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Conference and Workshop on Assistive Technology for People with Vision and Impairments

Past Successes and Future Challenges

20th – 23rd April, 2009
Hotel Jana Pawla II, Wroclaw, Poland

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1 EXECUTIVE SUMMARY

The "Conference and Workshop on Assistive Technology for People with Vision and Impairments: Past Successes and Future Challenges " (CVHI) is a tutorial organised as a conference-like event which invites students and young researchers to participate in the field of AT and eInclusion. The main objective of CVHI tutorials is to offer young researchers attractive and high quality events to encourage them to specialise in and work in this field. Experts from around Europe work together with young researchers on state of the art technologies and real problems. Students submit papers beforehand, work on the topics in co-operation with experienced international experts and prepare them for publication.

Besides offering events for experts and all stakeholders in the field, there is also a strong need to support the development of the next generation of experts in eInclusion. Due to the specialised and interdisciplinary nature of eInclusion, there is a need to help young researchers and practitioners enter into international co-operation early in their careers. CWST supports this by providing an attractive opportunity for highly skilled and motivated young researchers to learn from and co-operate with outstanding experts.

Young researchers are given access to and get to know an interesting and forward looking field of R&D in an attractive environment. Working together with outstanding experts enables them to make an important contribution to determining and initiating the new engineering, technological and fundamental science R&D required to resolve the most pressing problems in eInclusion. CVHI also encourages the development of new R&D collaborations and the cross-fertilisation of ideas across the interdisciplinary field of social science, medicine, human factors, design, communications, engineering.

The most important outcomes and results of CVHI 09 are:

- The participation of 25 young and disabled researchers.
- The provision of high level training in both assistive technology and conference participation, including chairing sessions and producing accessible PDF documents, for the young researchers.
- A keynote panel discussion on Assistive Technology Current and Future: The Perspectives of the Deaf and Deafblind Communities in Poland
- A keynote panel discussion on E-Learning for Deaf People – Is This the Solution for Accessibility and Inclusion?
- A keynote speech on Audio-Visual Speech Processing – Analysis and Synthesis given by Hans-Heinrich Bothe of the Centre for Applied Hearing Research, Copenhagen.
- Tutorial sessions on Researching End-User Requirements with Application to Wayfinding Technologies; ICT for Deaf Users in Developing Regions: A South African Case Study; and Designing Assistive Technology to Support Independent Travel for Blind and Visually Impaired People
- The presentation of their current research projects by the young researchers.
- Developments in accessible CD production. In particular the conference template included instructions on producing accessible PDF documents. Additional examples of alternative descriptions for graphics have been produced and made available on the CVHI website.
- The development of a number of contacts and collaborations as a result of CVHI 09.
- A number of proposals for organising other events, proposal submission etc.

2 PREPARING THE TUTORIAL

The preparation of the tutorial started with discussions between the University of Glasgow and the University of Linz about the possibility of organising CVHI immediately after ICCHP 08. However, this was considered unrealistic for the following two reasons:

- The short time span since the previous event, both reducing the preparation time and the availability of new work
- The fact that Dr Hersh was going to be carrying out study leave research abroad from the start of April 2008, making it difficult to organise a high quality event.

2.1 Tutorial office

The tutorial office was situated at the University of Glasgow and very ably staffed by first by Ms Vi Romanes and then by Ms. Lucy Whiteley.

2.1.1 Budget: Sponsoring, price building, reservations, contracts, accounting

No sponsorship was sought or obtained.

Ms Whiteley maintains records of all payments to reimburse travel costs to young researchers and invited speakers. Dr. Marion Hersh has records of all other payments. The original budget was produced by Dr. Marion Hersh. Accounting is carried out by Dr. Marion Hersh with support from Ms. Lucy Whiteley and the University of Glasgow Finance Office.

A block reservation of 60 rooms was made at the Conference hotel Jana Pawła II, Wrocław. An initial deposit of PLN 6.000,- (about) followed by a further prepayment of PLN 15.000 (about) was required.

2.1.2 Registration, payment

The registration fee was 250 € for the conference event and 125 € for the tutorial day. The late registration fees were respectively 350 € and 175 €.

A registration form was available for downloading from the web site, with payment to be sent by credit card or cheque to the tutorial office. Payment could also be made at the conference registration desk by completing the credit card section of the registration form for processing in the tutorial office.

2.1.3 Budgeting, Use of European Commission Funding

Budgeting was done via the established offices at the University of Glasgow.

The main uses of the European Commission funding were to support young and disabled researchers and invited speakers, as well as to provide necessary assistive technology and interpretation support:

- Young Researchers

25 young and disabled researchers were supported. 11 of these researchers (44%), were female and seven (28%) were disabled. Five of the disabled researchers were under the age of 35 and two were over this age and supported as disabled researchers. Another of the female researchers was slightly over this age, but had moved into assistive technology research recently and could be considered as a researcher at the start of her career in assistive technology. One of the young researchers was also the support assistant and accompanying people of one of the blind young researchers who travelled with her. The number of young and disabled researchers supported increased remained the same as at

the previous CVHI event, but the number of female young and disabled researchers supported increased significantly from seven to 11 and the number of disabled researchers moderately from five to seven.

The young researchers were of 11 different nationalities and currently working in 11 different countries. Three Central and Eastern European countries and eight Western European countries were represented. For the second time there was a group of young researchers from North Africa. Due to the conference taking place in Poland the percentage of young and disabled researchers supported from Central and Eastern European countries was higher than at previous CVHI events at 44%. In addition, the registration fee was waived and meals were provided to enable the participation of a Deaf student from Wroclaw who did not apply in time to be awarded a bursary and was also only able to attend part of the conference due to ongoing studies.

- Invited Tutorial Speakers

Financial support in the form of full travel and subsistence costs was provided to the five tutorial presenters, Dr Jim Marston from the Research Unit on Spatial Cognition and Choice, Santa Barbara; Dr William Tucker from the University of the Western Cape; Meryl Glaser from SLED South Africa; Dr Hersh, who is also the conference organiser; and Prof Pissaloux from the University of Paris 6. The European Commission funding therefore provided conference participants, particularly young researchers, with high level training in the following three important topics: Researching End-User Requirements with Application to Wayfinding Technologies; ICT for Deaf Users in Developing Regions: A South African Case Study; and Designing Assistive Technology to Support Independent Travel for Blind and Visually Impaired People

- Invited Keynote Speaker

Full travel and subsistence costs were provided to Dr Bothe from the University of Denmark. Therefore the use of European Commission funding gave conference participants, particularly young researchers, a very useful opportunity to understand the issues associated with the simulation of full audio-visual representations of speech, with particular application to the development of computer-based aids for training in speech reading. The specific example of the German system LIPPS was given. The system also has potential applications in developing representations of the non-manual features of speech to be used in sign language translation.

