

# AUDINEWS

The Newsletter of the International Society of Audiology

**WWW.ISA-Audiology.Org**

**Vol 5: Number 2: 2005**

## **EXECUTIVE BOARD SEEKING YOUR FEEDBACK**

Have you ever wondered or complained about what your ISA elected representatives do for you? I can tell you from personal experience, one thing we do is try every possible way to get you, our members, to give us feedback about the important issues we are facing. For example, at the XXVIIIth Congress in Arizona a special session presented three specific areas where ISA is taking an affirmative action. We followed up with a thorough article in the last Audinews. On both occasions we asked you to read and comment. About two weeks ago, every member of ISA received the following e-mail:

“As you may recall from the Audinews and several other communications and presentations (including a major workshop at the Congress in Arizona), ISA currently has an initiative underway which involves three major issues:

- 1) Best practices for hearing aid fittings (Stuart Gatehouse – [stuart@ihr.gla.ac.uk](mailto:stuart@ihr.gla.ac.uk))
- 2) A model curriculum for audiological training (Stig Arlinger – [stig.arlinger@inr.liu.se](mailto:stig.arlinger@inr.liu.se))
- 3) A Code of Ethics (Shirley DeVoe – [sjdevoe@yahoo.com](mailto:sjdevoe@yahoo.com))

Drafts of these documents have been in the Member’s Only section of our website ([www-isa-audiology.org](http://www-isa-audiology.org)) and appeared in the *Audinews*. We need to have feedback from you. Please log on to the website, review the documents and respond to the appropriate persons. The deadline is approaching when it will be too late to submit comments, and we do not want that to happen to you.”

Can there be any doubt we want to hear from you?? Please let us know your thoughts on these initiatives. Your Executive Board will be meeting June 18, 2005 and these items will be on the agenda. Of course, you can also contact us to tell us you like what we are doing too! A little positive reinforcement never hurts either!

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## **IMPORTANT ANNOUNCEMENTS**

ISA has joined the Medical Research Council Hearing And Communication Group (Manchester University) and Siemens Hearing Instruments in supporting “25 Years: International Binaural Symposium 2005” This year marks the 25th anniversary of the publication of *Binaural Hearing and Amplification*. Join colleagues and speakers from around the world as we examine how far we have come since 1980 in research and technology - the past, present and future provision of bilateral hearing aids and the science of binaural hearing. Manchester, UK will be the venue for this important gathering (29-31 Oct, 2005). Contact [naomi.stocks@mrchear.man.ac.uk](mailto:naomi.stocks@mrchear.man.ac.uk) (See Page 9)

Congratulations to ISA Student Member Lucy Tence who has been elected President of the National Association of Future Doctors of Audiology. NAFDA is a U.S. student organization dedicated to the advancement of education and technological training in the profession of audiology with emphasis in enhanced patient care. Lucy is an international student from Brazil, who four years ago spent time abroad to learn English. She has had audiology job-shadow experiences in Toronto and New York. Her BA in Speech-Pathology & Audiology is from São Paulo State University. She received a scholarship from Bloomsburg University, and is currently a third year Au.D. student.

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# International Binaural Symposium 2005

University of Manchester Conference Centre  
Manchester (UK)  
29-31 October 2005

*2005 marks the 25th anniversary of the publication of Binaural Hearing and Amplification.*

Join colleagues and speakers from around the world to examine how far we have come since 1980 in research and technology - the past, present and future provision of bilateral hearing aids and the science of binaural hearing.

## Faculty will include:

### Michael Akeroyd

*Programme Leader  
Institute of Hearing Research, UK*

### Stig Arlinger

*Professor of Technical Audiology  
Linköping University, Sweden*

### Arthur Boothroyd

*Speech and Hearing Scientist  
Self employed, USA*

### Teresa Ching

*Senior Research Scientist  
National Acoustics Lab, Australia*

### Chris Darwin

*Professor of Experimental Psychology,  
Sussex University, UK*

### Wouter Dreschler

*Academic Medical Centre, Holland  
Co-author: Ms Monique Boymans*

### Adrian Davis

*Director, MRC Hearing &  
Communication Group*

### Stuart Gatehouse

*Assistant Director,  
MRC Institute of Hearing Research, UK*

### Louise Hickson

*Head, Division of Audiology  
Communication Disability in Ageing  
Research Centre,  
University of Queensland, Australia*

