

Hörgeräte-Entwickler-Forum
International Forum for Hearing Aid Developers
Oldenburg/Germany, Haus des Hörens, 10. – 11.07.2003

Thursday, July 10th, 2003

- 10.00 – 10.30 Welcome & Opening session (B. Kollmeier)
- 10.30 – 11.15 Prof. Dr. Khz. Brandenburg, Fraunhofer Institut und TU Ilmenau
MP3 & audio coding: How important is audio quality?
- 11.15 – 11.45 Coffee and tea break
- 11.45 – 12.30 Dr. Stefan Launer, Phonak, Switzerland
Trends and challenges in Hearing Aid development
- 12.30 – 13.15 Prof. Dr. Gerhard Fettweis, TU Dresden
New Trends in low-power DSPs
- 13.15 – 14.15 Lunch break & short tour of the “House of Hearing”
- 14.15 – 18.15 Talks and moderated discussions (see below) in the three areas
- Hardware Development (TGO, Raum 1.68)
 - Development of Algorithms (TGO, Seminarraum 3)
 - Audiological system technology (HdH, KAS)
- 16.00 – 16.30 Coffee and tea break
- 16.30 – 18.15 CTO conference (HdH, I.OG)
- 18.15 – 18.30 Prof. Dr. Tammo Houtgast, Amsterdam
Towards an EU Integrated Project on participation-for-all in the communication society
- 18.45 Bus leaves directly to the evening event:
Participants can leave their luggage in the bus. The luggage of guests staying at the “Hotel Fährhaus” in Bad Zwischenahn is directly transferred to the hotel
- 19.30 – 22.30 Boat ride & Ammerländer evening on the Bad Zwischenahner Meer
The dinner (one eel or vegetarian dish) and one drink is free. Please be prepared to pay additional drinks yourself
- 22.30 Bus leaves (from the Hotel Fährhaus to the House of Hearing and to Hotel Antares)

Friday, July 11th, 2003

- 9.00 – 9.45 Prof. Dr. Rainer Martin, TU Braunschweig
Enhancement of Noisy Speech: State-of-the-art and Perspectives
- 9.45 – 10.30 Dr. Sönke Mehrgardt, CTO Infineon AG:
Future developments in Semiconductors
- 10.30 – 11.00 Coffee break
- 11.00 – 11.45 Prof. Dr. Wout Dreschler, AMC Amsterdam
Can the properties of modern hearing aids still be measured?
- 11.45 – 12.30 Reports and discussion from the three working groups
- 12.30 – 13.00 Final discussion, Topics for futural conferences
- 13.00 – 14.00 Visit of the Universität Oldenburg campus & Lunch

Afternoon : Free for discussions in working groups or departure

Session on ,Hardware Development'

Thursday, July 10th, 14.15- 18.15 hrs, Technologie- und Gründerzentrum Oldenburg (TGO), Raum 1.68

Session chair: Dr. Jens Appell, Embedded Hardware-/Software-Systems, OFFIS Oldenburg, Email: jens.appell@offis.de

Introduction:

14.15-14.25 Welcome and Introduction by Jens Appell

Talks:

14.25-14.45 Dipl.-Ing. Michael Bulk, Audio Service

"What a hearing-aid manufacturer expects from hardware research and development activities"

14.45-15.05 Dipl.-Inf. Arne Schulz, OFFIS Oldenburg:

"High-Level tools for low-power ASIC design"

15.05-15.15 Prof. Dr. U. Totzek, Fachhochschule OOW

"Integrated Circuit design at the university of applied sciences"

Panel discussion:

15.15-16.00 Moderated discussion.

Proposed questions to the speakers and discutants are (list to be extended, suggestions welcome):

- Future challenges in hearing aid Chip-Design?
- How is the design-flow from specification to layout set-up today and how will the design-flow look like in future?
- Design- and Intellectual-Property-Reuse, recent and future practice in (hearing aid) Chip-Design?
- Low voltage and deep sub-micron structures: How to overcome the problem of leakage power in low-power Designs?

Break:

16.00-16.30 Coffee break

Talks:

16.30-16.50 Dr. Torsten Niederdränk, Siemens Audiologische Technik:

"Towards a HiFi Hearing Aid"

16.50-17.10 Prof. Dr. W. Mathis, Universität Hannover:

"Class D-Amplifiers for HiFi applications"

17.10-17.30 Dr. Matthias Blau, Universität Dresden

"Electroacoustic transducers"

17.30-17.40 Dr. J. Peissig, Sennheiser AG

"Transducer technology"

Panel discussion:

17.40-18.15 Moderated discussion

Session on ‚Development of Algorithms‘

Thursday, July 10th, 14.15- 18.15 hrs, Technologie- und Gründerzentrum Oldenburg (TGO), Seminarraum 03

Session chair: Dr. Volker Hohmann, Medizinische Physik, Universität Oldenburg, Email: volker.hohmann@uni-oldenburg.de

Introduction:

14.15-14.25 Welcome and brief introduction by V. Hohmann

Talks:

14.25-14.40 Prof. Dr. Alfred Mertins, Universität Oldenburg

Filterbank design for low-power audio applications

14.40-14.55 Dr. Bert de Vries, GNReSound

Warped-frequency filterbanks

14.55-15.10 Dipl.-Ing. Volkmar Hamacher, SAT

Challenges in microphone array processing for hearing aids

15.10-15.25 Dr. Jörg Bitzer, Houpert Digital Audio, Bremen

Beamformer with postfilter in a diffuse sound field

15.25-16.00 Wrap up and discussion of the first set of talks

Break:

