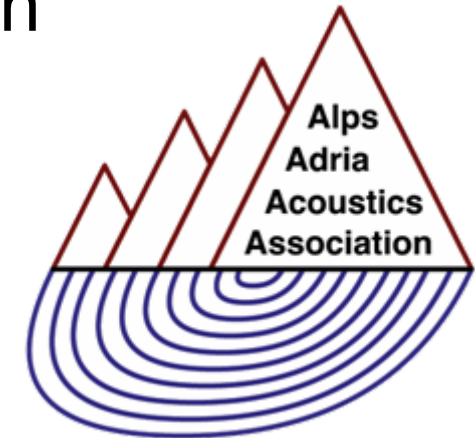


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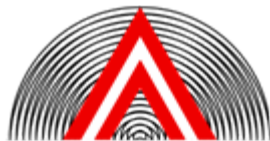
Alps Adria Acoustics Association

27 – 28 September 2007, Graz



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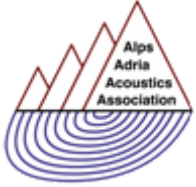


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Greetings from JOANNEUM RESEARCH



Dear Congress Participants

We are delighted that so many colleagues from different countries have accepted our invitation to participate in this conference and wish you all a pleasant and interesting stay at the 3rd Congress of the Alps Adria Acoustics Association in Graz.

Maria Fellner Franz Graf
Congress Chairpersons

JOANNEUM RESEARCH is one of the largest non-university research institutions in Austria. Cross-border technology transfer in the EU Region Alpe-Adria-Pannonia forms an integral part of our corporate strategy.

It is therefore a great honour and pleasure for us to be able to actively participate in organising the 3rd Congress of the Alps Adria Acoustics Association. We hope that this conference will lead to fruitful cooperation and warmly welcome all participants to Graz.

Bernhard Pelzl Edmund Müller
Managing Directors of JOANNEUM RESEARCH

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Greetings from AAA

Dear colleagues and neighbours, drage gospe in gospodje, the genesis of the Alps Adria Acoustics Association started already with the Slovenian Acoustics Congress series at the end of the last century. Although these congresses in Piran were primarily national events, its organizer Mirko Cudina tried to establish from the very beginning an international participation by inviting well-known acousticians from neighbouring countries and especially from Germany. 2001 in Piran the idea was born to found the Alps Adria Acoustics Association AAAA as a new regional congress organizing association, initially represented by the neighbouring acoustical societies of Slovenia <http://www.fs.uni-lj.si/sda>, Croatia <http://had.zea.fer.hr> and Austria <http://www.aaa-oega.org>. The concept of the quadruple A Congress is as follows: instead of biannual single national conferences of the Acoustical Societies of Slovenia, Croatia and Austria, every second year a joint congress of these three countries will be organized, whereby the venue is rotating within the participating countries.

The aim of this association is to promote progress in all fields of acoustics in the whole Alps-Adria region and beyond, as well as to improve the cooperation between the national societies of the participating countries. Meanwhile, the AAAA congresses have been recognized also as official EAA <http://www.eaa-fenestra.org> symposia.

However, the attempt of the Acoustical Societies of Slovenia, Croatia and Austria of working together is not only of importance for us Acousticians, it can be regarded also as an example for - and a contribution to - the progressing European Cohesion.

After 2003 in Piran, 2005 in Opatija, in this year 2007 we have the congress in Graz. Maria Fellner & Franz Graf and their team made an impressive effort in organizing this 3rd Congress of the Alps Adria Acoustics Association. It is a comprehensive task to organize a congress of this size and with such a strong international participation. Therefore I would like to thank the very engaged organizers on behalf of the AAA, as well as personally, for the excellent organisation of this event.

All the best, have a pleasant time in Graz,
Ewald Benes, President of AAA

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Greetings from EAA



Dear Colleagues,

the European Acoustics Association EAA follows with great interest all technical and scientific activities organized in Europe in the field of acoustics. Among others the congresses of the Alps-Adria Acoustics Association, AAAA, organized by Austria, Slovenia and Croatia since 2002, are now a consolidated appointment to promote acoustics in its various aspects.

The Alps-Adria Acoustics Association is in fact an interesting example for regional activities in acoustics in Europe. As other examples (Nordic, Iberian) it express the wish of technical and scientific communication among colleagues from neighbouring countries to share knowledge and experiences and to build new projects and university curricula.

The European Acoustics Association, EAA, supports these activities and in the immediate future is planning to enforce this concept with the up-grading of different joint national meetings and congresses in acoustics to the status of European Symposium.

The third AAAA conference in Graz (27-28 September 2007) is therefore an EAA Symposium and information has been distributed around whole Europe.