### Juergen Kießling

*Justus-Liebig University, Germany*

### Ruth Litovsky

*Director Binaural Hearing and Speech  
Lab, Wisconsin University, USA*

### Bill Noble

*Levitt Visiting Professor  
University of Iowa, USA*

### Quentin Summerfield

*Anniversary Professor of Psychology  
University of York, UK*

### Rich Tyler

*Director of Audiology  
University of Iowa*

### Therese Walden

*Chief, Audiology Clinic  
Army Auditory and Speech Centre, USA*

### Blake Wilson

*Senior Fellow,  
RTI International, USA*

### Jan Wouters

*University of Leuven, Belgium*

### Beverly Wright

*Associate Professor  
Northwestern University, USA*

### Steve Colburn

*Biomedical Engineering  
Boston University, USA*

### George Mencher

*International Society of Audiology,  
Canada*

Places are limited.

For more information please contact:

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**THE RUSSIAN SOCIETY OF AUDIOLOGY**

GEORGE A. TAVARTKILADZE (GEOTAV@CAUDIO.MSK.RU)



The Russian Society of Audiology was established in June, 2001 at the 4<sup>th</sup> International Symposium “Modern Problems of Physiology and Pathology of Hearing” (Suzdal, Russia). The main goal of the Society is the cooperation of all specialists involved in the areas of audiology and hearing and speech rehabilitation. Further, our goals include the development of diagnostic equipment, hearing aids and assistive devices, standardization of educational and training programs, and the integration of Russian specialists in the International Society of Audiology

At this time, there are 217 specialized regional audiological centers. In 74 of them, only adults are served; in 78, only children; and adults and children in 65. Additionally, there are 75 units where only hearing aid fitting is done. The number of commercial centers is also growing (158 in 2004).

Since 1996, the profession of audiologist has been included on the list of medical specialties in Russia. There are detailed programs for both primary specialization in audiology (duration of 2 to 3 years) and for audiology training (2 to 4 weeks). The background education of audiologists is medicine (ENT). Physicists, physiologists and pathophysiologicals, specialists in acoustics, microelectronics, speech therapists, etc. are also involved in audiological research and services.

There are still no reliable estimates of the number of hearing-impaired people in Russia. According to epidemiological studies and WHO statistics, this number exceeds 15 million including one million children. In the former Soviet Union, this number was 25 million. One of the most efficient approaches to the solution of this problem is the development and wide introduction of audiological screening on the national level. This system, considering all the peculiarities of the country’s health care conditions, has been developed in Russia and is now being realized all over the country.

In March, 1996, the Russian Ministry of Public Health Care issued regulations on hearing screening of newborns and all children in the first year of life. This has the status of a legislative act and prescribes all steps and times of screening stages and follow-up.

The problem of hearing impairment in adults is also of vital importance. An effective way of addressing this problem is the introduction of adult hearing screening programs with the use of questionnaires. Another very important matter is the appropriate rehabilitation of patients with sensorineural hearing loss. One of the most effective approaches for the solution of this problem is adequate hearing aid fitting and cochlear implantation. Today, there are two main manufacturers of hearing aids in Russia. However, the main parts of high-quality hearing aids are assembled from components imported from a variety of manufacturers.

A cochlear implant program was established in the Soviet Union in 1991, and the National Research Center for Audiology and Hearing Rehabilitation was the first and only institution where CI candidates’ selection, pre-operative testing, surgery, and post-operative rehabilitation were carried out. The purchase of most implants is financed from the federal budget. In 1997, the St. Petersburg ENT Research Institute started cochlear implantation. Today, about 60 cochlear implants are financed each year.

Further development of audiology in general and audiological services in particular will be determined by the improvement of professional training, equipping of audiological centers with modern diagnostic instruments and systems, introduction of new methods and technologies, and (certainly) international cooperation of national societies, institutions, and specialists involved in the field.



### ISA PRESENT AT AAA

ISA held a prominent place at the recent meeting of the American Academy of Audiology. Every year, AAA and ISA work together to offer an International Hospitality area. The space is used by ISA to be available to our members and to recruit new ones. AAA uses it as an informational post and to tell its foreign visitors about the benefits of AAA. This year the location was superb, at the entrance to the exhibit area. ISA was delighted with the number of participants that stopped by for a chat and to gather information or join.



