



Prof. HENRYK SKARŻYŃSKI, M.D., Ph.D.  
President of the 2009 ESPCI

## Dear Guests, Friends!

The 9th ESPCI has gone down in history. We feel joy that we have met in Warsaw, and satisfaction from the large number of interesting discussions and excellent presentations. We had 1748 participants from all continents, and a total of 581 presentations given during scientific sessions, round table discussions and satellite symposia. This was a very important meeting for various specialists – scientists, doctors, engineers and therapists. I thank from the heart all the contributors to this meeting.

We organized this Congress ourselves, without interrupting our work for the patients. At this economically challenging time throughout the whole world, we have tried to reduce costs, investing the time and effort of only our team and our friends. We tried to do our best for you, to make you feel at home.

We are pleased that we were able to meet together during an informal event. We celebrated your visit to Kajetany with our garden party event, along with some entertainment provided by our artist friends, and hope you enjoyed the fireworks as well.

I am convinced that this meeting in Kajetany gave you a lot of unforgettable memories, and that your busy Congress days will make you want to visit Warsaw once again soon.

I greet you and your teams. Have a pleasant trip home, and I will see you during the next 10th ESPCI meeting in sunny Greece.

Please remember that the Congress Tribune is at your disposal and we can meet there regularly. Just visit our web site [www.congresstribune.pl](http://www.congresstribune.pl)



Last evening of the 9th ESPCI was exceptional not only because of the possibility of spending the time together, but also due to the place.

We met in a very special place, the International Center of Hearing and Speech, which is both our work and home. We are delighted that you had great moments and enjoyed the time!



## Current European opinions on bilateral cochlear implants

**Cochlear implant technology is constantly developing, challenging specialists involved in the implants program. Even though the benefits of unilateral cochlear implant (CI) are widely acknowledged, the implantation of a single device does not provide binaural hearing that can support sound localization and speech understanding in a noisy environment.**

Therefore, during the round table meeting at the 6th European Congress of Otorhino-Laryngology Head and Neck Surgery in 2007 in Vienna, bilateral cochlear implantation in adults and children was accepted as the mainstream medical practice.

There is enough evidence that bilateral cochlear implantation has the potential to improve sound localization and improves speech perception, mainly in a noisy environment, compared to unilateral cochlear implantation. The expertise, experience and knowledge of the

panelists allowed them to define the guidelines and criteria for bilateral cochlear implantation.

The moderator of the round table meeting during the EUFOS 2007 was Prof. Henryk Skarżyński.

In the meeting took part: Prof. Joachim Mueller from the Otolaryngology Clinic of the Würzburg University, PD Dr Antje Aschendorff from the Department of Otorhinolaryngology at the University of Freiburg, Prof. Wolf-Dieter Baumgartner from Department of Otorhinolaryngology at the Medical University of Vienna, Prof. Manuel Manrique from the Department of Otolaryngology at the University Hospital and Medical School at the University of Navarra and Dr Anna Piotrowska from the International Center of Hearing and Speech in Warsaw.

### Selection Criteria for bilateral cochlear implantation:

- severe to profound hearing loss

- bilateral deafness resulting as a complication after meningitis

- bilateral implantation in case of bilateral significant residual hearing was considered as a controversial indication because of no data available data

### Guidelines for bilateral cochlear implantation :

- suggested critical time between operations is 5-8 years, with an assumption

that the patient will obtain bilateral hearing effect

- the second implantation after the critical 5-8 years brings insignificant benefits

- suggested maximum time period between operations is 1 year

- possibility of sequential (second ear) implantation within a few weeks

- sequential procedure in multi-handicapped children is recommended if there are no contraindications



EUFOS 2007 took place in Vienna, Hofburg Palace

### IN THE ISSUE:

**Interview with Professor Henryk Skarżyński** p.2

**New Technologies – telefitting** p.4

**Events of the Day – treatment of partial deafness** p.6-7

**ESPCI Gallery – people and places** p.2-9

THE 9<sup>TH</sup> EUROPEAN SYMPOSIUM ON PAEDIATRIC COCHLEAR IMPLANTATION

### ORGANIZERS:

International Center of Hearing and Speech of the Institute of Physiology and Pathology of Hearing



Foundation of Medical Development "HOMO HOMINI"



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# An Interview with Prof. HENRYK SKARŻYŃSKI

**What is your assessment of the merits of 9th ESPCI? What would you consider to be most interesting sessions, conclusions, presentations?**

**HS:** The 9th ESPCI is drawing to a close. This Congress, as any other of such standing, being attended by over 1.800 people, does not detract from everyday scientific and research activities. For the first time, the Congress has taken place in a country situated so far East. We were very keen to present what we have and what we do best. Our country is full of people, who are preparing themselves for rehabilitation work. One of the most important topics is the new approach at the level of various hearing impairments defined as partial deafness.

Depicted approach shows what chances this group of people has and what strategy to take in the case of using hearing aids, middle ear implants and cochlear implants. The latter should be understood as a wide group of patients, in whom we have used cochlear implants (PDCI) with a particular type of electrode being used during round window approach. What is most valuable in that respect, is selecting new group of patients, for whom the implant is simply complements good, low-frequency hearing (EC). This is not the same as what we currently understand as EAS.

It is very important that in cases of failure it is possible to use only ES Strategy which requires only refitting of the processor. Therefore there is no needs for reimplantation. Undoubtedly the 9th ESPCI presented new possibilities for a growing number of patients. We also introduced a new electrode in the Nuclens CI system, which may be successfully used for partial deafness treatment.

