

This is the programme for ISAAR 2011

International Symposium on  
Auditory and Audiological Research

**ISAAR 2011**

**24-26 August 2011**

**Hotel Nyborg Strand, Nyborg, Denmark**

**Title: "Speech perception and auditory disorders"**

[List of posters](#)

**Wednesday 24 August 2011**

08:00-10:00 *Registration and hanging of posters*

10:00-10:25 Torsten Dau: Welcome and introduction to the symposium

**Session 1: Indicators of hearing impairment and measures of speech perception**

10:25-11:00 Barbara Canlon: Mechanisms underlying damage to the peripheral and central auditory pathway and new strategies to protect against these disorders

11:00-11:35 Teresa Y. C. Ching: Audibility and speech intelligibility revisited: Implications for hearing rehabilitation The importance

11:35-12:10 Brian C. J. Moore: The importance of temporal fine structure for the intelligibility of speech in complex backgrounds

12:10-13:10 *Lunch*

13:10-13:45 Joshua G. W. Bernstein: Controlling signal-to-noise ratio effects in the measurements of speech intelligibility in fluctuating maskers

13:45-14:20 Thomas Brand: Recognition rates and linguistic processing: Do we need new measures of speech perception?

14:20-14:40 *Coffee break*

14:40-15:00 Inga Holube: Speech intelligibility in fluctuating maskers

15:00-15:20 Iris Arweiler: Speech intelligibility with binaurally linked hearing aids

15:20-15:40 Niklas Rönnberg: Testing listening effort for speech comprehension

15:40-16:10 *Coffee break*

16:10-16:30 Tobias Neher: Auditory and cognitive contributions to hearing-impaired listeners' localization and spatial speech recognition performance

16:30-16:50 Mary Florentine: Measures of ecological loudness of speech

16:50-17:10 Birgitta Larsby: Working memory capacity and lexical access in speech recognition in noise

**17:10-19:00 Poster session I**

19:00-20:00 *Dinner*

20:00-22:00 *Drinks in the poster area*

**Thursday 25 August 2011**

**Session 2: Neural representation of complex sounds and speech in the auditory brain**

08:30-09:05 Bertrand Delgutte: Neural Mechanisms for hearing in everyday acoustic environments: Reverberation and competing sound sources

09:05-09:40 Samira Anderson: cABR - A neural probe of speech-in-noise processing

09:40-10:15 Jan Wouters: Auditory steady state responses in cochlear implants

10:15-10:45 *Coffee break*

10:45-11:20 Jonas Obleser: From sound to meaning: Neural mechanisms of comprehension in degraded speech

11:20-11:55 Milene Bonte: Dynamic and task-dependent encoding of speech and voice in the auditory cortex

12:00-13:00 *Lunch*

### Session 3: Models of speech processing and perception

13:00-13:35 Jont Allen: Sources of consonant perceptual errors in normal and hearing-impaired ears

13:35-14:10 Richard M. Stern: Applying physiologically-motivated models of auditory processing to automatic speech recognition

14:10-14:45 Birger Kollmeier: Modeling sensory and cognitive aspects of speech intelligibility in complex listening environments for normal-hearing and hearing-impaired listeners

14:45-15:15 *Coffee break*

15:15-15:35 Søren Jørgensen: Predicting speech intelligibility in adverse conditions: Evaluation of the speech-based envelope power spectrum model

15:35-15:55 Tobias S. Andersen: Ordinal models of audio-visual speech perception

15:55-16:15 Stefan Stenfelt: A model for prediction of own voice alteration with hearing aids

### **16:30-18:30 Poster Session II**

19:00-20:30 *Dinner*

20:30-22:30 *Bar*

Friday 26 August 2011

### Session 4: Recent concepts in hearing-instrument processing and fitting

08:30-09:05 Joachim Müller-Deile: Procedures for fitting and evaluation of cochlear-implant speech processors

09:05-09:40 Chris Halpin: Re-focussing on the clinical targets

09:40-10:15 Andreas Büchner: Electric-acoustic stimulation in cochlear-implant subjects

10:15-10:45 *Coffee break*

10:45-11:05 Stephan D. Ewert: Model-based hearing-aid gain prescription rule

11:05-11:25 Zachary M. Smith: Towards improved speech perception with cochlear implants: Increasing spectral resolution

11:25-11:45 Jorge Mejia: The effect of a linked bilateral noise-reduction processing on speech-in-noise performance

