Professor Matti Weckström (1959–2015)

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Professor **Matti Tapani Weckström**, who was a frequent contributor to this journal, died of a sudden illness on 24 October 2015 at the age of 56 years. Matti was born in Helsinki, Finland on 3rd July 1959, but spent most of his youth in the northern town of Rovaniemi, in the Arctic Circle. After his high-school matriculation, Matti was accepted to study medicine at the University of Oulu, Finland, in 1985. While successfully completing his medical studies, Matti still found time for neurophysiology research in the Department of Physiology, where he defended his Ph.D. thesis concerning blowfly (*Calliphora vicina*) vision in 1987. He then continued his research

efforts in Oulu and later at the University of Cambridge, where he worked as a visiting researcher in 1988–1989. Matti was appointed as Docent of Neurophysiology at the University of Oulu in 1990. Since 1998, he held professorships at the University of Oulu in Biophysics, and in 2004 he was appointed to the post permanently.

Biophysics was Matti's great scientific love. He enjoyed exploring nature's biological systems with a physics toolbox, quantifying and making sense of its complexity. Matti's infectious enthusiasm and determination to improve biophysics research and teaching in Finland made the University of Oulu its major seat of learning in Finland.

Matti was an accomplished and talented researcher, who was comfortable with both experiments and theory, and driven by his inherent curiosity. His research was at the interface of physiology, neuroethology, and biophysics, and most often focussed upon how the visual world is encoded into neural signals within the eye. He used different microelectrode techniques to record and characterise electrical response properties and signalling performance of individual photoreceptor cells and visual interneurons in many different insect species. A key early breakthrough in his research involved the first characterisation of voltage-sensitive potassium channels in graded potential neurones in insect eyes. In his most recent, and ongoing studies he pioneered the development of patch-clamp preparations from photoreceptors of numerous and ecologically diverse insect species, with the goal of understanding how membrane conductances (such as light-sensitive channels and voltage-sensitive K channels) were tuned to visual performance. Matti was also involved in studying the biophysical properties of mammalian heart cells and their electromechanical functions. Characteristically, his research often encompassed the development of experimental and theoretical tools for bioelectrical measurements and signal

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analysis, with the joint aim to mathematically model the system he was studying.

As a Ph.D. supervisor, Matti was a gentle instructor. He enjoyed debating with his students about any scientific problem or interpretation of results until the proverbial cows came home. He had a unique knack to instil in his pupils a genuine passion for science by his own example, and keenly taught about the importance of having a rigorous and humble attitude towards science. In the end, Matti managed to guide the completion of 14 doctoral theses, with five projects still ongoing.

Matti collaborated with several research groups in Finland and abroad, and served in many scientific communities and trusts as an expert. Among others, he was a member of the Academy of Finland's natural sciences committee, and worked as a member at the several institutional structures and governing bodies at the University of Oulu.

Besides science, Matti had many interests, including linguistics and world history, with which he was thoroughly familiar. He read extensively, and had exceptionally broad general knowledge. Matti loved good food, wine, cigars, and company. He was a much-liked amateur chef, known for his hospitality and good stories. When Matti spent a few months in Japan with one of us (Kentaro Arikawa), he tried all possible unique varieties of Japanese food and even enjoyed cooking them by himself. Matti's fair and convivial personality was impossible to dislike. His kind-heartedness towards students, colleagues, and friends was

unique and genuine. He is sorely missed by many friends and colleagues.

Selected publications of Prof Weckström

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