**How does the host benefit from such a prestigious event – in other words: would you recommend it to other potential countries to compete for the privilege of being the future organizers and if so, why?**

**HS:** It provides interesting experience in organizing such big event as well as great satisfaction of having the chance to demonstrate one's abilities achievements. For us ESPCI was on one hand an opportunity for new scientific contacts and transfer of the state of the art of Polish medicine, and on the other hand a great forum to present our own outstanding achievements and enormous progress in cochlear implantations. ESPCI was an additional motivation for the whole team. I would like to encourage other countries to organize such events, so that we could all get to know what best, to learn how to overcome difficulties and how to use the specific features of each country, region or center in development and promotion of implants programs.

The Congress on a Polish ground proved how important this field of science and medicine really is. It was sometimes easier for us to cross hurdles. On the whole it was mostly a good verification of how to move forward in those uneasy times. IT was an opportunity to show how to make progress together, co-create a success.

**From your perspective, what was the greatest success of the 9th ESPCI?**

**HS:** For us, the major success was presenting a high standard of Congress organization, Polish hospitality and our enormous capabilities at an international forum. We have managed to show the great value of being, for quite a few years now, the leader in the number of hearing improving surgeries performed every year. Also, that behind this quantity is a very good quality. We had an opportunity to present a new electrode and a strategy which broadens patients selection criteria increasing chances for thousands of them.

**What were the practical implications of 9th ESPCI for patients?**

**HS:** The practical advantages for scientific development, everyday clinical work and our patients, arising from this Conference, are numerous. Among the most important I could name the new approach to rehabilitation. As part of the therapy of a person with a profound hearing impairment or other forms of deafness, it is a long and amazingly important process. It is clear however that the confrontation of various ideas for hard-of-hearing therapies has made a step towards another real breakthrough.

**Organization and preparation of the Congress was a huge logistical challenge. Do you have any advice for the next president as to what to focus on, what can be surprising, what might be the biggest challenge?**

**HS:** Yes, this is true. Each of the organizers works in certain conditions. It would be very beneficial to have the whole infrastructure – congress center, hotels, restaurants – in the near vicinity. Warsaw cannot offer such fully satisfactory conditions. This is why, our work here was incomparably more difficult. We had to envisage numerous possible problems. In addition, we have been preparing this Congress on our own. On such a scale this is barely imaginable. Outsourcing is very expensive. In order for the Congress to run smoothly and be inexpensive both for us and our guests, we had to put our full efforts into the organization. That was a real challenge for all of us.

**We know the Institute of Physiology Pathology of Hearing (IPPH) as a center, which has already been a host to many events, organized great congresses and symposia, how is it possible that beside the dynamical activities and enormous practical successes, you and your team find energy and resources for such events? To put it simply – can you give us a recipe for a practical-merit based-marketing success?**

**HS:** What one needs, is a thought-through vision as well as the ability to work as a team. Also taking advantage of any form of external assistance. The recipe is to work, work and work more. A clearly defined, focused work. For a long time, some have been calling it a dream, others a passion. When you apply passion and commitment to something, you can count on a success. This is probably why a group of distinguished Poles has chosen me for the Chairman of the Academy of Polish Success. What this means, is that it is worth having dreams and to consistently aspire to achieve them, it is worth being involved, it is worth to effectively implement ideas. Such an idea, with regards to this Congress, was presenting our Polish accomplishments and innovations to the international community. Stately representing Polish science and medicine in the best way possible.

**What next – what are the consecutive challenges in front of the IPPH and its team?**

**HS:** What next – in two year's time the European Federation of Audiological Societies Congress is to be organized in Warsaw. The preparations have already started. Until that time we want to expand the scientific infrastructure. We are keen to use the enormous potential in the form of clinical data. We are also in the middle of implementation of a few big research projects. First results should be available by the end of the year. There are more than enough ideas to cover, so there is going to be no shortage of work. I welcome any common understandings projects. And this Congress Tribune can become our mutual, everyday communication platform.

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**In the flesh**  
More of the photos you will find on our website from May 18, 2009. Visit [www.congresstribune.pl](http://www.congresstribune.pl)



# Hearing Treat Project

## COMMENTS ON PROF. HENRYK SKARŻYŃSKI'S OPENING LECTURE



**Prof. Skarżyński referred in his keynote lecture on Saturday morning to the HearingTreat Project. This project is funded by the EU Marie Curie Program and is intended to realize Transfer of Knowledge from participating partners in Europe towards the International Center of Hearing and Speech in Kajetany.**

What are the activities in this project? The Transfer of Knowledge is organized in a content-related way: the topic is "Electrical-Acoustical Stimulation" (EAS). One particular part deals with clinical tests and auditory evaluation methods. For that purpose several components of the Battery for the Evaluation of Listening and Language Skills (BELLS) – as developed by Prof. Frans Coninx in Solin-

### Prof. Frans Coninx, Solingen, Germany

gen, Cologne (Germany) – have been adapted for the Polish language.

One example of tests within BELLS is the Adaptive Auditory Speech Test (AAST). AAST was developed as a computer controlled procedure to measure the Speech Recognition Threshold (SRT) in quiet and/or in noise. AAST uses a closed set paradigm with only 6 words. The subject has to point on pictures on a touch-screen or mouse click on computer screen. Stimulus level is adjusted adaptively depending on the correctness of previous responses. The procedure is not only adaptive but also fully automatized; data are stored and threshold calculated.

A proper set of words for Polish was developed in the HearingTreat project. Word sets are available for several other languages already.

AAST norm data are age-dependent, being comparable over different languages. Completion of AAST takes about 1,5-2 minutes per condition.

Because of the special construction, test results are not depending on short term (auditory) memory, articulation skills and only minimally depending on vocabulary. The test can be used already by very young children: 4 years and older. Because of the closed-set paradigm, the test can be repeated several times within one test session. Testing SRT in quiet and noise can thus be done by children (and adults) while comparing different conditions of electrical/acoustical stimulation (EAS, CI or hearing aid).