*Pedro Berruecos, Linda Hood, George Mencher, Laurel Christensen at ISA International Hospitality Booth at American Academy of Audiology meeting*

### III PANAMERICAN SOCIETY OF AUDIOLOGY CONGRESS

Last November, the Panamerican Society of Audiology (PASA) held its 3<sup>rd</sup> Congress in Guatemala City. Patricia Castellano de Munoz, Chairperson of the Organizing Committee and her assistant Sandra Sosa, developed an excellent program. Over one hundred attendees from North, Central and South America and the Caribbean Islands gathered to benefit from topics in early identification and diagnosis, advanced hearing aid technology, genetics, cochlear implants, auditory neuropathy, neurological development and parent counseling. Dr. Edoardo Arslan from Italy and Dr. Jose Barajas from Spain, were among a distinguished group of international speakers. Many of the delegates enjoyed tours of colonial and neoclassical cities in Guatemala. Visit the website at [www.pasaudi.org](http://www.pasaudi.org) to obtain more information of future meetings or contact Dr. Pedro Berruecos, President of PASA at [kefasmex@yahoo.com](mailto:kefasmex@yahoo.com)



Guest speakers and PASA Executive Board Members: From left to right, Jose Barajas, Pedro Berruecos, Edoardo Arslan, Clemencia Baron, Brisy Northrup, Lilian Flores, and Sandy Gerber.

## A CASE REPORT: CLINICAL PRECONCEPTIONS IN A CASE WITH EAR MALFORMATION



**Jose Barajas, MD and Franz Zenker, MD, Clinica Barajas**

ADG, a 4 year-old girl who came into the Clinica Barajas to have a hearing reassessment, presented with a malformation of the right ear with permeability reduced to the size of a pinhead. CAT of the right ear showed membranous atresia of the external auditory canal and malformation of the ossicular chain. The left ear showed normal configuration of the external auditory canal without malformation of the middle ear. There was enlargement of the vestibules and semicircular canal on both sides. The findings are consistent with a Pseudo-Mondini malformation. There is no significant family history of deafness and the personal history does not include any allergies or upper-respiratory infections.

Before we had the opportunity to see the child the mother informed us that hearing test results were obtained by means of ABR. Electrophysiological threshold was established at 60 dB for the left ear and 70 dB for the right. An exploratory tympanotomy of the left ear carried out elsewhere revealed a malformation of the superstructure of the stapes.

When we had the opportunity to see the child she was already wearing a BTE hearing aid in the left ear. Some rudimentary speech was present. According to the mother, the child responds to strong and moderate sounds and speech. In fact, according to the mother, the child's responses are almost the same with and without the hearing aid.

The following tests and results were obtained in our clinic:

- Tympanogram: Flat (left ear).
- Evoked Otoacoustic Emissions: Absent (left ear).
- Auditory Brainstem Response: 60 dB (right ear) - No response (left ear)
- Auditory Steady State Response by AC and BC (dB HL):