- Invited Panel Discussion 1

Travel and subsistence costs were provided to Grzegorz Kozlowski, President of the Towarzystwo Pomocy Gluchoniewidomym (Society for Supporting Deafblind People), and Kajetana Maciejska-Roczan Vice President of Polski Związek Gluchych (Polish Association of Deaf People) and Member of Board of European Union of the Deaf. Therefore the use of European Commission funding gave participants, particularly young researchers, the opportunity to learn about the design of assistive technology from the perspective of end users from the deaf and deafblind communities, as well as the particular situation of these end-users and their opportunities for using assistive technology in Poland.

- Invited Panel Discussion 2

Subsistence costs were provided to Tomas Sklenak and Lucie Stefkova from Masaryk University, Czech Republic. The third participant in the session Ms (now Dr) Saduf Naqvi was funded as a young researcher. Therefore the use of European Commission funding gave participants the opportunity to learn about the use of eLearning and ICT to support the Deaf community and their advantages and disadvantages. Participants also learnt about the specific ICT and elearning projects for Deaf students at Masaryk University and Deafax in the UK and were able to participate in an interactive session with presenters using both sign language (with interpretation) and speech.

- Assistive Technology and Interpretation

A fully qualified British sign language (BSL) - English interpreter was provided to support a Deaf young researcher for the tutorial sessions and two days of the conference. The funding covered the full costs of travel and subsistence and a fee to the interpreter. Since it did not prove possible to obtain a second interpreter or find a BSL interpreter who was available for the last day of the conference, the Deaf researcher's spouse, who was attending the conference as a young researcher, also provided interpretation for him. Although this informal solution worked reasonable well on this particular occasion, it is preferable, if at all possible, to have formal interpreters.

A fully qualified Czech sign language – English interpreter was provided to interpret the session on e-learning and ICT for Deaf people in which there were two Deaf Czech presenters. The interpreter's fee and accommodation costs were covered, but travel costs were paid by Masaryk University.

Polish language transcription was provided to support a deaf participant who lip-reads, but is unable to lip-read English, and a local Deaf participant who attended occasionally. This involved the provision of an English-Polish language translator and a Polish language transcribe.

The travel and subsistence costs for a guide-communicator for an invited deaf blind speaker were covered.

The costs of travel and subsistence of the companion for one of the blind young researchers, who always travels with a companion and does not use mobility technology, were also covered. Slightly higher travel costs were paid to one of the invited speakers to enable him to travel to the home of one of the blind young researchers and travel with her to the conference. These costs are included with those of the young researchers and invited speakers respectively and not listed separately.

- Other Costs

The other costs covered by the European Commission funding are:

- Printing, Conference Proceedings and CDs
- Registration desk
- Social programme
- Consumables and some administrative costs

- Consulting and Public Relation by partner of Linz

For better understanding of the table below:

Costs named "costed" are those expenditures which were paid by the fees. "Non costed" shows the own resources.

CVHI 2009	01/07/08	30/06/09		Wroclaw/Poland, 20-23 April 2009		
Expenditures	costed*	non costed		CWST		Detailed description of contribution/added value enabled by CWST resources
		Glasgow	IS	Period 5		
				Glasgow	IS	
Staff costs	3.000	29.044	450	16.304	3.115	
Organisation, preparation	1.000	25.440	450	3.500	1.510	
Consulting and PR					1.605	
Sign language interpretation				2.791		For young researcher and two invited speakers
Communication assistance				1.096		Polish transcription for hearing impaired young researcher
Local Organisation		1.060				
Technique, Website		2.544			0	
Conference Secretariat	2.000			8.917		
Travel and hotel costs	0	0	0	24.932	0	
Young and Disabled Researchers				17.590		Travel, accomodation and meal costs for bursary holders
Keynotes, invited speaker				5.620		Travel, accomodation and meal costs for invited speakers
Marion Hersh				1.722		Conference preparation
Other costs	850	0	0	3.816	0	
Postage and phone	450					
Registration desk				375		
Conference room				884		
Audio-visual equipment				208		
Proceedings, CDs				1.014		
Consumables	400					
Social Programme				1.335		
Overheads		0	0	9.010	623	
Total expenditures	3.850	29.044	450	54.062	3.738	

* Paid by fees

Overview	non costed	CWST
Staff costs	29.494	19.419
Travel and hotel costs	0	24.932
Other costs	0	3.816
Overheads	0	9.633
Total expenditures	29.494	57.800

2.1.4 Telephone and email support of authors and participants

Telephone and email support were provided to authors and participants by Ms. Romanes and then Ms Whiteley from the tutorial office in Glasgow. In addition to answering queries promptly, they also developed an email list which they then used to provide authors, participants and other interested parties with information about CVHI. The change of personnel was required due to Ms Romanes reaching retirement age and the transfer occurred seamlessly.

2.1.5 WWW tools controlling and WWW page update

The CVHI web page is http://www.elec.gla.ac.uk/Events_page/CVHI/cvhi/. The information provided on this page included the following:

- General information about CVHI
- Call for papers
- Information on the conference tutorials
- Paper formatting instructions, including information about producing an accessible PDF file and additional examples of writing alternative descriptions of figures.
- Information on the conference bursaries and an application form.
- Registration information and an application form.
- Information about Wroclaw and the conference hotel
- Accommodation reservation form
- Information about the conference social events.

This information will be moved to the archive section of the conference web site. The conference report and programme will be added.

2.1.6 Registration Desk

A registration desk was provided at the back of the conference hall. It was staffed by Ms Anna Maj from the University of Katowice in return for conference attendance and subsistence costs. The desk was staffed during the early evening before the start of the event and before the start of the morning and afternoon sessions.

2.1.6.1 Tutorial bad, handouts

The tutorial book contained the three tutorials. Unlike the other presentations, the tutorial presenters were not required to use a specified format and could choose whether the text of their presentation or the PowerPoint presentation was included in the tutorial book. The tutorial book was given to all participants who registered for the tutorial day.