The distribution of information on acoustics is performed by EAA through different products. The journal ACTA ACUSTICA united with ACUSTICA contains, in the CD version, the integrated European Newsletter NUNTIUS. Different National Acoustical Association (Germany, Italy, Spain, etc.) already use this product to widespread around Europe their national journals or newsletter. With the EAA website, FENESTRA (www.european-acoustics.org), EAA offers another very powerful tool to get information on university courses, conferences, products, job offers and Technical Committee activities quickly. With the product DOCUMENTA, European Conferences and Symposia proceedings are available for researchers that could not attend the meetings.

On behalf of the EAA board let me wish all success for the next Alps-Adria Acoustics Association Conference. We are sure that it will generate fruitful discussions but also opportunities for relax and for new friendship among participants in the wonderful atmosphere of Graz.

Sincerely,

Luigi Maffei, President of EAA

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Committees

International Organizing Committee

Ewald Benes (A)
Mirko Čudina (SLO)
Bojan Ivančević (HR)
Kristian Jambrošić (HR)
Jurij Prezelj (SLO)
Gregor Widholm (A)

Local Organizing Committee

Maria Fellner
Gerhard Graber
Franz Graf
Robert Höldrich
Otto Koudelka
Gernot Kubin
Wolfgang Nemitz
Andrea Sereinig
Veit Winkler

Scientific Committee

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Miha Boltežar	Matjaž Prek
Tino Bucak	Jurij Prezelj
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Gerhard Graber	
Robert Höldrich	
Bojan Ivančević	
Kristian Jambrošić	
Malte Kob	
Gernot Kubin	
Ivo Mateljan	

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Congress Schedule



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Friday 28/09/07

[Frontal Session 1 \(Room 1\)](#)

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Thursday 27/09/07

Frontal Session (Room 1)

Plenary lectures		
09:30	Kob	Measurement and modelling of voice production
10:20	Kubin	What Do Speech Signals Signal?
Signal Processing		
11:40	Prek	Wavelet Analysis of Dispersive Waves in Fluid-Filled Viscoelastic Pipes
12:00	Belšak	Vibration analysis to assess the condition of gear units
12:20	Vogt	An Introduction to Sonification and its Application in Theoretical Physics
Speech processing		
13:40	Képesi	Pitch-Driven Position Estimation of Speakers in Reverberant Multispeaker Environments
14:00	Pucher	Phonetic Distance Measures for Speech Recognition Vocabulary and Grammar Optimization
14:20	Tomas, B.	Recognition and Implementation of Emotions in Speech Communications Model
14:40	Tomas, G.	Perceptibility of aggressive dynamics processing in digital audio broadcasting
15:00	Mateljan	Detection of audible resonances
Electroacoustics		
15:40	Furdek	Harmonic distortion perception threshold
16:00	Arango Giraldo	Binaural Head Transducer Design, Building, Optimization and Specification for Acoustical Room Evaluation and Binaural Recording
16:20	Horvat	Design of a new omnidirectional sound source
16:40	Uskoković	The Use of Optocouplers in Measuring Loudspeaker Cone Displacement
17:00	Đjurek	Chaos in an electrodynamic loudspeaker

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Thursday 27/09/07 Frontal Session (Room 2)

Vehicle acoustics		
11:40	Oberhauser	Railway noise monitoring methods
12:00	Cik	Traffic Noise Annoyance on Roads - TNAR
12:20	Toš	Influence of noise on the intelligibility messages from the loudspeaker in the Electric Multiple Units of H 6-111
Ultrasound		
13:40	Radel	Ultrasonic particle manipulation approaches in on-line ATR FTIR
14:00	Gröschl	Adaptive asymmetric double-path ultrasonic transit-time gas flowmeter
14:20	Benes	Viscosity sensor based on a biconvex quartz crystal thickness shear resonator in a novel stress free holder
14:40	Devčić	A novel method for detection of sonoporation
15:00	Čop	Increased permeability of cell membrane by sonoporation
Noise protection		
15:40	Haberl	Innovations in traffic noise protection
16:00	Conter	Investigation of the Long-Term Performance of a Noise Barrier and Statistical Stability of the Reflection Index by In-Situ Measurements with the Adrienne Method
16:20	Rohde	Noise reduction in music and entertainment workplaces
16:40	Jenko	Occupational noise protection of workers in entertainment industry

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Thursday 27/09/07

Interactive Session (Foyer)

