



GHIL, MICHAEL

Honorary Member, FRANCE

Professor, Ph.D., engineer

Date and place of birth: June 10, 1944, Budapest, Hungary

Studies: He obtained the degrees of B.Sc. (1966) and M.Sc. (cum laude, 1971) at Technion – Institute of Technology of Israel, Haifa, Faculty of Mechanical Engineering. M.S. (Math.), February 1973, and he received the title of Ph.D. in engineering at Courant Institute of Mathematical Sciences (CIMS) of New York University (1975) [Ph.D. (Math.), June 1975, Courant Institute of Mathematical Sciences (CIMS), New York University].

Scientific developments: Ph.D. Researcher at the same institute CIMS [Sept. 1971–Maz 1987], from Research Assistant (1971–1975) to Research Professor (1982–1987), via different scientific steps. Associate resident researcher – Goddard Institute for Spacial Studies of NASA in New York (1975–1976), Professor-researcher Emeritus of Atmospheric and Geophysical Sciences - Univ. of California, Los Angeles (UCLA), Full Professor since 1985. Distinguished Professor, July 1994–June 2003], tenured at “Climate Dynamics” (1985–1994); Chairman, Department of Atmospheric Sciences, UCLA, Sept. 1988–June 1992. Director of the Institute of Geophysics & Planetary Physics, UCLA, July 1992–June 2003. Director, Environmental Research & Teaching Institute (CERES-ERTI), ENS (November 2002–September 2010); Professor at the Depart. Earth-Atmosphere-Ocean (TAO) of the Ecole Normale Supérieure (ENS), Paris and Head of the Geosciences Department, ENS (July 2003–Dec. 2009). **Current positions:** Distinguished Research Professor of Atmospheric and Oceanic Sciences, University of California, Los Angeles (UCLA), since October 2003; Distinguished Professor of Geosciences (since Sept. 2002, Emeritus since Sept. 2012), Ecole Normale Supérieure (ENS). **Other professional activities:** expert consultant, *Applied Mathematical Sciences Series*, Springer-Verlag, New York/Heidelberg/Berlin, 1981–97; Distinguished Visiting Scientist, Jet Propulsion Laboratory, Cal Tech/NASA; University of California (Systemwide) Committee on Research, Oakland, 1988–91; Chair, Scientific Advisory Council, Climate System Modeling Program, NSF/UCAR, 1988–99; Climate Research Committee, National Research Council (NRC), 1989–98; Visiting Committee, Goddard Laboratory for Atmospheres; Board of Governors, Weizmann Institute of Science, Rehovot, Israel, 1995–2000.

Key areas of interest: Climate Dynamics, Dynamical and Complex Systems Theory, Coupled Climate-Ecology and Climate-Economics Modeling, Macroeconomics, Estimation Theory, Extreme Events and Prediction, Geophysical Fluid Dynamics, Remote Sensing and Applications, Atmospheric and Oceanic Sciences, Physical Oceanography, Numerical and Statistical Methods. **Relevant publications** (out of a dozen books and over 275 refereed articles and chapters in books, selected exclusively from the last ten years; h-index = 47 in ISI WoS, 12 Nov. 2012): 1. *Predicting Stochastic Systems by Noise Sampling, and Application to the el Niño-Southern Oscillation*, Proc. Natl. Acad. Sci. USA, 2011. 2. *Stochastic Climate Dynamics: Random Attractors and Time-Dependent Invariant Measures*, Physica D (2011). 3. *Extreme Events: Dynamics, Statistics and Prediction*, Nonlin. Processes Geophys., 18 (2011). 4. *Climate Dynamics and Fluid Mechanics: Natural Variability and Related Uncertainties*, Physica D, 237, 2111–2126 (2008). 5. *Empirical Model Reduction and the Modeling Hierarchy in Climate Dynamics, in Stochastic Physics and Climate Modelling*, Eds. T. N. Palmer and P. Williams, Cambridge Univ. Press, pp. 35–72 (2009).

Synergistic activities: 1. Chaired the Scientific Advisory Council (SAC) of the Community Climate System Modeling Program (CCSM; 1988–99) and member of the CCSM Advisory Board (CAB; 1999–2006). 2. Helped formulate the scientific basis for U.S. climate-research programs on the decade-to-century time scale (NRC, 1995: *Natural Climate Variability on Decade-to-Century Time Scales*). 3. Initiated and led a transcontinental

collaboration to develop, maintain and continue improving the SSA-MTM Toolkit (2002: Advanced spectral methods for climatic time series, *Rev. Geophys*); Ph.D. Advisor: Prof. Peter D. Lax (Abel Prize Laureate 2005), Courant Inst. Math. Sciences, NYU. Former Ph.D. students total Ph.D. students = 32, total “descendants” *cf.* The Math Genealogy Project ≥ 63 . Former post-docs and junior visitors, total = 40.

Affiliations and awards: A. Wegener Medal & Honorary Member, European Geosciences Union (EGU), 2012; Honorary Member, Hungarian Academy of Sciences (2010); P. D. Thompson Lecturer, National Center for Atmospheric Research, Boulder, Colo., 2007; Lorenz Lecture, American Geophysical Union, 2005; Foreign Member, Austrian Academy of Sciences (OeAW), 2005; L. F. Richardson Medal, EGU, 2004; Highly Cited in the Geosciences (ISI Web of Science), 2004–present; G. Lemaître Chair, Université Catholique de Louvain, Belgium, 2004; Associate (= Honorary Member), Royal Astronomical Society, 2002; Foreign Member, Academia Europaea, 1998; 1997 Visiting Chair and Medal, Collège de France, Paris; CNRS Chair and Medal, Académie des Sciences, Paris, 1996; Condorcet Chair and Medal, Ecole Normale Supérieure, Paris, 1995; Fellow, American Geophysical Union, 1995; NSF Special Creativity Awards, 1993–1995 and 1998–2000; Guggenheim Fellow, 1991-92; Fellow, American Meteorological Society, 1988. Member of Academia Europaea (1998); Honorary Member of the Academy of Romanian Scientists (2004) and Honorary member of the Academy of Technical Sciences of Romania (2004).

References: UCLA page: <http://www.atmos.ucla.edu/tcd/GHIL/>,
<http://www.environnement.ens.fr/annuaire/ghil-michael/?lang=fr>,
http://www.environnement.ens.fr/IMG/file/MichaelPDF/M_Ghil-2pg_CV-CERES-mars_2011.pdf