The conference handbook contained brief conference abstracts plus the conference programme. Full versions of all presentations are available on the CD. Two versions of the CD were produced, with and without the tutorials.

2.1.6.2 Event and local information

CVHI 09 in Poland, Wroclaw is the sixth event in the CVHI Conference Series and the third event funded as part of the CWST Project.

The first three conferences were supported by the Research Directorates Human Potential Programme: High Level Scientific Conference. The support was awarded to Dr. Marion Hersh (University of Glasgow, Scotland) and Professor Michael Johnson (University of Strathclyde, Scotland) who are key organisers of the Conference series. These three conferences have already taken place; the first was in Italy in 2001 having as its theme *Support Technologies for Independent Living and Working*. The second was in 2002 in Granada, Spain with the theme, *Accessibility, Mobility and Societal Integration* and again in Granada, Spain in 2004 the theme was *State-of-the-Art and New Challenges*. The Current financial support from the European Commission is from the Sixth Framework IST Programme elInclusion Priority as part of the CWST Project.

As important part of the European Commission support is the provision of bursaries for young researchers and disabled researchers. In the first three conferences this support only covered European researchers, but it has now been extended, though the focus is still on European researchers. Support for disabled researchers who do not meet the age conditions is also new to three conferences supported through the CWST project.

This support has led to the development of a network of researchers working in assistive technology and related areas in Europe and beyond and including young and disabled researchers.

Wroclaw has had a colourful history since it was founded 1200 years ago on the island of Ostrow Tumski by the Slavic Slezan tribe. It is on this historic island that CVHI 2009 took place, though Ostrow Tumski is no longer an island, as one arm of the river Odra was filled in 1810.

Wroclaw is an attractive city with a large market square dating from the thirteenth century and a number of islands or semi-islands in the branches of the river Oder. It is situated about 290 kilometres southwest of Warsaw and has good rail and air links.

The name Wroclaw is thought to have originated with the Czech leader Wroclaw. Wroclaw first became part of Poland in 990 CE, when it was incorporated into the region of Silesia by Prince Mieszko I, having been part of Czech territory.

In 1000 Wroclaw became an Episcopal city and the religious centre of Silesia. It continued to grow over the next two centuries, with an economy based on trade and crafts, but was razed to the ground in 1241 by the Tatars. It was then rebuilt round a large market square, which still exists, and was soon enjoying a revival.

In 1363 the Duchy of Silesia, including Wroclaw, was annexed by Bohemia and did not return to Poland for another 600 years. Wroclaw, now often called Prezzla, continued to flourish under Bohemian rule and was admitted to the Hanseatic League in 1387, a bit like a medieval version of the G8. In the sixteenth century Wroclaw came under Austrian rule when Bohemia elected the Austrian Habsburg Duke Ferdinand as king.

In the early seventeenth century the Thirty Years' War (1618-48) and plague halved the city population, but an economic and cultural revival followed the end of the war. In 1741 Wroclaw came under Prussian rule when Frederick II took over Lower Silesia and officially acquired the name Breslau (or Prezzla), which had been used for several centuries by its large German population. By the end of the nineteenth century it was the largest Prussian city after Berlin and Hamburg and was beginning to be heavily industrialised. When the Nazis seized power in 1933 the remaining 20,000 Poles (and Jews) were asked to leave.

Wroclaw, now called Breslau, was the last town to surrender to the Soviet union after a 14-week siege on May 6 1945. Wroclaw was given back to Poland at the end of the second world war, the German residents were expelled and the city was repopulated by Poles from Lwow (the Ukrainian town of Lviv), Wilno (the Lithuanian town of Vilnius), as well as settlers from Warsaw and Poznan.

The city has been rebuilt over the last sixty years and is again an important academic and cultural centre, with nine universities and nearly 90,000 students. It is the fourth largest city in Poland with a population of about 640,000. The restored buildings include the 14-16th century Gothic city hall and the 12-15th cathedral of St John the Baptist.

The conference took place in Hotel Jana Pawla II. This is a four star hotel on the historic semi-island of Ostrow Tumski in the River Oder in Wroclaw and within walking distance of the Old Market.

2.1.6.3 Meals, eating

To facilitate networking, participants were encouraged to eat together in the conference hotel and several adjoining tables in the restaurant was reserved to enable participants to sit together. A one course served meal was provided at lunch time and a three course meal in the evening. This was a change to the original proposal by the hotel for a three course meal at lunch time and a one course meal in the evening to reduce the risk of participants missing the start of the afternoon session and to allow them to have a more leisurely meal in the evening when there is more time. Information about dietary requirements was provided to the hotel at the same time as the information on room booking. However, the hotel sometimes failed to take note of these requirements and repeated interventions were required by the conference chair, who speaks fluent Polish, as well as Polish participants, before the matter was resolved.

The conference banquet was held at the conference hotel and included a hot and cold buffet Refreshments, consisting of fruit, pastries and cold and hot drinks, were provided during the mid-morning and mid-afternoon breaks. These refreshments were of a very high standard and available in large quantities. They were provided in the area next to a water feature outside the conference room.

2.1.6.4 Special needs, contact

Ms. Whiteley contacted all conference participants in advance of the event to discuss their accessibility requirements and any dietary or other special needs.

A fully qualified British sign language (BSL) - English interpreter was provided to support a Deaf young researcher for the tutorial sessions and two days of the conference. The funding covered the full costs of travel and subsistence and a fee to the interpreter. Since it did not prove possible to obtain a second interpreter or find a BSL interpreter who was available for the last day of the conference, the Deaf researcher's spouse, who was attending the conference as a young researcher, also provided interpretation for him. Although this informal solution worked reasonable well on this particular occasion, it is preferable, if at all possible, to have formal interpreters.

A fully qualified Czech sign language – English interpreter was provided to interpret the session on elearning and ICT for Deaf people in which there were two Deaf Czech presenters. The interpreter's fee and subsistence costs were covered, but travel costs were paid by Masaryk University.

Polish language transcription was provided to support a deaf participant who lip-reads, but is unable to lip-read English and the local Deaf participant who attended occasionally. This involved the provision of an English-Polish language translator and a Polish language transcribe.

The travel and subsistence costs for a guide-communicator for an invited deafblind speaker were covered.