The Polish version of AAST has already been used within the EAS-evaluation in the HearingTreat project successfully.

As a spin-off, s "short version" of AAST has also been used in a screening project in Eastern Poland, coordinated by the International Center for Hearing and Speech. In almost 20 000 children AAST has proven to be a fast procedure (2 minutes for two ears!). The results show basically a normal distribution with a standard deviation of 6 dB in quiet and only 2 dB in noise.

Other elements of BELLS that are being prepared for the Polish language are: teetahtoo (a wordfree phoneme identification test), SEPI (Solingen Evaluation of Phonological Information-Processing, including phonological awareness and memory functions) and SPINE (Speech Intelligibility Evaluation – assessing the quality of speech production by the child).

**Contact: f.coninx@ifap.info**



### Prof. Paul Kileny, University Oh Michigan, USA

**As we know with increased advocacy for early implantation patients with auditory neuropathy may be considered for implantation at a very young age. However we need to be caution as a subset of patients from this group may present different clinical picture.**

How do we evaluate patients with auditory neuropathy suspected with hypoplastic auditory nerve and how we can use this diagnostic information in selecting the appropriate management with a patient, and how do we counsel the family of the child?

I feel that we need to do very thorough preoperative evaluation that includes pre or perioperative electrophysiological easurements to complement imaging studies and other clinical exams and then use that information to make appropriate decision.

So, for instance, if we are talking about patients present with clinical signs of ANSD we need to evaluate them longitudinally to ascertain the presence of stable hearing loss to avoid the implantation of a patient who may experience hearing recovery. And in particular, these are patients with hyperbilirubinemia and premature presented with

respiratory distress syndrome during neonatal period.

If the hearing loss is permanent electrically evoked transtympanic ABR can be helpful to determine the auditory pathway stimulates electrically, which is a good prognosis for cochlear implant. In the patients with cochlear nerve hypoplasia or suspected aplasia the prop. eABR can contribute in a number of ways:

1. Even if imaging doesn't necessary detect the present of the nerve there may still be a nerve in enormous anatomic position that can be stimulated electrically

and this way we will not deny cochlear implant

2. In bilateral temporal bone abnormalities this helps to select more favorable ear for implantation

3. Finally, we can now identify abnormal adaptation of the cochlea nerve with electrical stimulation as documented by eABR amplitude changes and predict the occurrence of adaptation post implantation. This information helps us to decide whether to implant the patient and to provide realistic expectation to the team and to the family.





# Telefitting today and tomorrow

**The new telemedical program, the so-called “telefitting”, gives the possibility to remotely adjust, correct and control the functioning of a cochlear implant in a patient anywhere in the world. This program was developed and implemented, for the first time in the world, in the Institute of Physiology and Pathology of Hearing.**

As it is well known, periodic control of the speech processor setup, correction of its performance and adjustments to the system is necessary for obtaining good results in speech and hearing rehabilitation, especially in children. The operation of cochlear fitting includes a number of procedures, which should be consequently performed during each fitting session. The basic are the following ones:

- ✓ Reading out the current settings of inner and outer implant system, verifying the setup control,
- ✓ Performing psychoacoustic and psychophysical measurements, including the electrically-evoked loudness growth function,
- ✓ Performing objective testing of the hearing system, like Neural Response Telemetry, measurements of electrically-evoked stapedius muscle reflex, etc.
- ✓ Creating an updated program for the speech processor based on the data from the analysis of rehabilitation results,
- ✓ Running the speech processor in the “live” mode of operation

with the new software, checking the quality of the new program,

- ✓ Formulating instructions and recommendations for the patient and patient’s parents on how to perform further hearing training.

Only after the programming session, the person who performs the fitting disconnects the processor from the diagnosing computer interface and hands it over, along with the new software, to the patient.

As it can be seen, the fitting procedures are complicated and must be performed by well-qualified, experienced specialists. Cochlear implant fitting is especially difficult when we deal with young children. For this reason, until recently, implanted patients and their parents had to travel periodically – often very long distances from remote parts of the country – to the Institute (or other cochlear implant centres) where appropriate technical means and experienced specialists were available.

Implementation of the new telefitting program have radically changed this situation. The fitting procedures can now be performed remotely, making use of telemedia and internet facilities. The patient’s speech processor is connected to the diagnostic computer interface at the centres scattered around the country.

The specialist at the Institute of Physiology and Pathology of Hearing (or other reference centre) takes the control, via internet connection, over the speech processor of patient in the remote

medical-rehabilitation center, which thereby enables him to conduct the tests and program the processor. In the next stage, the specialist – the test leader – can run the software and observe the patient’s reactions.

The communication between the specialist and the patient is provided by audio and video links, and secure transmission protocol ensures the safety of data. At the local facility, the patient is assisted by a speech therapist, audiologist or other specialists, who communicate online with the test leader from the Institute. However, in most cases, their intervention is unnecessary, and the young patients feel quite comfortable when they communicate with us through electronic media.

The telefitting program is the latest, very important achievement in the rapidly evolving area of telemedicine. It has created a unique tool that gives a patient the possibility of having properly adjusted speech processor without wasting time and money for long travels.

The significance and benefits of this program become even more apparent for the growing population of deaf, and partially deaf children, for whom proper and frequent speech processor fitting is especially important. Moreover, the benefit is of particular importance for foreign patients, who represent a growing number of patients treated by Professor Skarżyński at the International Centre of Hearing and Speech of the Institute of Physiology and Pathology of Hearing.

The program of telefitting was first initiated in 2008. Since that time, telefitting sessions have been conducted remotely between the International Center of Hearing and Speech in Kajetany and the Rehabilitation Center in Leba, the We-

lists. By the end of this year, approximately 4000 patients will be granted such a chance.

