

Curriculum vitae R. Heusdens

Education

- M.Sc. in Electrical Engineering, Delft University of Technology, the Netherlands (1992).
- Ph.D. in Electrical Engineering, Delft University of Technology, the Netherlands (1997).

Current position

- Associate Professor, faculty of Electrical Engineering, Mathematics and Computer Science, Delft University of Technology.
- Guest professor, Audio Analysis Lab, Aalborg University.
- Head of the Audio and Acoustic Signal Processing lab; responsible for the field of audio/speech/video processing, distributed signal processing, and information theory.
- Master coordinator of the M.Sc. programme Signals and Systems, a track within the Masters programme in Electrical Engineering.

Concurrent and Earlier Appointments

- Guest professor, Dept. of Speech, Music, and Hearing, KTH (Royal Institute of Technology), Stockholm, Sweden (2007).
- Visiting researcher, Dept. of Speech, Music, and Hearing, KTH (Royal Institute of Technology), Stockholm, Sweden (2000).
- Scientific Researcher, Digital Signal Processing Group, Philips research Laboratories, Eindhoven, the Netherlands (1992-1997). Worked in the field of image/video processing

Research supervision

- Graduated Ph.D. students: O.A. Niamut (2006), J. Østergaard (cum laude, 2007), R.C. Hendriks (cum laude, 2007), C.H. Taal (2013), J.A. Martínez Castañeda (2013).
- Supervision of postdocs and senior researchers at Delft University of technology
- Opponent or member Ph.D. committee of 15 Ph.D. defendants.

Quality indicators

- Google Scholar h-index 23, i10-index 58.
- VIDII Innovational Research Incentives grant (2002) for individuals of outstanding talent and originality (successful candidates will be among the top 10% of their peer group).
- Supervisor EURASIP best PhD thesis award 2013.
- IEEE Signal Processing Society Best Paper Award, 2016.
- IEEE ICASSP Best Student Paper Award AASP track, 2015.
- 15 EU/US patents, over 160 refereed journal/conference papers.

Selected Professional Activities

- Member of the executive board of the IEEE Benelux Signal Processing Chapter.
- Member of the jury for both the Dutch and Belgian Research Foundation (STW and FWO/IWT, respectively).
- External examiner, University of Dublin (Trinity College) for the M.Sc. Integrated Systems Design
- Organizer and technical chair of the IEEE Benelux Signal Processing Symposium (april 2010 and may 2017)
- Associate editor of the EURASIP JASP and EURASIP JASMP.
- Area chair for the technical program EUSIPCO 2002/2016

Selected publications

- [1] S. Möller and R. Heusdens. Objective Estimation of Speech Quality for Communication Systems. *Proceedings of the IEEE*, vol. 101, no. 9, pp. 1955-1967, 2013.
- [2] C.H. Taal, R.C. Hendriks and R. Heusdens. A Low-complexity Spectro-Temporal Distortion Measure for Audio Processing Applications. *IEEE Trans. on Audio, speech and language Processing*, vol. 20, no. 5, pp. 1553-1564, 2012. Signal Processing Society Best Paper Award 2016.
- [3] I. Jager, R. Heusdens and N.D. Gaubitch. Room Geometry Estimation from Acoustic Echoes using Graph-Based Echo Labeling. *IEEE Int. Conf. Acoust., Speech, Signal Processing (ICASSP)*, Shanghai, China, March 2016. Winner Best Student Paper Award track AASP.
- [4] G. Zhang and R. Heusdens. Linear Coordinate-Descent Message-Passing for Quadratic Optimization. *Neural Computation*, 2012.
- [5] C.H. Taal, R.C. Hendriks, R. Heusdens and J. Jensen. An Algorithm for Intelligibility Prediction of Time-Frequency Weighted Noisy Speech. *IEEE Trans. on Audio, speech and language Processing*, vol. 19, no. 7, pp. 2125-2136, 2011.
- [6] C.H. Taal, R.C. Hendriks, R. Heusdens and J. Jensen. An Evaluation of Objective Measures for Intelligibility Prediction of Time-Frequency Weighted Noisy Speech. *Journal of the Acoustical Society of America*, vol. 130, no. 5, pp. 3013-3027, 2011.
- [7] J.A. Martínez Castañeda and R. Heusdens. On Low-Complexity Simulation of Multichannel Room Impulse Responses. *IEEE Signal Processing Letters*, vol. 17, no. 7, pp. 667 - 670, 2010.
- [8] J. Østergaard, R. Heusdens and J. Jensen. n -Channel Asymmetric Entropy-Constrained Multiple-Descriptio Lattice Vector Quantization, *IEEE Trans. on Information Theory*, vol. 56, no. 12, December 2010.
- [9] G. Zhang, R. Heusdens and W.B. Kleijn. On the convergence rate of the bi-alternating direction method of multipliers. *IEEE Int. Conf. Acoust., Speech, Signal Processing*, pp. 3869 - 3873, 2014.
- [10] R. Heusdens and N.D. Gaubitch. Time-delay estimation for TOA-based localization of multiple sensors. *IEEE Int. Conf. Acoust., Speech, Signal Processing*, pp. 609 - 603, 2014.
- [11] G. Zhang and R. Heusdens. Proximal alternating-direction message-passing for MAP LP relaxation. *IEEE Int. Conf. Acoust., Speech, Signal Processing*, pp. 3402-3406, 2013.
- [12] N.D. Gaubitch, W.B. Kleijn and R. Heusdens. Auto-localization in ad-hoc microphone arrays. *IEEE Int. Conf. Acoust., Speech, Signal Processing*, pp. 106-100, 2013.
- [13] G. Zhang and R. Heusdens. Bi-alternating direction method of multipliers. *IEEE Int. Conf. Acoust., Speech, Signal Processing*, pp. 3317-3321, 2013.
- [14] G. Zhang and R. Heusdens. Simplified alternating-direction message passing for dual MAP LP-relaxation. *IEEE Int. Conf. Acoust., Speech, Signal Processing*, pp. 3397-3401, 2013.
- [15] G. Zhang and R. Heusdens. Convergence of generalized linear coordinate-descent message-passing for quadratic optimization. *IEEE Int. Symp. on Information Theory*, pp. 1997-2001, 2012.
- [16] R. C. Hendriks, R. Heusdens and J. Jensen. MMSE Based Noise PSD Tracking With Low Complexity, *IEEE Int. Conf. Acoust., Speech, Signal Processing*, pp. 4266-4269, 2010.