The costs of travel and subsistence of companion for one of the blind young researchers, who always travels with a companion and does not use mobility technology, were also covered. Slightly higher travel costs were paid to one of the invited speakers to enable him to travel to the home of one of the blind young researchers and travel with her to the conference. These costs are included with those of the young researchers and invited speakers respectively and not listed separately.

Four blind young researchers chaired two sessions. They were provided with the programme in electronic format and accessed it using screen readers. During the meeting on chairing sessions their vice chairs were briefed on the need to alert them to audience members wishing to ask questions after the presentations. A Deaf researcher who uses British Sign Language (BSL) chaired one of the sessions supported by a BSL interpreter.

2.2 Call for contributions and participation

A call for papers was posted at the conference web site:

http://www.elec.gla.ac.uk/Events_page/CVHI/cvhi/pages/call-for-papers.php

It was also distributed by email to participants in previous CVHI conferences and other people likely to be interested, as well as disseminated at a number of other events.

2.2.1 Committees (scientific, organizing)

Marion Hersh, Scotland UK

Michael Johnson, Scotland UK

Ryszard Jakubosky, Poland

Alexandra Perchla-Włosik, Poland

Stanisław Kwaśniewski, Poland

Henry Lubawy, Poland

Jerzy Borowiec, Poland

Jozef Lewoc, Poland
Jurand Czerminski, Poland
Małgorzata Mikłosc, Poland
Hania Pasternyk, Poland
Klaus Miesenberger, Austria
Rudolf Ottófi, Hungary
Edwige Pissaloux, France
Constantine Stephanidis, Greece
Dusan Šimšik, Slovakia
David Crombie, Netherlands
Dan Mancas, Romania
Santiago Aquilera Navarro, Spain
James Marston, USA
Wolfgang Zagler, Austria
Ger Craddock, Ireland
Mohamed Jemni, Tunisia
Hans Heinrich Bothe, Denmark
Harry Knops, Netherlands
Yoshikazu Seki, Japan
Barbara Leporini, Italy
Rüdiger Hoffman, Germany
René Farcy, France
Gerard Uzan, France

2.3 WWW tools

2.3.1 WWW page

http://www.elec.gla.ac.uk/Events_page/CVHI/cvhi/

2.3.2 Conference tool

Reviewing, notification to authors, submission of the final papers, registration and programme development were carried out using email.

3 EVENT

CVHI 09 in Wrocław, Poland is the sixth event in the CVHI Conference Series and the third event funded as part of the CWST Project.

3.1 Program

3.1.1 Program

Please find enclosed: Annex 1

3.1.2 Social events

- Group Trip : Wednesday 22 afternoon
- Banquet and Gala Evening in Conference Hotel: Thursday 23 evening

Group social events with their opportunities for networking, making contacts and learning about on-going research in an informal atmosphere, are an important part of CVHI. The group visit took place on the third afternoon after the second morning of regular paper sessions. It had two main components:

- A guided walk round the town with English speaking guides.
- A boat trip on the Oder.

During the group visit blind participants had frequent opportunities to touch the carvings and statues in the churches visited. Participants were also shown Braille materials, including a gospel illustrated with tactile graphics, used in one of the churches.

The gala banquet took place in the conference hotel. It was much enjoyed. The after dinner speech included a brief overview of the history of the CVHI conference series and its future prospects.

3.2 Local arrangements

3.2.1 Rooms

The Conference took place in the Hotel Jana Pawła II in Wrocław. This is a four star hotel on the historic semi-island of Ostrow Tumski in the River Oder in Wrocław and within walking distance of the Old Market. All rooms were double and of a high standard. The hotel had one room suitable for wheelchair users.

3.2.2 Presentation technology

The majority of required facilities were available in the hotel. A second data projector was rented locally in order to display the Polish language transcription in addition to the conference presentations. Two screens were made available by the hotel. Since there was not a computer in the room being used, laptops owned by session presenters were used. All people in the session were encouraged to use the same laptop, unless there was a need for specific assistive technology on the laptop. It should be noted that participants had not requested any assistive technology when asked for their requirements.

3.3 Hotel reservation, booking, co-operation

The choice of location for CVHI is an important factor in its success. The appropriate location should meet the following conditions:

- Appropriate and high standard conference facilities plus sufficient guest rooms for all delegates and accompanying persons, without requiring delegates to share with each

other. This encourages networking between delegates. In practice, this specification means a hotel with conference facilities.

- Preferably full accessibility to all groups of disabled people. At the minimum no barriers to disabled people.
- Provision of all meals, including special diets. There are advantages in the midday meal being available as a buffet to enable delegates to return on time for the afternoon sessions. However, all items should have tactile as well as visual labelling and staff should be available to help participants.
- A good ambiente.
- Attractive spaces, both outside and inside, where delegates can interact together over refreshments.
- An attractive location, either in a small town or sufficiently away from the distractions of a larger town, that delegates are not tempted to miss sessions.
- Reasonable cost, for both guest rooms with full board and meeting rooms with audio-visual facilities. A conference package, if available, is generally financially advantageous.
- Good rail and air links located close by and either user friendly accessible public transport or low cost accessible taxis from the airport to the venue.

A hotel booking form, including a request for details of dietary or accessibility requirements, was placed on the conference web site. The completed form could be emailed to the conference secretariat and credit/debit card details faxed in the case of unfunded participants. The conference secretariat then emailed a spreadsheet with the details of delegates' accommodation and other requirements to the hotel.

3.4 Special needs support

Sign language (British and Czech sign language) interpretation were provided for one of the young researchers and two invited speakers and Polish language transcription was also provided, as well as personal travel support. Other types of support could also be provided on request.

The BSL interpreter was sent electronic copies of the presentations in advance of the start of the conference to enable him to familiarise himself with the material, particularly the technical terms. However, due to delays in finding an interpreter it was not possible to do this as long in advance as would have been desirable. The Czech participants provided their sign language interpreter with their materials, since they worked together in the same institution. The conference organiser had a meeting with the Polish language interpreter in order to identify the technical and other requirements for transcription. As a result the need for an extra data projector was identified and obtained with the help of the hotel. Presenters were required to use a microphone unless they spoke particularly loudly and the session vice chair took round a microphone for people asking questions. This ensured that the interpreters, as well as all participants, were able to hear clearly to facilitate their work. Periodic checks of the interpreters' requirements, including for lighting, were made to ensure that they were being met to enable the interpreters to provide the best possible translation and transcription services.