The novelty and importance of the telefitting program was recognized internationally. It has been confirmed by numerous prizes and awards. Among them, we can mention the following ones:

- ✓ Gold Medal at the International Exhibition of Invention “Concours Lépin” in Paris in 2009,
- ✓ Award of the Minister of Science and Higher Education, International Exhibition of Inventions, Warsaw 2009



- ✓ Gold Medal at the International Fair of Invention and New Technology “Brussels Eureka” 2008 in Belgium
- ✓ Special Prize awarded by the Romanian Ministry of Education and New Technologies, during the International Fair “Brussels Eureka” 2008 in Belgium
- ✓ Gold Medal awarded by the Polish Academy of Success, Warsaw 2008.
- ✓ Gold Medal at the International Exhibition of Inventions, IWIS 2007 in Warsaw

It is planned, among other things, that the program will create the possibility for a patient to connect directly with the central reference centre. In practice, this would mean that all the patients after surgical treatment at the Institute will have constant access to the best special-



# An Interview with...

## Professor Jan Helms, Wuerzburg, Germany

### What are the problems facing the field of audiology these days?

**JH:** Well, I've been mainly surgeon, a head of a big department and audiology was one of the aspects of our activities. To my mind, the main problems of audiology for the cochlear implantation are, especially in children, to find a reliable diagnosis that a child is really deaf. No surgeon would like to implant a potentially hearing ear. Whenever you do a surgery, even if you have the best names for the press, like, "soft atraumatic surgery", that's all nonsense.

Surgery is a trauma, in every case, and therefore the diagnosis is prior to the cochlear implantation, which of course is a very serious thing. Unless, you perform a hearing preservation surgery, but that's not for children, rather for postlingually deaf adults. So, for children, safe diagnosis is the most important issue.

It's also important that every new piece of audiological knowledge is used in order to support the diagnosis of every newborn child, simply to test whether they hear properly or have hearing deficiencies. It means that screening examination is of utmost importance. The typical clinicians are satisfied with the term screening.

Of course, there are different methods to screen. The audiology has to provide that they find every child with a hearing deficit. They have to use different screening methods, they have to select not the cheapest ones, but the best ones.

### What about the neonatal screening?

**JH:** This is absolutely necessary and has to be performed with the appropriate techniques. The audiologists must make sure that the brain receives the acoustic signal.

### What is the influence of the global economical situation on the field?

**JH:** I fear that the influence is negative.

The economical basis for expensive medicine is reduced. This also touches cochlear implantation. But there is so much money in the medical field that are wasted by non-proven therapies. In ENT, audiology, otology...

In Germany they sell 500 000 and 50 perc. of this mass money...each device is about 1000 euros, so it makes 500 million euros in total and 50 perc., that is 250 million euros are sitting in the night box, because the fitting was bad. So if this money would be allocated in cochlear implantation it would compensate all the expenses.

I cannot believe that economical reasons may be used against cochlear implantation. It is so serious especially for children they have no chance in the society to develop, no chance at all.

### What does it take to be successful in your field?

**JH:** It takes quite a lot. First of all, you have to be a good ear surgeon, which, I would say... I'm very critical... is possible only for 10 perc. of ENT doctors. Then, you have to have nice partners from business. You know, to cooperate with, and then you need a successful team. You cannot do everything alone when you are, for instance, an expert surgeon and have no time to learn about the audiology. So you need that kind of people on the team that would tell you: "Professor, you're not right." It's a difficult thing to say in a team: "Professor, that's nonsense."

### What are the current hopes and expectations of the field?

**JH:** Well, of course, the hope is to have cochlear implant which is invisible, needs no repair and can work for 10 years. The technology will develop. And if a revolution comes after five years, it has to be tested for another five years to prove that it's good.

## Prof. Christoph von Ilberg, Frankfurt, Germany

### Welcome to Warsaw, Sir. What are your first impressions about our city?

**CI:** You see, this is not the first time in Warsaw, but I started coming to Warsaw seeing Prof. Skarżyński in 1990 for the first time. Well, since 1990 until today, there is enormous development in the Warsaw region and you can see new buildings, new companies which are now coming to Warsaw and when you go out on the street, out of the city in the direction of Kajetany you see it on both sides every time, a new building, a new supermarket and everything. So I am really impressed by the speed which Warsaw, Polish people are catching up with the international standard.

### And how about the Institute in Kajetany itself? Could you compare its level to that of other institutes?

**CI:** Well...as head of the department. I was head of the department in Frankfurt till 2000. As a head of the department, you travel around the whole world. And you can see many institutions, hospitals and research places, so I have really the possibility to compare this. Finally I think what has been constructed as an idea of Prof. Skarżyński from the very first moment, and what he realised finally in Kajetany, is something very special. I am not sure whether you can find something similar in any other place in the world.

### You mean that the Institute is so big, or it had so many successes?

**CI:** It is a whole idea, it is not only the building. It started with a good team, a team of different people working on different topics and specialities, and how they work together. It impressed me really from the very beginning and the outcome of this, finally, is just the result of the spirit he creates in Kajetany. It's not only the building... the building is fascinating, it's just beautiful, the spirit of Kajetany which impresses me.

### What do you think of Prof. Skarżyński being the President of this year's Congress?

**CI:** Henryk Skarżyński, we are close friends for many years, I think he waited for this kind of appreciation for quite a while. So finally, the Congress, takes place in Warsaw after many years.

It's an ideal moment- the sun is shining, the look of Warsaw has improved a lot, the reputation of Prof. Skarżyński all over the world has developed tremendously. He's a very much accepted person as a research man, as a clinician, as an ingenious surgeon, so you can see the mass of people who have come to Warsaw this time, and it's amazing.