		500 Hz	1000 Hz	2000 Hz	4000 Hz
Right	AC	80	90	70	70
	BC	40	35	35	35
Left	AC	NR	NR	95	85
	BC	NR	NR	NR	NR

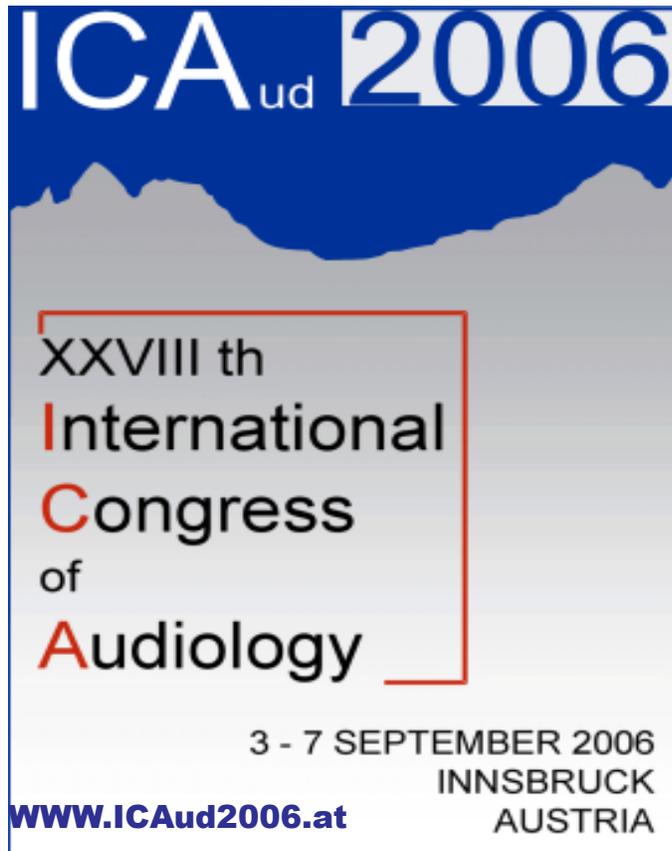
- Visual Reinforcement Audiometry (dB HL):

		500 Hz	1000 Hz	2000 Hz	4000 Hz
Right	AC	80	90	70	70
	BC	40	35	35	35
Left	AC	NR	NR	95	85
	BC	NR	NR	NR	NR

Since the patient came to see us after an operation on her left ear, it is impossible for us to establish what had been this child's original hearing sensitivity for that ear. However, we can make the following comments related to the management of this case:

1) This case illustrates, once again, the controversial issue of performing surgical interventions on malformed ears. The left ear, reported by the CAT as the normal middle ear, presented ossicular abnormalities that made the functional results of the operation very hazardous. In addition, the left ear, because of its normal external configuration and the electrophysiological threshold reported, was probably the best ear to be amplified preoperatively;

....Continued on Page 6



**ICA<sub>ud</sub> 2006**

XXVIII<sup>th</sup>  
International  
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of  
Audiology

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### Clinical Preconceptions: A Case Study

...continued from Page 5



- 2) Either as a result of the surgical intervention or for other reasons, the fact is that the patient presently has a better threshold in the malformed ear;
- 3) Given this situation, the natural inclination of clinicians could likely be to attribute worse audition to the malformed ear. However, this case illustrates the importance of avoiding such a preconception.

Finally, we believe that as a management strategy every effort should be made to provide this child with amplification by bone conduction in the right ear.

### ROESER PRESENTED WITH THE "LARRY MAULDIN AWARD"

The Mauldin award was created to honor the accomplishments of the late Larry Mauldin, especially for his work and commitment to education in the field of audiology. Presented since 1999, the award is given to an industry leader committed to continuing education and one who unselfishly gives back to the profession, the community and the hearing impaired. The recipient of this special honor is nominated and selected by industry peers. Beltone Electronics Corporation sponsors the award.

Dr. Roeser, Editor of the International Journal of Audiology, is also Executive Director of the Univ Texas-Dallas/Callier Center for Communication Disorders and Professor in the graduate program in Communication Disorders. He is a Fellow of the American Speech-Language-Hearing Association, a Founder and Fellow of the American Academy of Audiology, and is one of the founders of the American Auditory Society. He is past president of the Better Hearing Institute and the Council for Better Hearing and Speech Month. He has published extensively and is known throughout the world as a superior teacher.



Sharon Fujikawa & Ross Roeser

"I can't think of a more deserving recipient of this award than Dr. Roeser," said Todd Murray, president of Beltone USA. "His extraordinary contributions – both as an author and journalist – to the hearing care industry are profound. We are grateful for his ongoing efforts to improve our industry by educating our future hearing care practitioners."



Sharon Roeser, Ross Roeser & Marion Downs

## THE RESEARCH MINUTE.....

MARK KRUMM [mkrumm@cc.usu.edu](mailto:mkrumm@cc.usu.edu)

*Gene Therapy and Stem Cell Transplantation:  
Implications for the Inner Ear*

Research concerning protection or regeneration of cochlear, vestibular and other auditory structures has

been conducted over the past decade with promising outcomes. Procedures used to implement these studies have included neurotrophic therapy to enhance protection of cochlear hair cell structures and stem cell implantation. These approaches are not yet available clinically, but may be offered as alternative interventions in the future.