One of the blind young researchers was accompanied by a guide dog. Guide dog legislation is due to be introduced in Poland in June. On being informed of the presence of a guide dog the hotel objected on the grounds that they had previously had problems with a dog (not a guide dog). A certain amount of negotiation and a telephone call from the bishop's office (the hotel has religious links) were required before the hotel agreed to accept the guide dog. Needless to say the dog behaved impeccably throughout her stay and attended all the conference sessions without making a sound. The hotel was also able to provide water for the dog and there was space for her to lay on the floor during the sessions.

3.5 Evaluation, Quality Control

An evaluation form was distributed to all participants, who returned it anonymously.

3.5.1 Evaluation Form

CVHI 2009 Feedback Questionnaire

A. Data for Statistical Purposes

1. Are you? female male transgender/transsexual
2. Do you consider yourself disabled? yes no
If yes, please provide very brief details
3. What are your main areas of research or other work if you are not involved in research?
4. What is your nationality?
5. What country are you currently working in?
6. Did you receive a Young/Disabled Researchers' Bursary? yes no
7. Did you receive any financial support as an invited speaker? yes no

B. Publicity

9. How did you find out about CVHI 2009?
 - Web site
 - CVHI e-mail list
 - Flyer given out at another conference
 - Personal contact
 - Other
 - If other, please provide details
10. Do you have any comments on the publicity material and/or the web site? If so, please provide details.
11. Do you have any ideas for improving the CVHI publicity material and/or its distribution? If so, please provide details.

C. CVHI Event

12. Do you consider the quality of CVHI 2009 to be
Very good good satisfactory poor very poor

Please comment on the quality of CVHI 2009?
13. Do you consider the organisation of CVHI 2009 to be?
Very good good satisfactory poor very poor

Please comment on the organisation of CVHI 2009.
14. Do you consider the location of CVHI 2009 to be
Very good good satisfactory poor very poor

Please comment on the location of CVHI 2009.

15. How useful overall did you find CVHI 2009?

Very useful useful moderate not very minimal

Please comment on how useful you found CVHI

16. Overall would you describe your benefits from CVHI as

Very significant significant moderate insignificant minimal

17. If you benefited, could you indicate the main areas/ways in which you benefited:

- Professional development
- Personal development
- Extending your knowledge of research in the areas covered by CVHI
- Making contacts with colleagues
- The experience of presenting a paper
- The experience of chairing a session
- Other, please provide details.

Please comment, on the ways in which you benefited

18. Are there topics that you would like to see covered at a future CVHI? If so, please provide details.

19. Any further comments or suggestions?

This questionnaire should be completed anonymously and emailed to cvhi@elec.gla.ac.uk or posted to Lucy Whiteley, Department of Electronics, University of Glasgow, Glasgow, G12 8LT Scotland.

3.5.2 Summary of Results Received

Statistical Data: Of the 15 participants who returned evaluation forms, seven were female and eight male. three considered themselves to be disabled (two blind and one visually impaired). 10 of them were young researchers supported by a bursary, and a further four were supported financially as invited speakers. Many nationalities were represented in this cross-section:

Slovak [3]
Dutch [1]
Polish [3]
American [2]
Japanese [1]
French [1]
Danish [1]
Israeli [1]
Romanian [1]
German [1]

The main areas of research covered by these participants were:

- ambient/assistive technology
- information access for blind/visually impaired people
- teaching blind students information technology.
- orientation aids
- way finding
- media anthropology

- study of logopedics
- speech recognition/enhancement
- biomedical signal processing
- deaf telephony

Publicity: Most participants had heard about CVHI 09 through a personal contact [12], while some participants were also on the mailing list, or looked on the website. Suggestions for improving publicity included distributing publicity at other conferences, international exhibitions and fairs. However, some participants recommended keeping the conference small, and many others cited the ‘family atmosphere’ as a vital element in CVHI’s success. There were some suggestions for improving the website, including adding a forum or blogging area to allow communication to continue after the conference has ended. It was also suggested that a list of participants and their details be added before the event, with their full papers being published there following the event (subject to copyright agreement). The website is being updated and further developed to take into account some of these suggestions. The full papers will be published in ebook form with a link to the website.

The Event: All 15 respondents gave the conference a ‘very good’ rating in terms of **quality**, giving the following reasons/comments:

- very interesting
- balanced mix of research from various disciplines (technological/social/medical approaches)
- best conference ever attended
- learnt about new technologies
- range of cultural approaches
- family atmosphere
- only conference that involves young and disabled researchers to such an extent

In terms of **organisation**, the response was also positive, with 10 rating it ‘very good’ and four rating it ‘good’. The reasons for the positive response were: the timely distribution of information, the clear scheduling of sessions, and the strong participation of young researchers (thanks to bursaries). One criticism was that the language of the conference should have been made clearer in advance to avoid confusion during the conference itself.

In terms of **location**, nine rated the Hotel Jana Pawla II ‘very good’, five rated it ‘good’ and only one rated it ‘poor’. Those who were positive cited the city centre location, the price, the fact that it was quiet, and that fact that it was easy to get to from the airport and train station. Those who offered criticism mentioned the lack of internet connection (though this was a positive for one participant!), the long tiring days spent in one building, the size of the rooms and the lack of a central social area for mingling. In practice, there was internet connection by cable, but cables had to be shared amongst participants.

Regarding the **usefulness** of the event, all 15 respondents rated it ‘very useful’, giving the following justifications for doing so: first conference, first conference abroad, range of perspectives, current research in the field, contacts made, knowledge broadened, industry exhibition interesting, English improved, and presentation technique improved.

The **benefits** of the conference were described by 13 participants as ‘very significant’ and by 2 participants as ‘significant’. Benefits were categorised as follows:

- Professional development [13]
- Personal development [13]
- Extending your knowledge of research in the areas covered by CVHI [15]
- Making contacts with colleagues [15]
- The experience of presenting a paper [9]
- The experience of chairing a session [6]
- Other [3]

- knowledge and confidence in presenting, preparing biography & chairing panel
- meeting people with hearing and sight impairments and hearing their views
- the experience of presenting a tutorial

Suggestions for topics to be covered at future CVHI events included:

- Intelligent wear / ambient houses
- optical character /object recognition
- visual neuro prostheses
- hearing aid usage / cochlear implants
- human-computer interfaces

General comments were largely very positive, focusing on the uniqueness of CVHI in its ability to bring together young researchers from across the globe and across the field, and to facilitate valuable discussion. Suggestions included:

- additional feedback to young researchers who are presenting papers for the first time. In addition to the meeting, written material will be prepared on writing and presenting papers and made available on the conference website..
- the days could be shortened, even if it meant a longer conference overall. This was discussed at the feedback meeting and the general consensus was to stick with the existing length.
- more instructions for chairing panels before the start of the conference
- a larger exhibition of assistive technology solutions
- organising the next conference in Northern Europe (Sweden, Finland) as these countries are particularly advanced in assistive device design
- introductory lectures on the functioning of the eye and ear to assist understanding.