I think it's a very good moment for Prof. Skarżyński to be the President of the Congress.

### What is the most important, most magnificent thing in your work, in your field?

**CI:** Well, during my lifetime as a research man, I started with basic research... later in microscopy and electro microscopy of the inner ear, so from that moment I was interested in inner ear topics... later on I had a lot of clinical topic - tranquil surgery, sinusurgery. As the head of a department, you have to cover a broad variety of activities.

Then later on, I started in '87 with cochlear implant program. Then was the moment where I concentrated more on this topic and I started my idea of electric and acoustic stimulation. This was quite late, so the first publication on this topic was 10 years ago, so we have a kind of anniversary this year, and I think this idea has been transported to many other places in the world.

Warsaw especially has turned out to be one of the top most institutions to realize this idea. I think this is maybe now the most important topic - the combination of acoustic and electric stimulation.



# Keynote Summary: Partial Deafness Cochlear Implantation (PDCI) and Electro-Acoustic Stimulation

**A full day and a late night on Friday for many ESPCI Congress participants didn't prevent an impressive turnout for Saturday morning's keynote presentation "Partial Deafness Cochlear Implantation (PDCI) and Electro-Acoustic Stimulation" by Blake Wilson, Co-Director of the Duke Hearing Center, Duke University Medical Center, Durham, NC, U.S.A., on behalf of the investigator teams.**

The focus of the presentation was to briefly outline the experience to date with combined electric and acoustic stimulation for patients with some residual, low-frequency hearing; describe the further results that have been obtained with the combination for patients with higher levels of residual hearing at the low frequencies, termed "partial deafness cochlear implantation" and pioneered by the team in Warsaw; and present new results on the relative benefits of cochlear implantation according to the level of remaining hearing.

The results from the multi-center studies at the Research Triangle Institute, in Frankfurt,

Vienna, Chapel Hill and Warsaw showed that, on the whole, PDCI and combined EAS produced substantial improvements in the subjects' speech reception abilities, as compared to electrical stimulation alone, or the use of acoustic stimulation alone.

The benefits are especially large for recognition of speech presented in competition with noise. Indeed, the immunity to noise interference provided by PDCI and combined EAS is remarkable, with many subjects showing a synergistic effect of the combinations, demonstrating that combining electrical and acoustic stimulation is more than the sum of the parts.

The findings are counter to the conventional wisdom that patients with such good residual hearing can be harmed by CI and suggest that criteria for implant candidacy should be relaxed further so that many more patients can benefit from the procedure. These results show a highly beneficial effect of combinations of electrically plus acoustically elicited hearing for subjects with relatively high levels of residual hearing.



Following the result of the ballot by the current and former ESPCI Presidents held on May 15, 2009, the organizer of the 11th European Symposium on Paediatric Cochlear Implantation in 2013 will be Professor CAGLAR BATMAN - Istanbul, Turkey.

Congratulations and best wishes  
for a successful event!



Opening lecture:

# Treatment of partial deafness

Free Papers: Otoprotection and preservation of hearing during cochlear implantation

**The morning events of May 16 began with an opening lecture by Prof. Henryk Skarzynski on the treatment of partial deafness.**

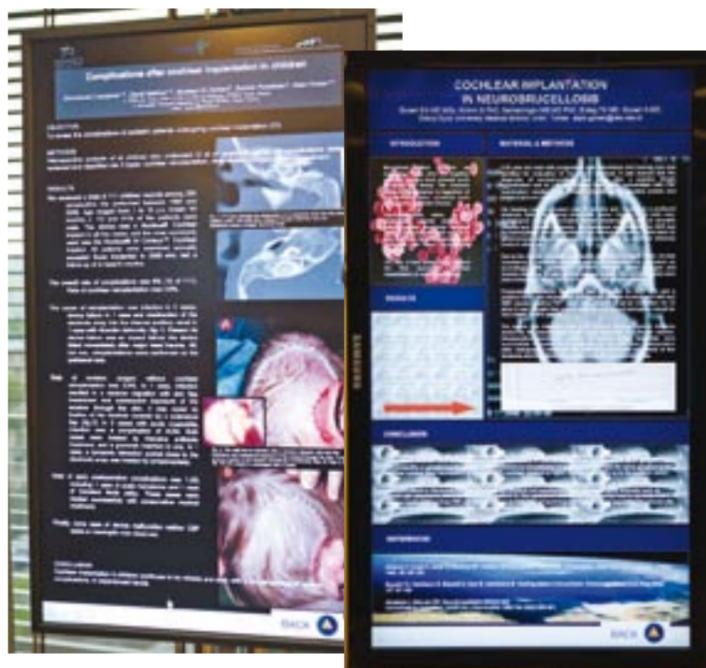
After a very insightful and detailed presentation from the president of the 9th ESPCI, the audience gathered in Congress Room A heard a set of short lectures about the Otoprotection and preservation of hearing during cochlear implantation.

The Chairmen for the session were Prof. Thomas Van de Water and Prof. Jean-Pierre Bebear. The role of the secretary was assigned to Dr. Robert Podskarbi-Fayette.

The lectures started with a presentation by Prof. Van de Water on "Conservation of Hearing and Protection of Auditory Cells against Trauma-Induced Losses by Local Dexamethasone Therapy: Molecular & Genetic Mechanisms". Each of the 11 presentations was given a time restriction of eight minutes per speaker, with a short question time allotted for each. Despite the early hour of the day, the lectures attracted a large number of participants who asked many questions. The atmosphere and audience enthusiasm for the speakers' respective presentations contributed greatly to a pleasant and informative start for the third day of the ESPCI Congress.



