

Prof. Dr. Dr. hc Viola Vogel

Full Professor, Laboratory of Applied Mechanobiology

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Viola Vogel is Professor in the Department of Health Sciences and Technology (D-HEST) and is heading the Laboratory of Applied Mechanobiology at ETH Zurich, Switzerland. She served as Department Vice Chair and Chair from 2017-2020. She is member of the Leopoldina, the National Academy of Engineering, and the National Academy of Sciences. Trained in biophysics, she turned into a bioengineer when starting her academic career at the University of Washington, Seattle, in 1990, where she was also the Founding Director of the Center for Nanotechnology in 1997. She joined the Department of Materials at ETH Zurich in 2004 until cofounding D-HEST in 2012.

While most knowledge today in Biology and Medicine is based on equilibrium structures of proteins, Viola pioneered the rapidly growing field of Molecular Mechanobiology and its medical applications, as she discovered many structural mechanisms how mechanical forces can turn proteins into mechano-chemical switches. Such mechanisms are by bacteria and cells to sense and to recognize the physical properties of their environments and to respond to mechanical forces. Abnormal mechanosensation can cause various diseases, including fibrotic disorders or cancer. She was recipient of an ERC Advanced grant and became Einstein Visiting Fellow at Charité Berlin in 2018. Her services on international advisory boards in the fields of nanotechnology and bioengineering include the PCAST panel that finalized the US National Nanotechnology Initiative of the Clinton administration (1999), as well as the Max-Planck Society, Singapore's Biopolis, SMART and SEC programs, as well as the Wyss Institute in Boston and the Gordon Research Conference Organization (Board of Trustees). She was awarded an Honorary Doctor of Philosophy from Tampere University, Finland (2012). She serves as judge for the Queen Elizabeth Price of Engineering since 2014.