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Training

Medical studies: Universität Heidelberg 1950-1953, Université de Paris 1953,  
Universität Heidelberg 1954-1956.

Medical State Board Examination Germany, Heidelberg 1956.

Doctoral Dissertation in Medicine, Universität Heidelberg 1957.

Positions

1956-1957 Assistant physician, Dept. of Neurology, Heidelberg University Hospital.

1958 Assistant physician, Dept. of Internal Medicine, Munich University Hospital.

1961-62 Assistant physician, Dept. of Neurology and Neurophysiology, Freiburg University Hospital.

1961 Visiting Fellow, Lab. d'EEG, Hopital Universitaire Marseille, France (Prof. Gastaut).

1963-1964 Research Fellow in Neurophysiology, Brain Research Institute, Univ. of California, Los Angeles, CA, USA.

1964 Visiting Physiologist, Computing Center, California Institute of Technology (CALTECH), Pasadena, CA, USA.

1965-1970 Senior Researcher, Institute of Medical Sciences, Pacific Medical Center, San Francisco, CA, USA.

1969-1970 Associate Professor, Dept. of Visual Sciences, University of the Pacific, San Francisco, CA, USA.

1969-1970 Acting Chairman, Dept. of Visual Sciences, University of the Pacific, San Francisco, CA, USA.

1971 Oberassistent, Dept. of Neurology, University Hospital Zürich.

1972 Privat-Dozent in Neurology (esp. Clin. Neurophysiology) Medical Faculty, University of Zürich (Titular-Professor 1978).

1988-1997 AO Professor of Clinical Neurophysiology, Medical Faculty, University of Zürich, (Emeritus 1997).

1998-2001 Neuroscience Advisor, University Hospital of Psychiatry, Dept. of Clinical Psychiatry, Zürich.

1995-1997 Director, The KEY Institute for Brain-Mind Research, University Hospital of Psychiatry, Zürich.

Present Position

1998 Senior Research Scientist, The KEY Institute for Brain-Mind Research, University Hospital of Psychiatry, Zürich.

Past Functions in Scientific Societies

Co-Chairman, International Society for Brain Electromagnetic Topography (ISBET).

Treasurer, then Executive Board Member-at-Large, Internat. Pharmaco-EEG Society (IPEG).

Present Functions in Scientific Societies and Scientific Foundations

Director, The KEY Foundation for Brain-Mind Research, Zürich.

Member, Board of Governors, Internat. Organization of Psychophysiology (IOP).

Present and Past Memberships in Scientific Societies

American Physiological Society	1965-1984
Association for Research in Ophthalmology	1966-1973
American EEG Society	1968-1986
Schweiz. Neurol. Gesellschaft	1971-1989
German EEG Society / Deutsche Gesellschaft Klinische Neurophysiologie (Lifetime Corresponding Member)	
Hungarian EEG Society (Honorary Member)	
European Sleep Research Society	
Int. Brain Research Organization IBRO	
IBRO Suisse / Swiss Society for Neurosciences	
Schweiz. Gesellschaft Klin. Neurophysiologie	
Swiss Society for Biological Psychiatry (Honorary Member)	
Section Psychophysiology of the World Psychiatric Association (WPA)	
Internat. Organization of Psychophysiology (IOP) (Honorary Fellow 1982)	
Internat. Pharmaco-EEG Society (IPEG)	
Polish Sleep Research Society (Honorary Member 1994)	
Internat. Society for Brain Electromagnetic Topography (ISBET) (Founding Member)	
Internat. Society for Neuroimaging in Psychiatry (ISNIP) (Founding Member)	

Organisation of Scientific Congresses

- "Functional States of the Brain", ETP Summer School, Sounion/Greece 1976.
- "Event-Related Potentials in Man: Applications and Problems" Konstanz/Germany 1978.
- "Functional States of the Brain: Their Determinants", Patras/Greece 1979.
- "International Swiss Brain Mapping Meetings",  
Zürich 1988, 1989, 1990, 1991, 1992, 1994.
- "8th World Congress of the Internat. Soc. for Brain Electromagnetic Topography" (ISBET),  
Zürich 1997
- Co-Organizer of various other congresses.
- Invited organizer of various symposia within international congresses.

Editorial Work

IBRO News, Section Editor "Reports", and "Announcements"	1973-1975
Neuroscience Letters (Edit. Board)	1975-1980
Waking and Sleeping (Edit. Board)	1976-1981
J. of Altered States of Consciousness (Edit. Board)	1977-1979
Int. J. of Psychophysiology (Edit. Board)	1983-1999
Neuropsychobiology/Sect. Pharmaco-EEG (Advis. Board)	1984- present
Human Neurobiology (Advisory Board)	1985-1988
Electroenceph. Clin. Neurophysiol. (Consulting Editor)	1986-1996
Brain Topography (Edit. Board)	1988-1999
Springer Series in Brain Dynamics (Edit. Board)	1990-1995
Psychiatry Research: Neuroimaging (Edit. Board)	1990- present
Cognitive Brain Research (Edit. Board)	1992- present

Dissertation Supervision

Supervision of 36 doctoral dissertations in medicine, biology and psychology for the Universities of Zurich and Bern (Switzerland) and Konstanz (Germany).

Stipends, Fellowships and Scientific Honours

Post-Graduate Stipend of the State of France	1961
DAAD Post-Graduate NATO Fellowship	1962
Hans-Berger-Prize of the German EEG Society	1979
Honorary Member, Hungarian EEG Society	1981
Corresponding Member, German EEG Society	1981
Honorary Fellow, Int. Organization of Psychophysiology (IOP)	1982
Senior Scientist Fellow of the Japan Society for the Promotion of Science	1985
Honorary Member, Polish Sleep Research Society	1994
Honorary Doctor of Medicine, University of Jena, Germany	1997
Honorary Emeritus Chairman, International Society for Brain Electromagnetic Topography (ISBET)	2000
Honorary Member, Swiss Society for Biological Psychiatry	2003

Research Work

Development of multichannel evoked ("ERP") and spontaneous ("EEG") brain electric field mapping and of spatial analysis of the brain electric field data (starting in 1968), including intracerebral source and microstate analysis of brain electric fields. Studies of human brain electric field properties in normal and pathological perception, cognition and emotion, incl. effects of medication and hypnosis.

First evoked potential mapping study with dipole source modeling published in 1969 ("EEG Journal"). A 48-channel recording and analysis system became operational in 1969 at the San Francisco lab, resulting in a first paper using numerical spatial analysis (map landscape assessment) of alpha EEG in 1971 ("EEG Journal"). Dipole source modeling in the time domain 1969 ("EEG Journal") and 1978 (IEEE Journal) and in the frequency domain 1990 ("EEG Journal"). Reference-free measures of brain field map strength and map landscape dissimilarity 1980 ("EEG Journal"). Segmentation of brain field map series into temporal, functional microstates using numerical map landscape assessments 1980 ("EEG Journal"), 1983/4 (Int. J. Psychophysiol) and 1987 ("EEG Journal"). Dipole source modelling in the frequency domain ("EEG Journal" 1990). Studies on the functional significance of the brain electric microstates in perception, cognition and emotion, and their pathological aberrations in schizophrenia. Studies on spatial organisation of brain electric activity during emotional states and during altered states of consciousness.