During Saturday sessions a lot of speakers alleged the Window Approach method in treatment of partial deafness by Prof. H. Skarzynski: Prof. W. Baumgartner from Vienna, Austria and Prof. H. Staecker from Kansas City, U.S.A.



## Poster and Film Session

**In case you missed it so far, on Meetings Level 2 you can find a place that gives you a chance to read and watch the materials presented at the 9th ESPCI Congress.**

The Film and Poster session has been a major point of interest at this year's event.

In the E1 Conference Room you can choose from nine work spaces equipped with large LCD displays to access the materials that interest you. Currently, you can ac-

cess 78 posters, and the number is still growing.

And, as an incentive to encourage Congress participants to check it out, we can tell you that some of the bonus materials you can find here were not presented during the regular lectures and other sessions (usually due to time constraints). On the separate display screens, you can also watch films from the Congress, just in case you missed a session in which you have an interest. This kind of poster and film ses-

sion has not been seen at previous ESPCI Congresses, but this time, it was decided to make the change from standard paper posters in favor of multimedia presentations. The ease of access to the data presented has contributed greatly to this area's popularity.

So if you're interested in some presentations that you didn't get the chance to take part in, or you would like to (re)study some materials in peace and quiet, the Poster and Film Session is the place to be.



# Englishman in Warsaw

Congress Tribune interviews Professor Gerard M. O'Donoghue, President of the 1st ESPCI Congress, held in Nottingham, the United Kingdom, in 1992

**Is this your first trip to Poland?**  
**GO:** I have been to Poznan once before, which is a wonderful city, but this is my first time in Warsaw. So I'm delighted being in Warsaw on a beautiful day. The sun is shining, the city is very vibrant. I'm delighted to have an opportunity to visit Warsaw.

**What about the group of people who were chosen to prepare this conference? I'm especially asking about Prof. Skarżyński in terms of giving him advice, although it has already started, but what would you say? What is the most important?**

**GO:** For any great event of this kind it's all about preparation, it's like a military campaign when you organize a big meeting. A military campaign starts a long way ahead of the battle itself, and I have no doubt that Prof. Skarżyński and his colleagues have worked phenomenally hard, planning everything to the last detail and I'm sure nothing has been left to chance and that's why the meeting will be a great success and I have confidence it will be. I've little doubt that everyone here worked really hard over many months to ensure the success.

**When you compare the conditions, I'm talking about the field itself, is it a big change when you compare everything, organization plus the conditions of the field of laryngology, audiology?**

**GO:** Oh, well... the whole field has grown, has been transformed over the last 18 years. When we star-

ted, we wondered if there is a need or if indeed it would even be supportive to a European event. And we were actually quite surprised 18 years ago that we had possibly around 300 people then attending the meeting, it was rather a surprise to us. And the field became itself more robust, the technology has become more reliable, and of course it has evolved into standard practice now. 18 or 30 years ago, it was kind of experimental or viewed experimental.

But today it is mainstream auditory rehabilitation... And in all fields the results speak for themselves, it's not doctors saying things. It's actually the patients, the parents valuing what we've done over the years, and they, of course, are the greatest advertisement for the quality of the work that has gone up. And without the successes and without the support and endorsement of families and parents, and deaf people themselves, the field wouldn't grow.

**How would you rank Poland today in terms of screening for hearing problems and rehabilitation services available for implanted patients?**

**GO:** Oh, I think Poland has done extraordinarily well in terms of health care, particular in prioritizing hearing services, which is not a case universally. Hearing services are often neglected and society pays a high price when it does that. Poland has extraordinarily well developed hearing screening, for instance for in-

fants. It's got very good rehabilitation services throughout the country. It uses the internet efficiently in terms of screening and diagnosing hearing impairment... and the implant services, the implantation rates per head of population match any country in the world, I would say. So, that implant service provision is amongst the best we can find... so, Poland contributed enormously to this field.

**I wanted to ask you whether you think these kinds of events are useful? And if so, why?**

**GO:** People don't come just to socialize, they come because there's a real value in meeting colleagues...I think meeting people on individual basis or in small groups is very important...so for me the international meeting like this is about meeting people and that's why I come and I have already met somebody from Canada, Israel, met somebody from Turkey, met somebody from Serbia. I met a colleague from the United Kingdom, I met somebody else from Basel and I'm here about two hours. You know, so the ability to do that in one place and one time is hugely enriching. It's also great for Poland to host a major international event like it because it means Poland ranks with all the other great countries hosting these things. I think it is very good to say that Poland is recognized as major international center of excellence in this field and we are delighted to support it.



Prof. G. M. O'Donoghue and Ms. E. Ludwikowska



PROF. LEO DE RAEVE, ZONHOVEN, BELGIUM, TALKS ABOUT...

# Education and Rehabilitation

**This is the first time in the history of the European Symposium on Paediatric Cochlear Implantation that the opening lecture is on the topic of 'Education and Rehabilitation'.**

This means that more and more professionals who are involved in cochlear implants are aware of the importance of good rehabilitation and education for deaf children after they have received a cochlear implant. It is not just technology, surgery and fitting, but there is a lot of work to do after the implantation.

## Education of deaf children

As a Belgian psychologist, working in the education of deaf children for more than 25 years, I am proud to say that Flanders, the Northern part of Belgium, was in 1998 the first region in Europe to implement a Universal Neonatal Hearing Screening (UNHS) programme, combined with a further diagnostic and rehabilitation-guidance programme. Since that time, a lot of literature has been published (especially by Yoshinaga-Itano, Missouri, USA) which shows us that UNHS is very important for the future development of these children.

