

Jakob Christensen-Dalsgaard
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Sound Communication and Behaviour
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Born: July 12th, 1961 in Lyngby, Denmark. Married, two children (born 1995 and 2000)
Position: Associate professor at the Institute of Biology, Odense University [now University of Southern Denmark], Denmark since Jan. 1st, 1999
Publications: Publications:113 (including two patents); 105 peer-reviewed journal papers and book chapters,35 first-authorships, last-authorship 21.
Research focus: Comparative studies of hearing and sound communication, neurophysiology, biophysics and biorobotics, evolution of hearing
Invited lectures 2016-2020: 8, including lectures at Columbia University, Foster lecture in physiology, Cambridge
Popular lectures: approximately 20 (Vin&Videnskab KU, Bloom Festival 2020, Folkeuniversitetet)
Co-organizer of four international symposia (and eight ISAAR symposia)
Co-PI of the Center for Biorobotics, SDU
Member of the board of the Danavox Jubilee Foundation (vice chairman), organizing the International Symposia of Auditory and Audiological Research (ISAAR) (<https://www.isaar.eu/index.php>)
Member of the board of the Danish Acoustical Society
Member of the advisory board for Journal of Comparative Physiology A
Member of the advisory board of the company Bionic Systems Solutions

Member of Society for Neuroscience, International Society of Neuroethology, Association for Research in Otolaryngology
Associate editor for Behavioral Ecology and Sociobiology (2004- 2012), Journal of Music and Meaning
Grants 2015-2020: FNU project 2013-2016, approx.. 1 mio. DKR, SDU 2020 grant, approx. 10 mio. DKR (Center for Biorobotics, co-director), Carlsberg 2017, 200000 DKR (laser vibrometer) Oticon Foundation 2015,2017: 100000 DKR (support for phd summer schools) Company of Biologists: 1500 GBP (support for symposium) CNRS 2015: approximately 2500 EUR (support for field trip to French Guyana), Carlsberg 2019 30000 DKR (support for field trip to South Africa)
Current external collaborators: Catherine Carr, University of Maryland, Christine Köppl, Universität Oldenburg, Geoffrey A. Manley, Universität Oldenburg, John Hallam, SDU, Peter T. Madsen, AU, Mark Bee, University of Minnesota, Kim Hoke, Colorado State University; Yezhong Tang, CAS, Chengdu, Ulrike Sienknecht, Universität Oldenburg, Darcy Kelley, Columbia University, Leo van Hemmen, TU-Munich

Referee for: PNAS, Nature Communication, Science, Current Biology, Proceedings of the Royal Society B, Biological Reviews, Journal of Experimental Biology, JARO, Journal of Comparative Physiology A, Hearing Research, Bioacoustics, Journal of the Acoustical Society of America, Auditory Neuroscience, Comparative Biochemistry and Physiology, Behavioral Ecology and Sociobiology, Copeia, Brain Behavior and Evolution,, Naturwissenschaften, Israel Science Foundation, DFG and NSF
M.Sc and Phd production : 10 Phd's, 20 MSc . Served on 7 internal and two external phd-committees, four internal job committees and four external (2 DTU, 2 US tenure committees)

Chairman of the departmental study board.

Summary of own research

My research focus is on the function and evolution of the middle ear. The research is broadly comparative (spanning research animals from lungfish to mammals) and uses a variety of approaches, both anatomical, biophysical (laser vibrometry), neurophysiological (single unit recordings and evoked auditory potentials) , and mathematical modelling and biorobotics. My laboratory has developed a new method for measuring auditory evoked potentials that have been especially useful in comparative studies of hearing, for example in comparing hearing in air and underwater in aquatic or semiaquatic animals. My comparative studies of hearing in lungfish, amphibians and reptiles have led to the first unified model explaining how early tetrapods could hear without a functioning middle ear and to what evolutionary requirements lead to a functioning middle ear. Another main finding has been the characterization of the uniquely directional lizard ear, where biorobotic modelling has led to patents and technological applications, general models of directional hearing in frogs, lizards and birds, and models of hearing and bone conduction in atympanate vertebrates. The recent research focus has been on development of the middle ear in frogs, birds and lizards, where the experiments

have just been concluded in a phd project on the development of the ear in the Natterjack Toad (Tanya Lauridsen, to finish end of 2020).