Investigators have devoted considerable effort to cochlear intracellular regeneration through gene therapy. With this process, neurotrophic growth factor (NFG) is used to stimulate cell growth. Specifically, NFG contain DNA material that is essential in the development and survival of neurons in the nervous system. Therefore proper NFG distribution can be used to enhance neuronal growth and differentiation in the cochlea. NFG is introduced by injection to the cochlear structures with a retrovirus (actually a retrovirus vector) that essentially infects a wide range of cell types with the NFG. The cochlear capsule is a suitable structure for this form of gene therapy as the retrovirus vector spreads easily through the cochlear fluids, yet the bony capsule restricts it from spreading to adjacent structures. (See Altschuler<sup>1</sup>, and Kopke et al<sup>4</sup>)

Hukuba et al<sup>2</sup> found that in animals experiencing chronic ischemia, the use of NFG therapy was beneficial in preventing hearing loss. Specifically, in a very definitive study, results indicated NFG therapy resulted in healthy cochlear structures in gerbils even though they were ischemic. In fact, Hukuba et al advocated the immediate use of NFG therapy for people who experience sudden hearing loss. However, they noted because clinical methods to inject NFG into the human cochlea still require development, this form of therapy is not presently available.

In contrast, Nakagawa and Ito<sup>6</sup> proposed that stem cell transplantation was a more effective method to restore cochlear spiral ganglia cells. These researchers claimed that transplantation of stem cells was less problematic than the use of viral vectors associated with gene therapy as no retrovirus was required. Further, they concluded that transplantation of stem cells to the spiral ganglia resulted in clear cellular differentiation in animals. However, the functional nature of these cells could not be accurately assessed. The authors that recognized many issues need to be resolved with cell transplantation, but still suggest this method of therapy may be beneficial for protection and restoration of the cochlear mechanism in the future.

Presently, other promising interventions for cochlear protection and cell regeneration are receiving intensive investigation. For example, Miller<sup>5</sup> concluded that antioxidants and electrical stimulation may enhance spiral ganglion cell survival. Researchers have also experienced modest success with the regeneration of mastoid air cells (Kanemaru et al<sup>3</sup>) and vestibular hair cells (Sage et al<sup>7</sup>). Finally, Walshe et al<sup>8</sup> provides an excellent review article describing hair cell regeneration properties of fish, birds, reptiles, mammals and humans. This article is a great introduction for those interested in reading further on this fascinating topic.

<sup>1</sup>Altschuler, R., (2004). Noise Induced Hearing Loss: Mechanisms and Interventions for Prevention. Presented at XXVIIth Intl Cong of Audiol. Phoenix, Ariz.

<sup>2</sup>Hakuba, N. et al, (2003). Adenovirus-mediated overexpression of a gene prevents hearing loss and progressive inner hair cell loss after transient cochlear ischemia in gerbils. *Gene Therapy*, 10:426-423.

<sup>3</sup>Kanemaru, S., et. al, (2004). Regeneration of mastoid air cells: Clinical applications. *Acta Oto-Laryn*, Vol 124, Supple 551:80-84.

<sup>4</sup>Kopke, R., et al, (2005). Prevention of impulse noise-induced hearing loss with antioxidants. *Acta Oto-laryn*, Vol 125, Num 3:235-243.

<sup>5</sup>Miller, J., (2004). Interventions to prevent degeneration, regrow, and replace the auditory nerve. Presented at XXVIIth Intl Cong of Audiol. Phoenix, Ariz.

<sup>6</sup>Nakagawa, T & Ito, J (2004). Application of cell therapy to inner ear diseases. *Acta Oto-Laryn*, Vol 124, Supple 551:6-9.

<sup>7</sup>Sage, C. et. al, (2005). Proliferation of function hair cells in vivo in the absence of the retinoblastoma protein. *Science*, 307 (5712):1114-8

<sup>8</sup>Walshe, P., Walsh, M., and Walsh, R. M., (2003). Hair cell regeneration in the inner ear: A review. *Clinical Otolaryn*, 28:5-13.

## HUMANITARIAN AUDIOLOGY: COMMITTEE PAGE

CHRISTI WISE ([wiseaudiologist@yahoo.com](mailto:wiseaudiologist@yahoo.com))



The purpose of this section is to provide regular articles of interest, announcements and general information about humanitarian efforts throughout the world. This issue will focus on a program in the Dominican Republic. If you are involved in a humanitarian project anywhere in the world, and would like to share that information with us, please contact me.