Children who have been screened early and fitted with hearing aids before the age of 6 months reach a higher expressive and receptive language level, their speech is more intelligible, they have higher auditory capacities, fewer social-emotional problems, their parents have better attachment, they become better readers and more and more of these children are learning in a mainstream educational setting. Following the implementation of UNHS and the earlier identification and diagnosis of deafness, cochlear

implantation in the very early years of life has become a reality. In Belgium we have found that the median age of implantation has decreased from 41 months (1995-1999) to 18 months (2000-2008) and we all know that the age of implantation has a big influence on the outcomes. But this also means that parents (and 95 per cent are hearing) have to deal with decisions at a time when they are at their most vulnerable, and before they have any knowledge of the impact of deafness.

## Multi-modal communication

Although it is clear that children with cochlear implants need much exposure to spoken language in order to acquire it, it is equally obvious that early communication, both with hearing as well as deaf infants and toddlers, is gestural in form. Thus, early multi-modal communication seems to be the most natural approach in the early years. What the role is of sign language at later ages is not yet clear. It can even be different from child to child and from age to age. So we need more objective studies on a larger number of children.

Despite these difficulties, outcomes in the population of hearing impaired and deaf children have changed dramatically in countries where Universal Hearing Screening, digital hearing aids, cochlear implants and early multi-disciplinary support are available. We see now that most of these children can acquire intelligible spoken language and choose spoken language as their main means of communication to access education, because they go to mainstream schools in larger proportions, and fewer to schools for the deaf.

## Support and development

There is a lot of research going on looking at the benefits of two cochlear implants, searching for the best way to fit children with two cochlear implants and how to monitor the effect of bilateral implantation. But little is known about how to train children's binaural hearing or if it develops automatically.

Do we know how we have to support and guide these children in daily practice, in auditory training, in an educational setting? At KIDS, Royal School for the Deaf in Hasselt-Belgium, we give bilateral implanted children specialised auditory training and support. How we do this, will be explained during the presentation. Even the fact that a large group of these deaf children will be able to learn incidentally (Robbins, 2003) needs to be handled with caution. This can only be the case if the necessary prerequisites are met to allow this learning process to take place.

## Individual communication modes

Besides attention to the personal qualities of individual educators who are required to show the skill to anticipate and tune in to the changing communication modes of the child, one also needs to focus on the acoustic quality of the living environment. All this is a big change for the educational services.

They have to adapt their way of working and they must ensure that their educational staff have the skills to meet the challenges: to be flexible, continually updated with the technology and changing expectations (ongoing professional training), to provide an environment which will utilise useful hearing, whilst meeting the linguistic and curricular

needs of the children, to meet the psycho-social needs of this group as they grow through adolescence and to work with other professionals. The surgical intervention of cochlear implantation has also brought together the worlds of medicine and education, with implications that were not foreseen by surgeons and teachers or therapists. There are also children who do not do as well as predicted. It is likely that these children have other difficulties not identifiable prior to implantation and we also have to detect these additional problems as soon as possible, so we can give optimal support to the child and family as soon as possible.

And we also have a growing group of young people with cochlear implants who, during adolescence, face many challenges. They may question the value of the implant system, the decision made by their parents, and need support during this time of transition to adulthood. So assessment and management of children with cochlear implants necessitates a multidisciplinary team which includes surgeons, audiological scientists, teachers of the deaf, speech and language therapists, social workers, psychologists; but also deaf (CI) adults and other families of deaf children (with and without implants).

## Information must be available

Because 1/3 of the deaf population have additional needs, and as we implant younger and younger, we cannot know all these additional needs at the time of implantation, so we have to continue to assess and monitor these children in a multidisciplinary manner. Not only by looking at their auditory, speech, language

and school curriculum development, but also by looking at their cognitive and social-emotional development. It has been essential to develop outcome measures from implantation to ensure that information is available for parents, professionals and purchasers of the service. It is important that regular evaluation is carried out on children in order to: monitor the functioning of the device, monitor progress in early communication and language skills, determine whether there are no other learning difficulties present, provide information to parents, professionals and purchasers and to refine practice.

## Child's individual needs

We see that a lot of material is already available in English, but this is still lacking in other less common languages. Now and looking ahead, the challenge for deaf education is also to embrace the diversity of this population and then to appropriately address the specific needs of each child in his/her family in that specific country.

The service should be delivered to meet each child's individual's needs, abilities, expectations and attitudes. This is particularly relevant with children whose home language is not English or those who have additional needs (30-40 per cent). With growing numbers of children being implanted, increasingly younger and with increasing complexity, and growing numbers becoming teenagers with cochlear implants, there is still much to learn.

We continue to consider the long-term outcomes in terms of reliability, attainments and employment prospects. So, there still remain many challenges for the future.



# Gard

Clowns and balloons welcomed guests arriving to the International Center of Hearing and Speech in Kajetany, which last night opened its lawns and gardens to hundreds of people. Proceeding the concert's kick off, Professor Skażyński welcomed the gat-



# Golden Party

hered crowd and invited to enjoy special performance prepared by friends and patients. The incredibly lively and entertaining show given by Studio Buffo began promptly at 8 pm. The artists were accompanied by the Studio Buffo Orchestra conducted by Janusz Stokłosa. Amazingly colorful and perfectly timed performance quickly

attracted a crowd to the stage. The evening got hotter with each song, despite the cloudy sky outside. Janusz Józefowicz, the show's director and choreographer, hosted the evening and encouraged the guests to sing and dance together with the artists. The evening finished with a bang of fireworks.



