

Vestibular neurophysiology: a collection of papers in honor of the career of Jay Goldberg

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Approximately 80 neuroscientists who study the vestibular and auditory systems gathered in Reykholt, Borgarfjörður, Iceland, on 16–17 August 2010, to pay tribute to Jay M. Goldberg. The Reykholt meeting was a satellite of the XXVI Bárány Society Meeting. A photograph and listing of the meeting participants are provided in Fig. 1.

Goldberg started his scientific career in the 1960s studying the processing of auditory signals by the central nervous system. By the 1970s, his interest shifted to the coding of head movements by the vestibular system. In a seminal series of manuscripts, Goldberg and his longtime colleague César Fernández described for the first time the dynamics governing the responses of afferents innervating semicircular canals (Fernández and Goldberg 1971, Goldberg and Fernández 1971a, b) and otolith organs (Fernández and Goldberg 1976a, b, c) to linear and angular accelerations. This work was followed by a second series of heroic experiments establishing that afferent discharge regularity is correlated with innervation patterns as well as the locations of terminals in the neuroepithelium (Fernández et al. 1988, 1990; Baird et al. 1988; Goldberg et al. 1990a, b).

Taken together, this remarkable body of work has set the stage for current and future studies in the field of vestibular neurophysiology.

Goldberg's more recent experiments have continued to provide important new insights into how vestibular signals are transduced in the periphery and transformed as they are processed by the central nervous system. His current work focusing on the synaptic and cellular physiology of receptors and afferents has furthered our understanding of the mechanisms underlying the morphological and physiological diversity of the peripheral vestibular system, thereby providing a crucial foundation on which the next generation of vestibular research will be built. Additionally, in the process of conducting his research, Goldberg has had a profound impact on his students, collaborators, and colleagues. He has not only trained a large fraction of the vestibular neuroscientists who continue to move the field forward, but the influence of his work and his standard of scientific excellence continues to inspire young researchers in the field.

This special issue contains 25 articles submitted by Goldberg's collaborators, colleagues, trainees, and friends, all of whom have been profoundly influenced by his research findings, integrity, and dedication to science. Amongst the articles are 10 reviews and 15 original research studies that discuss how sensory inputs impinging on the inner ear are detected and reflected in the firing of eighth cranial nerve afferents; how the signals are modified as they are processed within the central nervous system; and how they impact a number of behavioral and physiological responses, including the control of balance, eye movements, and blood pressure. These articles are testimony to the accomplishments in the field of vestibular neurophysiology spurred by Goldberg's work during the past 40 years.

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Fig. 1 Photograph of the participants in the August 16–17, 2010 meeting in honor of Jay Goldberg. *Key* 1, Daniel Merfeld, 2, Benton Lawson, 3, Neil Shephard, 4, Nicolas Perez, 5, Elham Khojasteh, 6, Angus Rupert, 7, Sigurður Stefánsson, 8, Ingibjörg Hinriksdóttir, 9, Laurence Young, 10, Alan Brichta, 11, Ian Curthoys, 12, John Carey, 13, Bill Yates, 14, Einar Hjaltsted, 15, Sergei Yakushin, 16, Einar J Einarsson, 17, Bergthora Baldursdóttir, 18, Pierre-Paul Vidal, 19, Anna Hafström, 20, Maurice Chacron, 21, Eva-Maj Malmström, 22, Omar Main, 23, Brian Day, 24, Steve Lisberger, 25, Richard Penninger, 26, Arthur Mallinson, 27, Richard Fitzpatrick, 28, Wuqing Wang, 29, Neil Longridge, 30, Margaret Sharpe, 31, Rebecca Lim, 32, Päivi Jordan, 33, Paul Smith, 34, Shawn Newlands, 35, Cynthia Darlington, 36, James Phillips, 37, Chang-Hee Kim, 38, Hiroyuki Ito, 39, Bernhard Hess, 40, Oz Zur, 41, Eric Young, 42, Shelley Cross, 43,

Hans Straka, 44, Itsaso Olasagasti, 45, Kathleen Cullen, 46, Ruth Anne Eatock, 47, Lloyd Minor, 48, Robby Vanspauwen, 49, Chunfu Dai, 50, Mans Magnusson, 51, Junko Fukushima, 52, Julia Długaiczek, 53, Kikuro Fukushima, 54, Robert Schor, 55, Graham Barnes, 56, Anna Lysakowski, 57, Jay Goldberg, 58, Floris Wuyts, 59, Jocelyn Songer, 60, Chris Holt, 61, Bill Brownell, 62, Meir Plotnik, 63, Stuart Mossman, 64, Beth Lange, 65, Francois Asseman, 66, Shilpa Chatlani, 67, Charley Della Santina, 68, Giuseppe Agus, 69, Dora Angelaki, 70, Dianne Broussard. *Participants not shown* Francesco Boselli, Sascha Du Lac, Lisa Goulart, David Hampson, Timothy Hullar, Rolf Johansson, Michael Katekar, Eva Noring, Richard Rabbitt, Mario Ruggero, Jessica Vitkovic. Photo by Floris Wuyts

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