Professor Mads Græsbøll Christensen, dr.techn., Ph.D. (November 6, 2022)

Contact Info

Audio Analysis Lab
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Personal Info

Place & Date of Birth: March 4 1977, Copenhagen, Denmark. Citizenship: Danish

Research Interests

Audio & acoustics, signal processing, machine learning, media technology, information technology, biomedical engineering.

Recent Positions

Head of Doctoral School, Technical Faculty of IT & Design, Aalborg University	**12/2018–present**
Full Professor, Dept. of Arch., Design & Media Technology, Aalborg University	**01/2016–present**
Head of Research Group, Audio Analysis Lab, Aalborg University	**01/2012–present**
Professor (WSR), Dept. of Arch., Design & Media Technology, Aalborg University	**09/2013–12/2015**
Assoc. Prof., Dept. of Arch., Design & Media Technology, Aalborg University	**09/2009–08/2013**
Assistant Professor, Dept. of Electronic Systems, Aalborg University	**01/2008–08/2009**

Executive Education

Executive Management Programme (1/2022–06/2022), INSEAD, Scandinavian Executive Institute.

Leading the Virtual Company (Pasteur Program) (1/2015–11/2015), Harvard Business School, Executive Education.

Research Management (5/2012–11/2012), Copenhagen Business School, CBS-SIMI Executive.

Academic Degrees

Dr.techn. (Awarded May 2022), Aalborg University. Thesis committee: S. Serafin, P. Naylor, and G. Richard.

Ph.D. in Electrical Engineering (Awarded Dec 2005), Aalborg University. Advisors: S. H. Jensen and S. V. Andersen. Thesis committee: B. Fleury, M. Goodwin, and J. Herre.

M.Sc. in Signal Processing (Awarded Jun 2002), Aalborg University. Advisors: S. H. Jensen and C. A. Rødbro. Thesis committee: H. B. D. Sørensen and J. A. Sørensen.

Visiting Positions

Visiting positions at University of Santa Barbara (Santa Barbara, USA), Columbia University (New York City, USA), Ecole Nationale Supérieure des Télécommunications (Paris, France), Philips Research Labs (Eindhoven, The Netherlands).

Publications & Citations

78 papers in peer-reviewed journals, 191 papers in peer-reviewed conf. proceedings, 4 books, 6 patents. Citation statistics (Google Scholar 14-09-2022): total 4383, h-index 30, i10-index 124.

Google Scholar	https://scholar.google.dk/citations?user=B9u6nO8AAAAJ
ORCID	https://orcid.org/0000-0003-3586-7969
Scopus	https://www.scopus.com/authid/detail.uri?authorId=8507457400
ResearcherID	http://www.researcherid.com/rid/I-4132-2018

Supervision

Currently supervising/co-supervising 3 Postdoc(s)s, 5 Ph.D. student(s) (18 graduated at AAU) and 0 M.Sc. student(s) (14 graduated).

Selected Honours & Awards

Elected **Fellow of the Danish Academy of Technical Sciences 2017**. Its members are research directors, business executives, leading researchers and experts within their field.

European Association for Signal Processing (EURASIP) Early Career Award 2016 awarded annually to an outstanding researcher and engineer at an early or mid-stage of their career, *for significant contributions to statistical processing of audio and speech signals*.

IEEE Signal Processing Society Outstanding Editorial Board Member Recognition Award 2016 *for outstanding editorial board service for the IEEE Transactions on Audio, Speech, and Language Processing*.

Co-author of paper entitled *Sparse linear prediction and its applications to speech processing* that received an **IEEE Signal Processing Society Young Author Best Paper Award 2014**.

Statoil Prize 2013, awarded annually to an especially talented young researcher at a Danish university who has a strong research track record and has made an impact internationally (100,000 DKK).

Recipient of **VILLUM Young Investigator 2012** grant awarded to especially talented up-and-coming researchers in science and technology with ambitions of creating their own, independent research identity.

A **Danish Independent Research Council's Young Researcher's Award 2007**, awarded to talented, young researchers who have carried out research of a very high quality within their field (200,000 DKK).

Spar Nord Foundation's Research Prize 2006, awarded annually for an excellent Ph.D. thesis at Aalborg University (250,000 DKK).

IEEE Int. Conf. Acoust., Speech, Signal Proc. 2006 Student Paper Contest Award, for *Computationally Efficient Amplitude Modulated Sinusoidal Audio Coding using Frequency-Domain Linear Prediction*.

