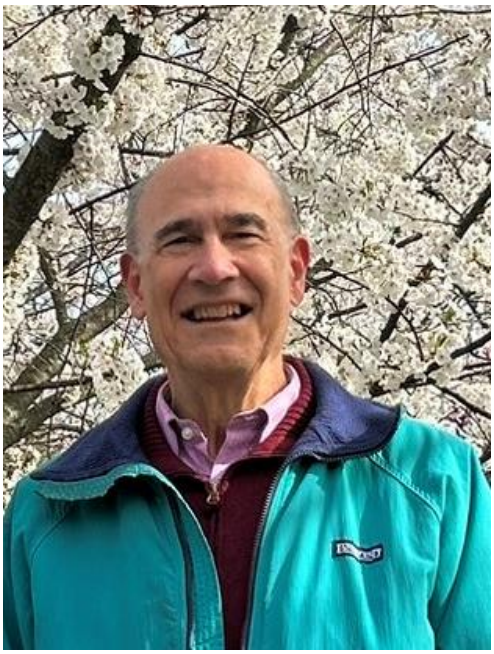
In Memoriam Professor Mark Hallett, MD (1943–2025)

Peter Fuhr

It is with deep sadness that we mark the passing of Professor Mark Hallett, MD, Dr. h.c., an eminent neurologist, researcher, and world-leading scientist whose work significantly advanced our understanding of human movement and motor function.
Among his numerous connections Professor Hallet was also a corresponding member of our Swiss Society of Clinical Neurophysiology (SSCN). He has inspired numerous fellows over the world, among them also almost a dozen of former fellows from Switzerland.



Mark Hallett grew up in Philadelphia, where he first became interested in medicine through his father, who was an ophthalmologist. He later developed an interest in brain functions while studying psychology at high school. He studied biology and medicine at Harvard University, trained as a neurologist at Massachusetts General Hospital, and first came into contact with the National Institutes of Health (NIH) in Bethesda, MD, during a neurophysiology and biophysics fellowship beginning in 1970. In 1975, he became a travelling fellow at the Institute of Psychiatry in London, where David Marsden was his mentor. From 1976 to 1984, he was Chief of the Clinical Neurophysiology Laboratory at Brigham and Women's Hospital in Boston, while also teaching at Harvard Medical School. In 1984, he returned to the NIH (NINDS) as Clinical Director of the Medical Neurology Branch and Chief of the Human Motor Control Section. Following his retirement in 2022, he continued to work at the NIH as a Distinguished Scientist Emeritus, sharing his experience.

Over the years, he served on many national and international organisation committees, including as inaugural president and co-founder of the Functional Neurological Disorder Society (FNDS); president of the International Federation of Clinical Neurophysiology (IFCN); president of the International Parkinson and Movement Disorder Society (MDS); vice-president of the American Academy of Neurology (AAN); and president of the American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM). He also served as editor-in-chief of the Journal *Clinical Neurophysiology*. Also, he was a corresponding member of the Swiss Society of Clinical Neurophysiology (SSCN).

His scientific interests centered on understanding the mechanisms of the nervous system, particularly those involved in the intention, generation and execution of movement.
In addition to the peripheral nervous system, early studies focused on reflexes, such as the H-reflex and disturbances to its reciprocal inhibition, as well as abnormalities in the blink reflex

and exaggerated startle reflexes, which are mechanisms that lead to dystonia and hyperekplexia, respectively. Together with Shahram Khoshbin, he conducted pioneering studies on the role of multimodal evoked potentials in characterising the load of functionally relevant lesions in multiple sclerosis. Subsequently, he studied the physiological mechanisms of the cardinal signs of parkinsonism (rigidity, bradykinesia and akinesia), as well as the role of the cerebellum, particularly in tremor generation. His research into the mechanisms of dystonia was accompanied by one of the first clinical applications of botulinum toxin, particularly for treating dystonic hand cramps and musicians' cramps. In 1990, an orchestra of well-treated instrumentalists performed at a scientific meeting at the NIH. His interest in dystonia (both organic and functional) and tic disorders (involving both voluntary and involuntary movements) led to studies on motor learning and the precise characterization and manipulation of brain plasticity through non-invasive cortical stimulation. This made questions regarding free will accessible to scientific experimentation rather than mere speculation, leading to the conclusion that the intention to move — an important aspect of free will — is actually a subjective perception that arises after movement preparation begins. With regard to functional movement disorders, he and his team were able to describe part of the pathophysiology that produces these clinical phenomena, thereby opening up a new understanding of this field that requires close collaboration between neurology, psychiatry, and psychology.

As well as neuroscience, he enjoyed traveling, becoming acquainted with foreign cultures, and maintaining personal contact with his current and former colleagues. Shortly after his 82nd birthday in October 2025, he passed away surrounded by his family. He is survived by his wife, Judy; his son, Nick; his daughter, Vicky; and his two grandchildren. He is also survived by far more than 100 fellows from all over the world who remember him as an inspiring teacher, an exceptional scientist, and a dear, generous friend.

The Swiss former fellows include Walter Friedli (Basel) from the Brigham and Women’s Hospital period, and David Benninger (Lausanne, Rheinfelden, Basel), Stefan Bohlhalter (Luzern), Ute Gschwandtner (Basel), Alain Kaelin (Lugano), Traian Popa (Lausanne), Heike Russmann (Zurich) and Daniel Waldvogel (Luzern, Zurich) from the NIH period. The author of these lines had the pleasure of being Mark Hallett’s first Swiss fellow at the NIH.

Basel, 09.11.2025, Peter Fuhr