4 SCIENTIFIC REPORT

4.1 *Proceedings: Minutes, Reports, Handouts, Slides, Materials*

Proceedings have been produced in the form of an accessible CD. In addition all the papers will be compiled into an ebook, which will be linked to the conference web page. It is intended to produce a separate ebook of the tutorial sessions of the six CVHI conferences. In addition, authors have been requested to submit PDF versions of their PowerPoint presentations to be made available via the conference web page.

4.2 *Conference Topics and Design*

The specific features of the CVHI (Conference on Assistive Technology for People with Vision and Hearing and Impairments) are :

- The tutorial sessions by expert speakers
- The significant involvement of young researchers in all aspects of the conference and the high quality training provided to young researchers. This training includes both high level information about specific aspects of assistive technology and training in participating at events.
- The bursaries, initially for young researchers and now also for disabled researchers. The bursaries cover all aspects of attendance at CVHI i.e. travel and subsistence and registration fees.
- The friendly, residential character of the conference, which encourages networking and the development of collaborations.

CVHI '09 was the sixth event in the series. The first event took place in Italy in 2001, with the theme *Support Technologies for Independent Living and Working*. The second was in 2002 in Granada, Spain with the theme, *Accessibility, Mobility and Societal Integration* and the third returned to Granada, Spain in 2004 with the theme *State-of-the-Art and New Challenges*. The first three events were supported by the Research Directorates Human Potential Programme: High Level Scientific Conference. The fourth event in the series and the first event supported through the CWST project was in 2006 in Kufstein, Austria with the theme *Technology for Inclusion*. The fifth event was held in Granada, Spain, in 2007 with the theme *Assistive Technology for All Ages*.

All CVHI events have a common structure, consisting of the following elements:

- Three two-hour tutorials on the first day.
- Keynotes, generally one at the start of each subsequent day. The keynotes include keynote paper presentations, workshops and panel discussions. In the series of conferences which have formed part of the CWST Project, one of the keynote panel discussions has involved Deaf presenters using sign language.
- Regular paper sessions in a single track format.
- Group social events. They are an important opportunity for networking between participants.
- Meeting on chairing sessions at the end of the first day.
- Feedback meeting for young researchers at the end of the conference, where they provide feedback to the conference organiser on the event and suggestions for the next event.

The residential nature of the event means that all CVHI events to date have been held in a hotel with conference facilities, sufficient rooms for all delegates and a good restaurant so all delegates can eat together. A very few delegates have chosen to stay elsewhere, but the overwhelming majority have stayed in the conference hotels. The hotels used have all been accessible to wheelchair users, but it has been very difficult to find hotels with the accessibility features required by other groups of disabled people, such as Braille or other

tactile markings and audio announcements in the lifts and induction loop or infra-red systems in the lecture rooms.

Other important features of a suitable conference hotel for CVHI include a good standard of facilities, friendly staff and reasonable cost. It should be located either in a small town or away from the centre of a city, so that the delegates attend all the conference sessions rather than investigating local attractions. Another important feature is the availability of social space, generally in the form of a bar, where delegates can sit and network in the evening.

Before deciding on the venue, the conference organiser and chair visited potential venues initially in Krakow and then in Wrocław when venues in Krakow proved to be too small, too expensive, to have no rooms for wheelchair users or otherwise unsuitable. In addition to investigating that suitable facilities were available, she used the opportunity to make the conference hotels, as well as potential locations for the conference banquet, aware of the wider issues of accessibility to disabled people.

The hotel Jana Pawła was finally chosen because it provided the best combination of features, including an attractive location, wheelchair accessibility and a reasonable cost.

4.3 Tutorials

The three tutorial sessions have the following aims:

- To provide high-level research training to young researchers and continuing education for more experienced researchers.
- To provide an introduction and subject overview of important topics in assistive technology from different disciplinary and interdisciplinary perspectives.
- To make young and more experienced researchers aware of the current state of the art and the need for future developments in these topics.

4.3.1 Researching End-User Requirements with Application to Wayfinding Technologies

This tutorial was presented by Jim Marston who is an Assistant Researcher in the Department of Geography at the University of California at Santa Barbara. His PhD is in geography with an emphasis on cognitive science. Currently, he is the Principal Investigator at UCSB on a collaborative research project “The Wayfinding Project: Fundamental Issues in Wayfinding Technology” funded by the National Institute on Disability and Rehabilitation Research. He is carrying out a comprehensive survey of need, travel planning behaviour and use, and measures of travel performance. His overall interests include environmental perception, spatial behaviour, wayfinding and the spatial problems encountered by disabled people, particularly with visual impairments.

The tutorial covered the following topics:

- The development of methodologies to determine the real needs, problems, possibilities and outcomes for the different subpopulations of visually impaired end-users (including those with multiple impairments). Visually impaired people are increasingly likely to also have hearing, physical and/or cognitive impairments. However, these groups of people, as well as older visually impaired people, those with low vision and mild vision loss have received little attention in studies. Another issue is the differing travel behaviours and requirements of cane and guide dog users.
- The travel issues faced by people with a combined hearing and visual impairment. This is particularly relevant for older people. Since hearing is particularly important for the navigation of blind and visually impaired people, this is an important problem. Research in this area could lead to improved design of both travel and hearing aids

- The main travel problems faced by different sub-populations of visually impaired travellers and the information these different subpopulations require and desire in order to travel safely and confidently.
- Issues related to travel planning: Most research in this field has focused on the act of travel and wayfinding during travel. However, travel planning is likely to have an impact on travel frequency, quality, success or independence. In addition it is important to consider the barriers to effective planning and the information required by different groups of visually impaired people, including those with multiple impairments.
- The development and validation of new approaches to measuring travel performance and incorporating travel planning into the overall picture of wayfinding and technology. This will support measurement of the progress in wayfinding technology in the future.
- The development of an evidence-based foundation to inform future development of technologies and methods for supporting successful wayfinding. This includes consideration of the fundamental issues that act as barriers to the optimal development and adoption of wayfinding technologies for blind and visually impaired travellers.

