneering role in the development of eDemocracy and digital economic policy.

Professor Eva-Marie Meemken (*1986), currently Tenure Track Assistant Professor at the University of Copenhagen, Denmark, as Tenure Track Assistant Professor of Food Systems Economics and Policy in the Department of Environmental Systems Science. Eva-Marie Meemken conducts research in the field of agricultural, food and development economics. She explores the question of how the transformation of the global agricultural and food systems is affecting farmers, employees and other participants, especially in low-income countries. By making this appointment, the department is gaining an innovative, interdisciplinary scientist

with a strong research focus, who will contribute to the work of the World Food System Center at ETH Zurich in the area of more sustainable food systems.

Promotions at ETH Zurich

Professor Stelian Coros (*1982), currently Tenure Track Assistant Professor at ETH Zurich, as Associate Professor of Computational Robotics in the Department of Computer Science. Stelian Coros works in the field of robotics and related topics in computer animation, digital design and fabrication. He has, for example, developed prototype solutions for locomotion and manual operation in soft robotics. His contributions are internationally recognised and have already made a big impact. He has won numerous awards, including an ERC Consolidator Grant in 2020. In addition, Stelian Coros maintains very successful partnerships with Swiss industry. Through his appointment, ETH Zurich is strengthening its leading position in this research area.

Professor Cornelia Halin Winter (*1974), currently Associate Professor at ETH Zurich, as Full Professor of Pharmaceutical Immunology in the Department of Chemistry and Applied Biosciences. Cornelia Halin Winter's research has a principal focus on investigating leukocyte migration into the lymphatic vessels of the body, as well as biomedical questions in the fields of immunology and vascular biology. Her aim is to discover new therapeutic approaches to the development of anti-inflammatory medications and the improvement of vaccines. Furthermore, this internationally acclaimed researcher has been Director of Studies at the Institute of Pharmaceutical Sciences since 2015 and also has an excellent track record for teaching.

Professor Alex Hall (*1982), currently Tenure Track Assistant Professor at ETH Zurich, as Associate Professor of Pathogen Ecology in the Department of Environmental Systems Science. Alex Hall's research focuses on the ecology and evolution of microorganisms, both generally and in relation to infectious diseases. The goal of his real-time experiments is to identify genetic and environmental factors that explain variations in biological processes, such as the development of drug-resistance or interactions between host and parasite. Alex Hall also builds useful bridges with other areas of ETH Zurich, and especially with the wider (and growing) health sciences community.

Professor Dirk Mohr (*1976), currently Associate Professor at ETH Zurich, as Full Professor of Artificial Intelligence in Mechanics and Manufacturing in the Department of Mechanical and Process Engineering. Dirk Mohr's research is in the field of materials modelling. Among other things, he has developed a biaxial test machine that is now used in the automotive industry. Thanks to his collaborations with automotive suppliers and manufacturers, and CellTech's commercialisation of his sandwich sheets, this award-winning researcher has extensive experience in the industrial environment. From 2019 to 2021 he also acted as Director of Studies for the Department of Mechanical and Process Engineering, and since 2020 he has been Head of the Institute of Virtual Manufacturing.

Professor Laura Nyström (*1977), currently Associate Professor at ETH Zurich, as Full Professor of Food Biochemistry in the Department of Health Sciences and Technology. Laura Nyström is an internationally recognised researcher who studies the world food system. Her research focuses on dietary fibres and the associated phytochemicals in (wholegrain) cereal grains and other plant materials. She is highly regarded as a university lecturer and has won a number of prizes for her research, including an ERC Starting Grant in 2015. Since 2020 Laura Nyström has been Deputy Head of the Department of Health Sciences and Technology.

Professor Chih-Jen Shih (*1980), currently Tenure Track Assistant Professor at ETH Zurich, as Associate Professor of Chemical Engineering in the Department of Chemistry and Applied Biosciences. Chih-Jen Shih's research examines the physical and chemical foundations of nanomaterial surfaces and interfaces. He has already published numerous peer-reviewed articles in reputable journals, and been invited to deliver many lectures and seminars at international conferences, universities and companies. His contributions to research have also won multiple awards, including an ERC Starting Grant in 2019. This promotion will substantially strengthen the department in the area of functional nanomaterial engineering.