16.00-16.30 Coffee break

Talks:

16.30-16.45 Prof. Dr. Rainer Martin, TU Braunschweig

Speech Enhancement in the DFT Domain Using Supergaussian Priors

16.45-17.00 Dipl.Phys. Johannes Nix, Universität Oldenburg

Sequential Monte Carlo Methods for Estimating Sound Objects

17.00-17.15 PD Dr. N. Dillier; Universitäts-Spital Zürich

Synergies for hearing instrument developments from cochlear implant research

Panel discussion: A moderated discussion with all speakers and additional experts is planned for the rest of the time:

17.15-17.35 Brief statements by those experts on the panel, who did not give a formal talk:

Prof. Dr. Karlheinz Brandenburg, TU Ilmenau

Dr. Jan Wouters, KU Leuven

17.35-18.15 Moderated discussion

Topics of the panel discussion (list to be extended!):

1. Needs of hearing impaired listeners and DSP in hearing aids. How large is the gap?
2. Chances of Array Processing and binaural Processing.
3. To what extent are algorithms of the future restricted to specific listening conditions/acoustical environments?
4. Automatic switching of algorithms or manual remote control?
5. Can we learn from audio coding schemes?
6. Does the hearing aid of the future perform automatic speech recognition with subsequent speech synthesis for noise reduction?

Session on , Audiological system technology ’

Thursday, July 10th, 14.15- 18.15 hrs, Haus des Hörens, KAS

Session chair: Dr. Birgitta Gabriel, Hörzentrum Oldenburg

Email: B.Gabriel@Hoerzentrum-Oldenburg.de

14.15 –14.45 Dr. B. Gabriel

Welcome, introduction of the participants, Collecting of topics for the discussion

14.45 – 15.05 Jun.Prof. Dr. Jesko Verhey, Universität Oldenburg

Auditory signal processing: Effective Models and their Neural Realisation

15.05 – 15.20 Prof. Dr. Inga Holube, FH OOW

Measurement methods for hearing aids

15.20 – 15.40 Dr. Josef Chalupper, Siemens Audiologische Technik

New measurements methods for signal-adaptive hearing aids

15.40 – 16.00 Prof. Dr. Wouter Dreschler, AMC Amsterdam

Complex signal processing complicates the evaluation and requires a close co-operation between industry and audiology

16.00 – 16.30 Break

16.30 – 16.50 Dr. Thomas Brand, Universität Oldenburg

Speech intelligibility prediction

16.50 – 17.10 Dr. Ole Dyrland, GN ReSound

Introduction to the fitting system for the ReSound digital hearing aids

17.10 – 17.30 Dr. Jörn Otten, Hörzentrum Oldenburg

Efficiency of hearing aids components: quantifying listening effort

17.30 – 17.50 Dr. Heike Heuermann, KIND Hörgeräte

HörTech questionnaire inventory for hearing aid evaluation

17.50 – 18.15: Final Discussion, Futural Activities/Projects, Closing

Discussants without presenting a formal talk:

Prof. Dr. Martin Hansen, FH OOW, Oldenburg

Prof. Dr. Tammo Houtgast, VUMC Amsterdam

Dr. Volker Kühnel, Phonak

Dr. Matthias Latzel, Universität Gießen

Dr. Christian Müller, Bernafon

Prof. Dr. August Schick, Oldenburg

Dr. Jürgen Tchorz, Phonak

Dipl. Phys. Kirsten Wagener, Universität Oldenburg

Dr. Thomas Wittkop, HörTech gGmbH

Place of the conference

„Haus des Hörens“, Marie-Curie-Straße 2, 26129 Oldenburg, Telefon: (+49)-441-2172-100.



Arrival by train: From Oldenburg central station take bus nr. 310 (direction Ofen/Wehnen, departs each 15 minutes during regular hours and takes 12 minutes). Exit at bus stop “Pophankenweg/Küpkersweg” and walk 200 m into the Küpkersweg (passing by “Bekleidungshaus Bruno Kleine”). Alternatively, a taxi costs approx. 9 € and takes about 10 minutes.

Arrival by air: At Bremen Airport take the streetcar to Bremen main train station (approx. 15 min). Trains from Bremen to Oldenburg depart each half hour and take approx. 40 minutes. Alternatively order an airport shuttle service “Luftibus” in advance (Tel. (+49)-441-81114) (approx. 35 € one-way, 55 € roundtrip, travel time 40 minutes until the final destination in Oldenburg)

Arrival by car: Autobahn 28 (Bremen-Oldenburg-Emden/Leer) exit at “Oldenburg Wechloy” into the direction “Stadtmitte/Universität”. At the next traffic light after 400 m turn right into the Küpkersweg (passing by “Bekleidungshaus Bruno Kleine”).

Accommodation: Reservations have been made either for the Hotel Antares in Oldenburg (walking distance to the train station and to the city center of Oldenburg) or for the Seehotel Fährhaus in Bad Zwischenahn. Hotels have been informed about late arrivals of the guests (i.e., after the evening event on Thursday). Guests of the Hotel Antares might want to check in and deposit their luggage prior to attending the conference.

Transportation: A bus service is organized on Thursday evening from the conference site to the evening event in Bad Zwischenahn (Boots-Anleger Kurpark). The evening event will end at the Seehotel Fährhaus in Bad Zwischenahn where the bus will depart back to the House of Hearing and the Antares Hotel in Oldenburg.

A bus service from the Hotel Fährhaus in Bad Zwischenahn to the House of Hearing will depart on Friday morning at 8.30 hrs. From Hotel Antares, take city bus line 310 to the House of Hearing (see above).