Short Curriculum Vitae

— Thomas Buchert

worked as Research Associate at MPA (Max–Planck–Institut f. Astrophysik), Garching, Germany, in the period 1984–1995 during which he obtained his Master degree and his Ph.D. in Theoretical Physics at Munich University (LMU) (1988). During the period 1988–1994 he took several short–term visiting positions in Europe, e.g. at Nordita, Copenhagen, the Observatory of Paris, and the University of Valencia, being Member of the European Cosmology Network. His research was focussed on cosmological structure formation theories, where the heart of this work was defined within a five years project of the DFG (German Science Foundation) 'Schwerpunkt Kosmische Plasmen' leading to his Habilitation degree in Astronomy at the LMU (1994). He organized exchange projects with France and Spain and was active in the MPA exchange with the Chinese Academy of Sciences. In 1995 he obtained the degree Privatdozent at LMU. Since then until 2006 he worked as Research Associate at LMU and TUM (Technical University Munich), and as a Lecturer at LMU. During that time he was leading a research group at the LMU as Project Representative of the SFB 375 on morphological statistics of cosmic structure together with Herbert Wagner. From 1998 until now he took several long–term visiting positions as Associated Member of Personnel at CERN, Geneva, as Tomalla Visiting Professor at University of Geneva, as Center of Excellence Researcher at the National Astronomical Observatory in Tokyo, and as Monkasho Invited Professor at the University of Tokyo (Research Center for the Early Universe), during which he also worked as Visiting Professor at Tohoku University in Sendai, and the Tokyo Institute of Technology. During the summer term 2006 he took a temporary Chair position at Bielefeld University. He regularly works at the Observatory of Paris, being – from September 2007 – Staff Member at the Observatory of Lyon, and Professor of Cosmology at the University Claude Bernard Lyon 1, being involved in the Master Programme at École Normale Supérieure de Lyon. In the period 2010–2016 he was head of the GALPAC team comprising 27 researchers at CRAL (covering galaxy physics, simulations, instrumentation projects and theoretical cosmology), as well as PI of the Lyon CRAL–IPNL collaboration (Dark Energy and Dark Matter : theory and experiments). For the period 2017–2022 he received an ERC advanced Grant, coordinating a team of 10 researchers hosted at École Normale Supérieure, Lyon.

Research Interests :

- theoretical physics : general relativity and other theories of gravitation
- mathematical physics : Riemann–Cartan geometry, integral geometry, singularity theory, non–trivial topologies
- theoretical cosmology : dynamical theories of large–scale structure
- theoretical cosmology : scalar field cosmologies, Quintessence, Dark Energy, Dark Matter and Inflation
- theoretical cosmology : global properties, averaging problem, backreaction
- statistical cosmology : dynamical and statistical morphology of cosmic structure
- observational cosmology : galaxy surveys, supernova surveys and the Cosmic Microwave Background