New appointments at EPFL

Professor Haitham Al Hassanieh (*1987), currently Assistant Professor at the University of Illinois Urbana-Champaign, USA, as Associate Professor of Computer Science and Communication Systems in the School of Computer and Communication Sciences. Haitham Al Hassanieh conducts research in the fields of cyberphysical systems, the "Internet of Things" (IoT) and wireless networks and systems. This internationally acclaimed researcher has demonstrated, among other things, that it is possible to construct the next generation of wireless networks (5G and beyond) by taking advantage of the intrinsic scarcity of wireless technology. The use of this approach led to the first millimetre-wave networks. Haitham Al Hassanieh's award-winning achievements in research and teaching, together with his academic and industrial partnerships, will strengthen the department further.

Professor Michaela Hirschmann (*1981), currently Assistant Professor at the University of Copenhagen, Denmark, as Tenure Track Assistant Professor of Physics in the School of Basic Sciences. Michaela Hirschmann's research investigates the cosmic development of black holes and galaxies, making it possible to model the formation of galaxies with great precision. She is one of the world's leading theoreticians in this field, and her findings are all the more important now that new terrestrial and space telescopes will be able to observe the first moments of the universe in the coming years. Through her appointment, the school is boosting synergies and partnerships at EPFL in the field of astrophysics and other areas.

Dr Zoë Holmes (*1992), currently a post-doctoral student at Los Alamos National Laboratory, New Mexico, USA, as Tenure Track Assistant Professor of Physics in the School of Basic Sciences. Zoë Holmes' research focuses on different areas of quantum computing. She has already made important contributions to quantum thermodynamics and fluctuation theory. Furthermore, she is the lead author of numerous academic articles, which not only demonstrate her originality but also show that she can turn her ideas into reality. This well-known researcher will solve pressing scientific problems and strengthen cooperation with other schools at EPFL, including the School of Computer Sciences, in order to develop quantum machine learning algorithms.

Dr Wouter Karthaus (*1985), currently Research Associate at the Memorial Sloan Kettering Cancer Center in New York, USA, as Tenure Track Assistant Professor of Life Sciences in the School of Life Sciences. Wouter Karthaus works in the field of prostate cancer biology, as well as cell and tissue culture modelling. His research has already made innovative contributions to the development of organoid cultures and the use of bioinformatic analysis to identify normal and malignant prostate cells. It has resulted in highly cited publications. The appointment of Wouter Karthaus greatly enriches the school and enables EPFL to expand and strengthen the area of basic research in cancer.

Professor Vladimir Manucharyan (*1983), currently Associate Professor at the University of Maryland, USA, as Associate Professor of Physics in the School of Basic Sciences. Quantum physics is the main focus of Vladimir Manucharyan's research. He is one of the chief architects of the development of a new type of qubit called the fluxonium qubit, as well as a pioneer in the application of superconductors in this field. The department is thus strengthened by the appointment of one of the leading researchers in quantum science and technology. Among other activities, Vladimir Manucharyan will help solve major challenges in quantum physics and facilitate the development of quantum algorithms.

Dr Kenan Zhang (*1992), currently Research Assistant at Northwestern University, Illinois, USA, as Tenure Track Assistant Professor of Civil Engineering in the School of Architecture, Civil and Environmental Engineering. Kenan Zhang's research looks at transport management, with particular reference to newly emerging mobility services, autonomous vehicles and machine learning in transport. In her work, she combines her specialist knowledge of engineering and transport with her statistical skills. Her research interests are a match with the school's interdisciplinary approach and its emphasis on the digitalisation of urban infrastructures. This up-and-coming researcher also contributes to quantifying the potential of innovations for improving urban mobility, efficiency and sustainability.

Promotions at EPFL

Professor Zsolt Patakfalvi (*1980), currently Tenure Track Assistant Professor at EPFL, as Associate Professor of Mathematics in the School of Basic Sciences. Zsolt Patakfalvi's research focuses on algebraic geometry, complex numbers and the properties of geometric bodies, and he is a specialist in the minimal model program (MMP). He has already published numerous academic articles in renowned publications and has won several awards, including an ERC Starting Grant in 2020. This polyvalent researcher is regarded as one of the most promising mathematicians of his generation, in a highly competitive and flourishing field. At EPFL he is the head of the Chair of Algebraic Geometry.

Professor Nikolas Geroliminis (*1980), currently Associate Professor at EPFL, as Full Professor of Transport Engineering in the School of Architecture, Civil and Environmental Engineering. Nikolas Geroliminis is working on challenging problems with strong theoretical underpinnings, advancing the field through methodological contributions and developments in technology and the social context of transport systems. He has an extensive record of innovative research contributions spanning across traffic modeling and control, network systems, optimisation and on-demand transport. His research offers an all-in-one approach for monitoring and modeling mobility at large-scale with advanced traffic management solutions. Nikolas Geroliminis has received numerous awards, including an ERC Starting Grant in 2014.