4.3.2 ICT for Deaf Users in Developing Regions: A South African Case Study

This tutorial was presented jointly by Bill Tucker and Meryl Glaser, who between them have the mixture of technology and end-user expertise required to successfully develop ICT for Deaf people in a 'developing country'. Bill Tucker is a senior lecturer in Computer Science at the University of the Western Cape in Cape Town, South Africa. His research interests include Information and Communication Technology for Development (ICT4D). He recently submitted a PhD at the University of Cape Town concerning the design and evaluation of ICT4D with two field studies in Deaf telephony and rural telehealth.

Meryl Glaser is a project manager and education officer with Sign Language Education and Development (SLED), an NGO based in South Africa. Her research interests are language and literacy for Deaf sign language users based in Disability Studies at the University of Cape Town. She collaborates on the Deaf telephony project.

The tutorial used a case study of research resulting from the presenters' experiences of developing appropriate telephony solutions for the Deaf community in Cape Town to discuss more general issues relating to ICT use by Deaf people in developing countries. It covered the following topics:

- The characteristics of the Deaf community in Cape Town with particular reference to how these characteristics, including poor literacy, impact on their requirements for and use of ICT.
- The combination of social and technical issues which affect appropriate ICT for this community, namely a sign language interface on a mobile device, enabling Deaf users to communicate with both Deaf and hearing people. However, technological challenges impede the development of this solution and social factors reduce the take up of ICT. Affordability is a particularly important issue.
- The use of a real access/real impact approach to organise and inform reflection on the progress of ICT technology for development.
- A discussion of the extent of physical access, telecommunications, PCs and Internet for socio-economically disadvantaged South Africans and South African Deaf people, in particular, who require devices which support text and/or video.
- A brief overview of the different devices developed for this Deaf community and the reaction of the Deaf community to them. This led to the researchers developing and modifying their understanding of the most appropriate technical solutions. This included the realisation that low-end cell phones were the most accessible devices to the Deaf community, but that they were not suitable for sign language communication. This lead

to the development of PC based communication in the community centre, as study participants did not have PCs at home.

- The legal, regulatory and local and wider economic contexts in which ICT solutions were developed for Deaf people in Cape Town. Particular economic issues related to the sustainability of ICT development and the need for employment opportunities for people with ICT training. Regulatory barriers may be encountered when attempting to introduce technologies using satellite, wireless or voice over internet protocols.

The acceptance of ICT in developing countries, which is largely determined by the level of confidence of local people in computers and the internet. There are also issues as to whether socio-cultural and identity factors restrict the ways in which people use technology.

4.3.3 Designing Assistive Technology to Support Independent Travel for Blind and Visually Impaired People

This tutorial consisted of two complementary parts, presented by Marion Hersh and Edwige Pissaloux respectively. Marion Hersh is a senior lecturer in the Department of Electronics and Electrical Engineering at the University of Glasgow. She has been organising and chairing the CVHI conference series since it started in 2001. She currently has a Research Fellowship on Mobility for Blind People: New Strategies and Solutions from the Leverhulme Trust. Dr Hersh has co-authored books on Assistive Technology for Blind and Visually Impaired People and Assistive Technology for the Deaf, Hearing Impaired and Deafblind. Her other assistive technology projects include the Comprehensive Assistive Technology (CAT) model, a communication device for deafblind people who use a manual alphabet and enhancing subtitles to include emotions and other contextual features.

Edwige Pissaloux is a full professor in electrical engineering and works at the Institute of Intelligent Systems and Robotics at University Pierre and Marie Curie (Paris 6). She is working on space concept integration into assistive devices for visually impaired people and those with neuro-cognitive space processing impairments. She is the author or co-author of more than 200 books, book chapters, journals and conference papers. Edwige Pissaloux is the editor of many journals and acts as expert on several regional, national, European and international research and university boards. She chaired the HANDICAP 2006 national conference and organizes the annual national meeting on “Space perception and technological assistances” (supported by the CNRS, France). She is the IEEE France Section Vice-Chair for European Affairs and IEEE France Section Secretary. With Prof. Patrick Siarry, she founded and chaired (2005/2006) the France Section EMB Chapter. She has received several awards from IEEE, including the Third Millennium Award.

The first part of the tutorial considered issues related to modelling the travel process for blind, visually impaired and sighted people, whereas the second part considered neuro-cognitive factors which affect mobility and their application to the development of assistive devices.

The first part covered the following topics:

- The differences between the types of information obtained through the different senses. The factors considered included the size of spatial field, the ability to provide overview information and the precision of localisation of stimuli.
- The reasons for and benefits of modelling the travel process.
- A brief overview of some of the relevant literature, introduced by a categorisation of different types of empirical research studies in the area.
- A discussion of the empirical research carried out by the author as part of a Leverhulme Research Fellowship. This included interviews with blind and visually impaired people in France, Poland, Spain and the UK, as well as studies of travel aids and mobility and orientation training. In combination with the study of the literature it has enabled a list of the factors to be considered in any model of the travel process to be drawn up.

- An overview of a new modelling approach based on three main components to take account of the importance of route learning and the difference between familiar and unfamiliar routes and areas. This included a discussion of the importance of model validation and the ways of doing this.

The second part of the tutorial covered the following topics:

- A comparison of psycho-neuro-cognitive and neuro-cognitive computational models. Psycho-neuro-cognitive model consider the extraction and memorisation of information and its presentation to the brain. Neuro-compational models consider functions, their parameters, values and results.
- Some basic concepts and definitions for independent mobility, including of walking, orientation, navigation, mobility and space perception.
- An overview of some of the main assistive devices, based on the classification into the following five main classes: traditional low technology aids, medium technology electronic travel aids, high technology electronic orientation aids, assistance devices for navigation and assistance devices for mobility.
- An overview of the advantages and disadvantages of low, medium and high-tech mobility and orientation aids. This included a discussion of the need for aids which augment space perception, assist all mobility functions and are highly portable, as well as providing personalised mobility assistance.