*Dr. Elias Santana Hospital Audiometry Department Project  
Los Alcarrazos, Dominican Republic*

Donna Carkeet, a Humanitarian Audiologists Committee member, is spearheading a project to implement an audiometry training program accredited through a Dominican University and an audiometric clinic at the Dr. Elias Santana Hospital Audiometry Department in the city of Los Alcarrazos, Dominican Republic. The project started while Donna volunteered at the hospital for four months in 2002. During this time, she realized there was a desperate need for hearing help in the area. Easily gaining support from both the university and the hospital, a building was located on hospital grounds that could be refurbished for the clinic. Currently, there are two men at the clinic who have been trained in making ear moulds, in-the-canal aids, and who sell Godisa hearing aids. The main problems they have run into are the needs of the clients are greater than the number of trained staff, there is insufficient space available (one office and one booth at the clinic so far), and equipment availability is limited. Additionally, the cost of hearing aids means many clients still cannot afford help; therefore, most children with binaural hearing loss, are only fit monaurally.

The first part of Donna's proposal includes training local audiometrists through class work and practical experience so they can assess hearing and dispense hearing aids. The first students will commence in 2005, completing the course in two years. Donna plans to incorporate guest lecturers into the program as well as receiving teaching/training help from the hospital Ear, Nose and Throat Department. The second part of the proposal is the continuing construction of the clinic at Dr. Elias Santana Hospital, which will allow for supervised practical training of students and will provide affordable and accessible services to the poor. Local hearing aid manufacturing and repairs are the third part of the proposal. Currently, discussion is taking place on what hearing aid designs will be used while trying to keep the cost to clients under \$20 US. Several things are still needed for this project including hearing aids, volunteers and guest lecturers. For further information please contact Donna Carkeet at [carked@yahoo.com](mailto:carked@yahoo.com).

Here, in Donna's own words, is her story:



*"The Dominican Republic is a country of 8,616,000 people with a GDP per capita of \$5,792. There are 52 ENT/ORL specialists, of which more than 30 are in the capital city. At present ENT's conduct many of the hearing aid fittings. However these are private hearing aids fitted at high costs to the minority of the population who can afford them. At present, there is only one trained audiologist in the country, and there are no training programs to produce more. Audiological services are too expensive for many of the people to afford.*



.....Continued on Page 9

**HUMANITARIAN AUDIOLOGY:*****Dominican Republic Project -****...continued from Page 8*

*The undergraduate program, coordinated through a local university will be the first of its kind training audiological technicians. This should reduce the cost of some audiological services and still ensure proper referral to ENT specialists for consultations and investigation where appropriate. Dr Elias Santana Hospital, the site of our project, has an ENT with whom we regularly consult. We expect to also have the assistance of volunteer ENT teams from the USA visit through Medical Ministries International.*

*As a follow-up to diagnosis and hearing aid fittings, children can be referred to one of the six schools for the hearing impaired with teachers who have received training in the country and from outside training services. Later this year, a speech-language pathologist experienced in early intervention will be volunteering for 6 months with EARS inc. (an Australian charity) and with our program to help evaluate the programs currently being run, to find the gaps in the service, and to assist with further training. We see this rehabilitation as a vitally important component of our overall program. Please log on to: [www.earsinc.org](http://www.earsinc.org) for further information about that organization."*

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**DEADLINE FOR RECEIPT OF ABSTRACT(S) IS  
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Treasurer: Doris Nekahm-Heis, MD

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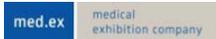
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## Organized in the name of ISA

## Congress Language

The congress language will be English.

## Registration, Abstract Submission

For registration and abstract submission, please use the online-service provided on the ICAud2006 web site.

## Accommodation

Hotel rooms at advantageous rates can be reserved through PCO Tyrol Congress. Categories and rates are listed on the online reservation form provided on the ICAud2006 web site. Student accommodation at affordable prizes is offered in youth hostels. Please check the web site for further information.



**ICA<sub>ud</sub> 2006**

XXVIII th  
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## First Announcement

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