11:45-12:05 Michael Fisher: Adaptively setting maximum output of a hearing aid with reference to speech: The effect on speech and noise perception

12:05-12:15 *Closing remarks*

12:15-13:30 *Lunch*

14:00 *Departure*

List of posters (Alphabetical order, first author's family name)

**Side-Effects of Binaural Tone Vocoding on Recognising Target Speech Presented Against Spatially Separated Speech Maskers**

Martin R. Andersen, Michael S. Kristensen, Tobias Neher, Thomas Lunner  
Eriksholm Research Centre, Oticon A/S, Snekkersten, Denmark

**Speech-inherent Functional Onomatopoeia as a Basis for Emotional Analysis of Phones**

Jens Blauert  
Ruhr-Universitaet Bochum, Bochum, Germany

**Perceptual effects of noise reduction in hearing aids**

I. Brons, R. Houben, W.A. Dreschler  
Academical Medical Center (AMC), Amsterdam, The Netherlands

**Acoustic simulation of cochlear implant hearing**

Anja Chilian, Tamas Harczos  
Fraunhofer IDMT, Ilmenau, Germany

**Predicting consonant recognition based on modulation-frequency specific processing**

Claus Christiansen, Torsten Dau  
Center for Applied Hearing Research, Technical University of Denmark, Lyngby, Denmark

**Modeling Auditory Grouping based on a Temporal Coherence Analysis**

Simon K. Christiansen, Morten L. Jepsen, Torsten Dau  
Centre of Applied Hearing Research, Technical University of Denmark, Lyngby, Denmark

**Information-based Speech Transduction**

Thomas Ulrich Christiansen<sup>1</sup>, Peter Juel Henriksen<sup>2</sup>  
<sup>1</sup> Centre of Applied Hearing Research, Technical University of Denmark, Lyngby, Denmark  
<sup>2</sup> Copenhagen Business School, Copenhagen, Denmark

**Benefits common vocabulary in hearing aid fitting**

Carsten Daugaard<sup>1</sup>, Lone Elmelund<sup>2</sup>  
<sup>1</sup> DELTA, Odense, Denmark  
<sup>2</sup> South Danish University, Audiology, Odense, Denmark

**Psychosocial factors affecting Hearing aid adjustment**

Carsten Daugaard<sup>1</sup>, Derya Ceylan<sup>2</sup>, Wiebke Hudemann<sup>3</sup>  
<sup>1</sup> DELTA, Odense, Denmark  
<sup>2</sup> GN Resound, Ballerup, Denmark  
<sup>3</sup> Gentofte University Hospital, Gentofte, Denmark

**Speech-specific audiovisual integration: Dissociating identification and detection**

Kasper Eskelund<sup>1</sup>, Jyrki Tuomainen<sup>2</sup>, Tobias S. Andersen<sup>1</sup>  
<sup>1</sup> DTU Informatics, Section for Cognitive Systems, Technical University of Denmark, Lyngby, Denmark  
<sup>2</sup> University College London, Speech Hearing and Language Sciences, London, UK

**Objective Measurement of Listening Effort While Using First & Second Language In Simulated Cochlear Implant**

A. C. Ganesh, Vijitha Sunny  
Dr M V Shetty College of Speech & Hearing, Mangalore, India

**Spatial cue reproduction in modern state of the art receiver in the ear hearing instruments**

Fredrik Gran, Jesper Rye Boennelykke, Todd Fortune, Astrid Haastrup, Jesper Udesen, Tobias Piechowiak and Andrew Dittberner  
GN ReSound A/S, Ballerup, Denmark

**Horizontal-plane localization with bilateral cochlear implants using an auditory model based speech processing strategy**

Tamas Harczos<sup>1</sup>, Anja Chilian<sup>2</sup>, Andras Katai<sup>1</sup>

1 Fraunhofer IDMT, Ilmenau, Germany  
2 Ilmenau University of Technology

**Comparative evaluation of cochlear implant coding strategies via a model of the human auditory speech processing**

Tamas Harczos<sup>1</sup>, Stefan Fredelake<sup>2</sup>, Volker Hohmann<sup>2</sup>, Birger Kollmeier<sup>2</sup>  
1 Fraunhofer IDMT, Ilmenau, Germany  
2 Universität Oldenburg, Oldenburg, Germany