Ultrasound		
11:40	Petošić	Experimental and theoretical considerations of ultrasound transducers working in nonlinear regime
11:50	Petošić	Ultrasonic power measurements in the nonlinear regime using calorimetry method
12:00	Steiner	Tomographic process monitoring using ultrasonic transducer arrays
12:10	Koch	Effects of ultrasonic plane wave fields on yeast cultures
12:20	Schnitzer	Influence of the liquid's permittivity on measurements with resonant ultrasonic viscosity sensors
Room & building acoustics		
13:40	Freiberger	Practical Experiences with Helmholtz-Absorbers
13:50	Hudec	Nonwoven fabric acoustical properties
14:00	Jambošić	The influence of excitation type on reverberation time measurements
14:10	Jambošić	Acoustic characteristics of the new "Histrion" drama theatre in Zagreb
14:20	Puljizević	Differences in sound insulation values between ISO 140-4 measurements and real situations
Acoustic Monitoring		
15:40	Graf	Development of a System for the Acoustic Monitoring of Tunnels
15:50	Rainer	ATIMO - Automatic classification of the motorisation of passing vehicles
16:00	Fellner	Vibro-acoustic system for the automated detection of axle numbers of passing vehicles
16:10	Rettenbacher	Speech Music Discrimination in Mixed Audio Content

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Friday 28/09/07

Frontal Session (Room 1)

Plenary lectures		
08:30	Čudina	Noise generation by vacuum cleaner suction units
09:20	Bucak	Aircraft Interior Noise
Musical acoustics		
10:30	Prucha	From coffee-vibrometer to the laser-vibrometer. Musical acoustics for beginners
10:50	Nachtmann	Bell vibrations and radiated sound of brass wind instruments -- is there an audible correlation?
11:10	Zotter	Capturing the Radiation Characteristics of a Bonang Barung
11:30	Plitsis	Comparison of experimental data of a Grand Piano with an analytical string model
11:50	Bidondo	Symphonic live performance with digital acoustics support
Room acoustics		
13:10	Jambrošič	Methods of measuring reverberation time
13:30	Graber	The influence of standing waves on the reverberation time in large halls
13:50	Mijić	Influence of scattering coefficient of walls and ceiling on auditorium absorption in halls
14:10	Zotter	Near- and Farfield Beamforming Using Spherical Loudspeaker Arrays
Room & building acoustics		
14:50	Mijić	Acoustic redesign of the opera hall in SNG Maribor
15:10	Bošnjaković	Acoustical treatment of multipurpose sport halls
15:30	Vašina	Sound Absorption Properties of Sandwich Combinations of Polyurethane Materials
15:50	Muellner	Lightweight building elements with improved sound insulation, considering the low frequency range

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Friday 28/09/07

Frontal Session (Room 2)

Noise mapping & sound propagation		
10:30	Štimac, A.	Quality Assurance Of The Strategic Noise Mapping Process
10:50	Prezelj	Inter laboratory comparison of environmental noise measurements
11:10	Hohenwarter	Sound propagation with respect to meteorological conditions
11:30	Strobykin	Acoustic thermometry of the japan sea shelf zone
11:50	Sikora	The algorithm of beam division in beam tracing method for non-homogenous environments
Aircraft noise		
13:10	Franjković	A Light G/A Aircraft Aerodynamic Noise Measurements
13:30	Lolić	Low Frequency Noise in Commercial Aviation: Consequences for Crew A Preliminary Study
13:50	Novak	Procedures for control of helicopter noise with reference to JAR regulations
14:10	Stimac, I.	Influence of Aircraft Noise on the Quality of Living Near the Airport
Machine acoustics		
14:50	Biček	Development of Vacuum Cleaner Motor with Improved Performance
15:10	Ploj Virtič	Development of mathematical model for detection of cracks in tooth root using an acoustic method
15:30	Sontacchi	Transfer Path Analysis Experimental Investigations and Modeling

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Friday 28/09/07

Interactive Session (Foyer)

Measurement engineering		
10:30	Steiner	Near-field acoustic holography using a low cost microphone array
10:40	Sontacchi	Location determination of acoustical sources by using a microphone array
10:50	Belšak	Use of an Acoustic Camera for Analysis of Noise Sources Within a Gear Unit
11:00	Zotter	Empirical Chirp-Rate Estimation for Time-Frequency Reassigned Spectrograms
11:10	Waubke	Vibrations from railways in tunnels and trenches with elastic anisotropic layered mediums
11:20	Prezelj	Sound signature of steel hardening process
11:30	Černetič	Feedback structure of an active noise control system in a duct
Musical acoustics & Noise		
13:10	Donhauser	The first electroacoustical piano in Germany. The Neo-Bechstein and its restoration
13:20	Frenzl	Metrological survey of the embouchure of flutists
13:30	Bazijanac	Cabin noise comparison between twin piston engine training aircraft and a car
13:40	Miljković	Comparative investigation of aircraft interior noise properties
13:50	Höfler	Virtual Noise Prediction

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