SELECTED RESEARCH GRANTS

Principal Investigator, Villum Synergy Grant, Edge AI for High Stability-Robustness of Power Electronics in Modern Power Systems, (total: 3,000,000 DKK) 2021–2023.

Main Supervisor, Innovation Fund Denmark, Industrial Postdoc program (with ACEZone), *Perceptually Optimized Multi-Channel Active Noise Cancellation for Gaming Headsets*, (total: 895,000 DKK) 2020-2021.

Main Supervisor, Innovation Fund Denmark, Industrial PhD program (with Jabra), *Speech prediction-based ANC systems*, (total: 2,1950,000 DKK) 2020-2023.

Main Supervisor, Innovation Fund Denmark, Industrial PhD program (with Capturi), *Enhancing Speech Recorded with Multiple Devices*, (total: 2,000,000 DKK) 2019-2022.

Co-Investigator, NordForsk Nordic University Hubs, *Nordic Sound and Music Computing Network (NordicSMC)* (total: 27,000,000 DKK) 2018-2023.

Co-Investigator, Aalborg University Strategic Interdisciplinary Research Projects, *Secure Estimation and Control Using Recursion and Encryption (SECURE)* (share: 1,500,000 DKK, total 8,000,000 DKK) 2018-2020.

Principal Investigator, Danish Council for Independent Research, *Signal Processing for Diagnosis of Parkinson's Disease from Noisy Speech* (share: 6,500,000 DKK, total 6,500,000 DKK) 2015–2019.

Principal Investigator, Innovation Fund Denmark, *Signal processing for detecting the cocktail party problem and methods for enhancing listening in noisy situations (COCKTAIL)* (share: 5,900,000 DKK, total: 11,600,000 DKK) 2014–2018.

Principal Investigator, Villum Foundation's Young Investigator Programme, *Spatio-Temporal Filtering Methods for Enhancement and Separation of Speech Signals* (share: 7,000,000 DKK, total: 7,000,000 DKK) 2012–2017.

Co-Investigator, Danish Strategic Research Council, grant no. 11-115328, *A Cognitive Systems Approach to Enriched and Actionable Information from Audio Streams (CoSound)* (share: 1,250,000 DKK, total: 17,500,000 DKK) 2012–2015.

SELECTED PROFESSIONAL SERVICE

General Chair, International Workshop on Acoustic Signal Enhancement (2024).

Chair, EURASIP Acoustic, Sound and Music Signal Process. TAC (2022–present).

Editor-in-Chief of EURASIP Journal on Audio, Speech, and Music Processing (2019–present).

Senior Area Editor, IEEE Signal Processing Letters (2018–present).

Member of IEEE Audio and Acoustic Signal Processing TC (2015–2020).

Member of IEEE SPS Data Science Initiative (2017–2018).

Vice-Chair, EURASIP Acoustic, Sound and Music Signal Process. TAC (2019–2021).

Founding Member, EURASIP Acoustic, Sound and Music Signal Process. TAC (2015–2021).

Associate Editor IEEE/ACM Trans. Audio, Speech, and Language Processing (2013–2017).Associate Editor IEEE Signal Processing Letters (2009–2013).

Technical Program Co-Chair IEEE WASPAA (2017).

SELECTED PUBLICATIONS

M. G. Christensen and A. Jakobsson, *Multi-Pitch Estimation*, ser. Synthesis Lectures on Speech & Audio Processing. Morgan & Claypool Publishers, 2009, vol. 5, 160 pages (Google Scholar: 259 citations).

D. Giacobello, M. G. Christensen, M. N. Murthi, S. H. Jensen, and M. Moonen, "Sparse linear prediction and its applications to speech processing," *IEEE Trans. Audio, Speech, Language Process.*, vol. 20(5), pp. 1644–1657, 2012 (Google Scholar: 162 citations).

H. Laurberg, M. G. Christensen, M. D. Plumbley, L. K. Hansen, and S. H. Jensen, "Theorems on positive data: On the uniqueness of NMF," *Computational Intelligence and Neuroscience*, vol. 2008, Article ID 764206 (Google Scholar: 203 citations).

M. G. Christensen and A. Jakobsson, "Optimal filter designs for separating and enhancing periodic signals," *IEEE Trans. Signal Process.*, vol. 58(12), pp. 5969–5983, 2010 (Google Scholar: 53 citations).