**Hearing Aid Compression: Effects of Channel Bandwidth on Perceived Sound Quality**

Ole Hau, Anne Mette Kragh Jeppesen  
Widex, Lynge, Denmark

**Comparing hearing aid algorithm performance using Simulated Performance Intensity Functions**

Andrew Hines, Naomi Harte  
Dept Electronic and Electrical Engineering, Trinity College Dublin, Dublin, Ireland

**The influence of noise type on the preferred setting of a noise reduction algorithm**

R. Houben<sup>1</sup>, T.M.H. Dijkstra<sup>2</sup>, W.A. Dreschler<sup>2</sup>  
1 Academic Medical Center (AMC), Amsterdam, The Netherlands  
2 Radboud University Nijmegen, The Netherlands

**Confusion of Danish consonants in white noise**

Morten L. Jepsen, Torsten Dau  
Centre for Applied Hearing Research, Technical University of Denmark, Lyngby, Denmark

**Spectral envelope cues for voice gender perception in cochlear implant users**

Damir Kovacic<sup>1</sup>, Evan Balaban<sup>2</sup>  
1 School of Medicine, University of Split, Croatia  
2 McGill University, Canada

**Computational auditory models validate the intelligibility benefits of “efficient filters”**

Abigail A. Kressner, Christopher J. Rozell, David V. Anderson  
School of Electrical and Computer Engineering at the Georgia Institute of Technology, Atlanta, Georgia, USA

**Assessment of auditory processing in children demonstrating symptoms of (Central) Auditory processing disorder (C)APD**

Susanne Köbler<sup>1</sup>, Elsa Erixon<sup>1</sup>, Åsa Sahlberg<sup>1</sup>, Sofie Järlesäter<sup>1</sup>, Anne Strand<sup>1</sup>, Hans-Christian Larsen<sup>1</sup>, Konrád Konrádsson<sup>1</sup>, Farah Razi<sup>2</sup>  
1 Uppsala University hospital, Uppsala, Sweden  
2 Hearing Clinic Uppsala, Uppsala, Sweden

**A review of speech masking release for hearing-impaired listeners with near-normal perception of speech in unmodulated noise maskers**

Agnes Léger<sup>1,2,3</sup>, Brian C. J. Moore<sup>4</sup>, Christian Lorenzi<sup>1,2,3</sup>  
1 Equipe Audition, Département d'Etudes Cognitives, École normale supérieure, Paris, France  
2 Laboratoire Psychologie de la Perception, Université Paris Descartes, Paris, France  
3 UMR CNRS 8158, Paris, France  
4 Department of Experimental Psychology, University of Cambridge, Cambridge, UK

**The effects of use of a level-dependent frequency resolution for robust speech recognition**

Hari Krishna Maganti  
Fondazione Bruno Kessler – IRST, Povo, Trento, Italy

**Just noticeable difference of F0 variation in simulated cochlear implant listening in modulated and stationary noise**

David Morris  
University of Copenhagen, Institute of Scandinavian Studies and Linguistics, Copenhagen, Denmark

**Psychometric measurements for speech intelligibility in different noise types (after wide dynamic range compression) for normal-hearing and hearing-impaired listeners**

Thijs Maalderink, Koenraad S. Rhebergen, Wouter. A. Dreschler

Clinical and Experimental Audiology, Amsterdam Medical Center, The Netherlands

### **The Inside Scoop on In-Situ Testing**

Jenny Nesgaard Pedersen, Peter Daniel Zeuthen  
GN ReSound A/S, Ballerup, Denmark

### **Towards a Danish speech material for speech-on-speech masking investigations**

Jens Bo Nielsen<sup>1</sup>, Tobias Neher<sup>2</sup>, Torsten Dau<sup>1</sup>  
<sup>1</sup> Centre of Applied Hearing Research, Technical University of Denmark, Lyngby, Denmark  
<sup>2</sup> Eriksholm Research Center, Oticon A/S, Snekersten, Denmark

### **Fast and intuitive methods for characterizing hearing loss**

Dirk Oetting<sup>1</sup>, Birger Kollmeier<sup>1,2</sup>, Stephan D. Ewert<sup>1,2</sup> and Thomas Rohdenburg<sup>1</sup>  
<sup>1</sup> Fraunhofer Institute for Digital Media Technology, Oldenburg, Germany  
<sup>2</sup> University of Oldenburg, Medical Physics, Oldenburg, Germany

### **Measuring sensitivity to temporal fine structure in older adults with sensorineural hearing loss**

Elvira Perez, Barrie Edmonds, Abby McCormack  
NIHR National Biomedical Research Unit in Hearing, Nottingham, UK