THE 10<sup>th</sup> EUROPEAN SYMPOSIUM ON PEDIATRIC COCHLEAR IMPLANTATION

# See you in Athens

**On behalf of the organising committee of the 10th European Symposium on Pediatric Cochlear Implantation, it gives me a great pleasure to invite you to the historical city of Athens, Greece, the land of the Father of Medicine, Hippocrates.**

Since 1961 – the first single channel implantation – until today, we have seen great changes and remarkable outcomes in pediatric cochlear implantation that nobody could ever guess. Therefore, it is a great opportunity to celebrate these 50 years and ponder upon what we have accomplished as well as plan together the future developments.

Delegates from all over Europe and around the world will give lectures, seminars, workshops, panel discussions, and presentations on the latest frontiers of research and achievements on pediatric cochlear implantation.

The multidisciplinary approach will be emphasized and special workshops will focus on speech and language therapy and education. We will share the latest news on surgery and technology but there will also be special days devoted to teachers for the deaf and speech pathologists whose contribution is so important.

Beyond the scientific activities, a visit in Athens will give you the opportunity to walk among the city's 2500 year old historical monuments such as the Acropolis, the Ancient Agora, the Temple of Zeus as well as to admire the variety of exhibits in the archeological museums. You will be able to feel the continuity of history from ancient times to the modern age and amazed by the light, tastes, places, the Islands of the Aegean Sea, the beautiful beaches, all these uni-

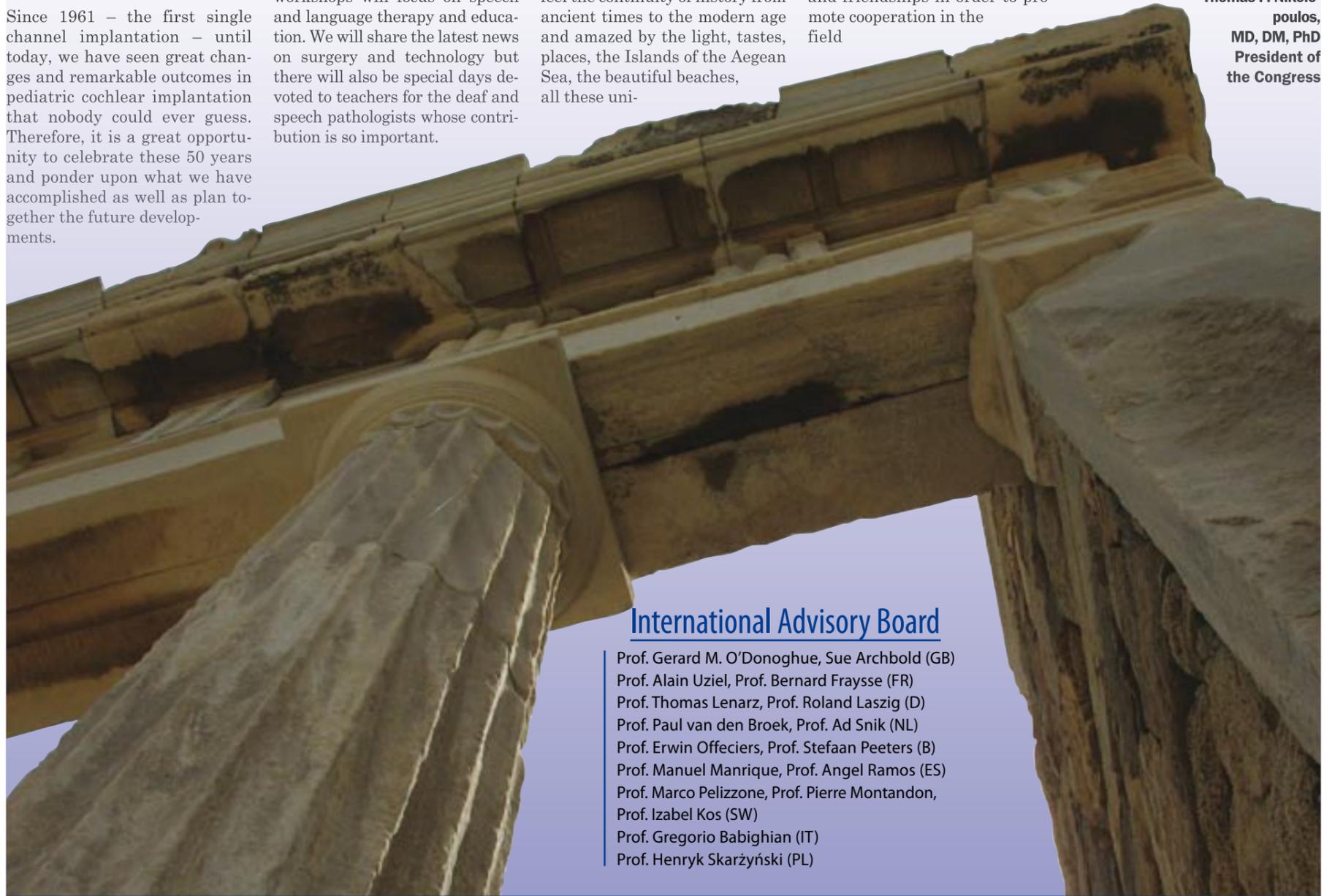
que landscapes which blossom in Greece in early summer as May promises. So, don't forget to spend at least a few hours to enjoy your stay in Greece as a cultural and tourist experience too.

Of course, we will have all the time we need to develop social and interpersonal relationships and friendships in order to promote cooperation in the field

on an international level and to give the sensation that together we will walk towards the progress of science.

I wish all of you an unforgettable congress and a most enjoyable stay in Athens.

With cordial regards,  
**Thomas P. Nikolopoulos,**  
 MD, DM, PhD  
 President of the Congress



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 Institute of Physiology and Pathology of Hearing  
 Warsaw, Poland  
 The Audiology Section of the Polish Society  
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**Congress Secretariat**  
 phone: +48 22 356 03 66  
 fax: +48 22 356 03 67  
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