Award of the title of Professor

Dr Henner Busemann (*1967), currently Senior Scientist in the Department of Earth Sciences at ETH Zurich, as Adjunct Professor at ETH Zurich. Henner Busemann is one of the world's leading scientists in the field of extraterrestrial noble gas geochemistry. His laboratory facilitates both research across the department and joint research with other institutions within the ETH Domain.

Dr Rolf Erni (*1974), currently Lecturer in the Department of Materials at ETH Zurich and Head of the Electron Microscopy Center at Empa, as Adjunct Professor at ETH Zurich. Rolf Erni is an internationally recognised researcher in the fields of transmission electron microscopy (TEM) and materials science, as well as a pioneer and leading expert in aberration-corrected scanning transmission electron microscopy (STEM), on which he wrote the standard textbook.

Departure from ETH Zurich and EPFL

Professor Janet Hering (*1958), currently Full Professor of Environmental Biogeochemistry in the Department of Environmental Systems Science at ETH Zurich and Full Professor of Environmental Chemistry in the School of Architecture, Civil and Environmental Engineering at EPFL, is to retire at the end of December 2022. Janet Hering joined ETH Zurich in 2007 as a full professor and Director of Eawag; since 2010 she has also been a full professor at EPFL. Janet Hering's research interests include techniques for making contaminated water drinkable, the biochemical behaviour of trace metals, and the exchange of knowledge between research, politics and practice. This multi-award-winning researcher was and still is a member of several international scientific bodies.

Departures from ETH Zurich

Professor Olga Fink (*1983), currently Assistant Professor of Intelligent Maintenance Systems in the Department of Civil, Environmental and Geomatic Engineering, will leave ETH Zurich at the end of February 2022. Olga Fink's research deals with deep learning and hybrid algorithms for intelligent maintenance systems, such as the development of data-driven, intelligent and predictive maintenance systems. She is stepping down in order to take up a tenure track assistant professorship at EPFL.

Professor Antia Rodriguez-Villalon (*1983), currently Assistant Professor of Developmental Biology of Plants in the Department of Biology, will leave ETH Zurich at the end of January 2022. Antia Rodriguez-Villalon is an expert in cell biology who has carried out pioneering work in the biochemistry of plant biosynthesis pathways and developmental biology. Her current research focuses on the biology of plant transport tissue. She is leaving to take up a post at the AO Foundation, a medical foundation.

Professor Christian Schöb (*1979), currently Assistant Professor of Agricultural Ecology in the Department of Environmental Systems Science, is to leave ETH Zurich at the end of January 2022. Christian Schöb conducts research into biodiversity by investigating biodiversity patterns, their mechanisms and their role in ecosystem processes. He has a particular interest in the interactions between organisms, especially between plants, as well as in how different species coexist and the consequences for ecosystems. He is leaving to take up a professorship at Rey Juan Carlos University in Madrid.

Professor Ankit Singla (*1986), currently Tenure Track Assistant Professor of Computer Science in the Department of Computer Science, is leaving ETH Zurich at the end of February 2022. Ankit Singla's research links the classic areas of high-performance computing with new methods of protocol and network design. The focus of his application-oriented research on network architectures is on new protocols, topologies and networks in relation to data centres and the Internet. He is leaving to take up a new post with Google.

Prof. Dr Dr h.c. Sarah Springman (*1956), currently Full Professor of Geotechnical Engineering in the Department of Civil, Environmental and Geomatic Engineering at ETH Zurich, is to retire at the end of January 2022. Sarah Springman joined ETH Zurich as a full professor in 1997. Her research interests focus on soil-structure interaction and the geotechnical aspects of natural hazards. An internationally renowned scientist, she had the world's largest geotechnical drum centrifuge installed. From 2013 to 2014 she was deputy head of the department. In 2014 she received the "Golden Owl" award after the students had voted her the department's best lecturer. Since 2015, Sarah Springman has been Rector of ETH Zurich and member of the Executive Board with responsibility for teaching. Among her major achievements, she has helped to promote the quality of teaching at all levels, divided the basic examination into two blocks, introduced the Bachelor's course in human medicine, founded the School for Continuing Education, inaugurated the Student Project House and continued the development of the doctorate qualification. She is committed to promoting cross-disciplinary skills and instilling an enthusiasm for technical and scientific subjects in young people – especially young women.

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