### **Clinical Measures of Static and Dynamic Spectral Pattern Discrimination in Relationship to Speech Perception**

Robert Risley, Stanley Sheft, Valeriy Shafiro  
Rush University Medical Center, Dept. Communication Disorders & Sciences, Chicago, USA

### **Low-frequency versus high-frequency synchronisation in chirp-evoked auditory brainstem responses**

Filip Munch Rønne, Kristian Gøtsche-Rasmussen  
Centre for Applied Hearing Research, Technical University of Denmark, Lyngby, Denmark

### **Speech intelligibility as a function of time compression, age, word position, and signal-to-noise ratio**

Anne Schlueter<sup>1</sup>, Inga Holube<sup>1</sup>, Ulrike Lemke<sup>2</sup>  
<sup>1</sup> Institute of Hearing Technology and Audiology, Jade University of Applied Sciences, Oldenburg, Germany  
<sup>2</sup> Phonak AG, Stäfa, Switzerland

### **Distortion Product Otoacoustic Emissions (DPOAE) after exposure to noise and music of equal energy**

Jesper Hvass Schmidt<sup>1,2,3</sup>, E. R. Pedersen<sup>1,3</sup>, B. Petersen<sup>4</sup>, J. Bælum<sup>1,3</sup>, P. Vuust<sup>4,5</sup>  
<sup>1</sup> Dept. of Occupational and Environmental Medicine, Odense University Hospital, Odense, Denmark  
<sup>2</sup> Dept. of Audiology Odense University Hospital, Odense, Denmark  
<sup>3</sup> Institute of Clinical Research, University of Southern Denmark, Odense, Denmark  
<sup>4</sup> The Royal Academy of Music, Aarhus, Denmark  
<sup>5</sup> Center of Functionally Integrative Neuroscience, Aarhus University, Aarhus, Denmark

### **Tinnitus, hyperacusis and their relation to hearing loss in professional symphony orchestra musicians**

Jesper Hvass Schmidt<sup>1,2,3</sup>, E. R. Pedersen<sup>1,3</sup>, H. Paarup<sup>1,3</sup>, T. Andersen<sup>2,3</sup>, J. Christensen-Dalsgaard<sup>4</sup>, T. Poulsen<sup>5</sup>, J. Bælum<sup>1,3</sup>  
<sup>1</sup> Dept. of Occupational and Environmental Medicine, Odense University Hospital, Odense, Denmark  
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<sup>3</sup> Institute of Clinical Research, University of Southern Denmark, Odense, Denmark  
<sup>4</sup> Institute of Biology, Centre for Sound Communication, University of Southern Denmark, Odense, Denmark  
<sup>5</sup> Centre for Applied Hearing Research, Department of Electrical Engineering, Technical University of Denmark, Lyngby, Denmark

### **Predictive measures of the intelligibility of speech processed by noise reduction algorithms**

Karolina Smeds<sup>1</sup>, Florian Wolters<sup>1,2</sup>, Arne Leijon<sup>3</sup>, Anders Nilsson<sup>1,3</sup>, Sara Båsjö<sup>1</sup>, Sofia Hertzman<sup>1</sup>  
<sup>1</sup> ORCA Europe, Widex A/S, Stockholm, Sweden  
<sup>2</sup> University of Applied Sciences, Oldenburg, Germany

3 KTH, Stockholm, Sweden

**Measuring speech-in-speech intelligibility with target location uncertainty**

Niels Søgaard Jensen, René Burmand Johannesson, Søren Laugesen, Renskje Hietkamp

Eriksholm Research Centre, Oticon A/S, Snekkersten, Denmark

**On the relationship between multi-channel envelope and temporal fine structure**

Peter L. Søndergaard, Rémi Decorsière, Torsten Dau

Centre for Applied Hearing Research, Technical University of Denmark, Lyngby, Denmark

**Effects of binaural auralization via headphones on the perception of acoustic scenes**

Stephan Werner<sup>1</sup>, André Siegel<sup>2</sup>

<sup>1</sup> Ilmenau Technical University, Electronic Media Technology Lab, Ilmenau, Germany

<sup>2</sup> Ilmenau Technical University, Audio-Visual Technology Lab, Ilmenau, Germany

**HiST taleaudiometri” – A new Norwegian speech audiometry**

Jon Øygarden

Audiology, Sør-Trøndelag University College, Trondheim, Norway

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