4.4 Keynotes

4.4.1 Audio-Visual Speech Processing – Analysis and Synthesis

This paper was presented by Hans-Heinrich Bothe of the Centre for Applied Hearing Research, Technical University of Denmark, Copenhagen. He discussed the design of the LIPPS software system to be used to support computer-based training in speech reading in German. Particular aims of this work included the following:

- The development of a simulation of facial movements which was sufficiently precise to support lip-reading
- The design of a model-based facial animation system.
- The evaluation of a number of audio-visual speech synthesis systems with respect to visual speech intelligibility.

The LIPPS system used an open input vocabulary, which allowed an orthographic transcription of the pre-stored text to be represented on the computer screen. There are two main approaches to the design of motion models:

- The modelling of the physiognomy of the human head, including the stimulation of muscle fibres,
- The design of a codebook with speech-related key-images and a morphing algorithm, which emulates a continuous facial animation by calculating interim images in discrete-time.

The approach chosen was based on the analysis of video clips for well designed training speakers and uses models based on a codebook of characteristic facial images, as well as considering context dependent co articulation.

4.4.2 Assistive Technology Current and Future: The Perspectives of the Deaf and Deafblind Communities in Poland

This keynote panel was presented by Grzegorz Kozłowski President of the Towarzystwo Pomocy Gluchoniewidomym (Society for Supporting Deafblind People) and Kajetana Maciejaska-Roczan Vice President of Polski Związek Gluchych (Polish Association of Deaf People), Member of the Board of the European Union of the Deaf.

Kajetana Maciejska-Roczán spoke about the problems arising from lack of funding for deaf and hard of hearing people, particularly those over the age of 26 and not in education, to obtain the assistive and other technologies they require. High quality hearing aids are now available, but are very expensive and adults are generally only prescribed one hearing aid, even if they require hearing aids for both ears.

She also suggested that deaf and other disabled people often use standard technologies, such as mobile phones and televisions and tele-newspapers in a different way from non-disabled people and that these technologies should therefore be recognised as aids for disabled people and made eligible for state funding.

Grzegorz Kozłowski spoke about the problems in getting about, communicating with other people, accessing information and participating in everyday life experienced by deafblind people due to their dual sensory impairments. He also spoke of the role of guide-communicators, who provide both communication support to deafblind people and act as sighted guides.

He discussed the range of different types of technologies that could be used by deafblind people, many of which have been designed either for deaf or for blind people. He stressed the importance of technology for deafblind people being designed to be easy and intuitive to use, particularly since many people with dual sensory impairments are in the older age groups. He also spoke of the importance of technology for deafblind people both being standardised and allowing for customisation to the particular user to enable choice of the input and output modalities.

Grzegorz also spoke about the work of his organisation, for instance in helping parents learn to communicate with their deafblind children and access technology, funding and advice. Currently deafblind children are educated in special classes in schools for blind children in Bydgość and Łask near Warsaw.

4.4.3 E-Learning for Deaf People – Is this the Solution for Accessibility and Inclusion?

This keynote panel included two presentations:

- Advantages and Disadvantages of eLearning for Deaf People: The Case of Masaryk University, presented by Tomas Sklenak and Lucie Stefkova of Masaryk University in the Czech Republic
- The Use of ICT in Training for Deaf People: the Example of Deafax, presented by Saduf Naqvi and Sadaqat Ali of Goldsmith's College, London.

These two presentations discussed the use of ICT and elearning to support Deaf students who use sign language through the use of case studies of Masaryk University in the Czech Republic and Deafax in the UK.

Masaryk University has a relatively large number of Deaf students, presumably at least in part due to the support provided to them and the availability of course materials in sign language. To date course materials have been developed for use in learning a number of subjects, including Czech, English and mathematics and there are plans to extend the range of subjects.

Although Deaf students are generally not seen to have problems accessing computer technologies as such, they do experience difficulties due to Czech being a foreign language for them, since their native language is Czech Sign Language. This has various consequences for education and, in particular, Deaf students, have problems with both

spoken and written language. The availability of information technology provides means to support them.

At Masaryk University there are a number of internet courses which are directly available to students. Internet courses in Czech and English for Deaf students were initiated in 2004. A survey in 2007 of different methods of providing course material to Deaf students showed that internet provision was popular. The use of internet technology allows materials to be presented in both Czech and Czech Sign Language with associated advantages for Deaf students in terms of both access to the material and improving their knowledge of Czech.

Deafax was set up as a non-governmental organisation in 1985. It aims to provide a deaf-friendly environment and improve access to education for deaf people, including in the areas of literacy and numeracy and provides workshops based on new technologies. It is developing a data base of computer based educational materials. This includes materials for teachers of deaf people, as well as for deaf people themselves. The materials developed for deaf people are largely visual.

Educational and training materials are being developed in a wide range of different areas and at different levels of difficulty, including on general and sexual health, budgeting and music for deaf people. Sign language courses have also been developed for hospitals and other organisations. In addition to the on-line course materials, there is also an on-line help system. Course development is relatively intensive, taking about three years to develop ten courses.

4.5 Regular Papers

The regular papers were organised into seven different sessions and covered a wide range of topics and disciplinary perspectives in the interdisciplinary research area of assistive technology for people with sensory impairments. Each presentation was followed by questions and the young researcher chairs were very successful in ensuring that papers did not overrun.

4.5.1 Orientation and Wayfinding

This session comprised five papers:

- A Remote Guidance System Aiding the Blind in Urban Travel. This paper was presented by Przemyslaw Baranski on behalf of four authors from the Technical University of Lodz, Poland.
- A Proposed Method for Sonification of 3D Environments Using Scene Segmentation and Personalised Spatial Audio. This was presented by Michal Bujacz – one of five co-authors from the Technical University of Lodz, Poland.
- Beyond Boundaries: The Impact of Sex Differences in Wayfinding without Sight – Implications for Urban Planning Design and Spatial Cognition. The paper was written and presented by Claudia Folska from the University of Colorado.
- Study of GPS Use for Accessibility in the Netherlands. This paper was given by Sasja Ras, who co-wrote the paper with Kathleen Asjes – both work at Dedicon in the Netherlands.
- Auditory Orientation Training System for the Blind Using Wide-Range 3D Sound. This paper was delivered by Yoshikazu Seki, and was the result of a collaborative effort between six authors working at various institutions in Japan.

4.5.2 Hearing Aids and Communication

This session comprised five papers:

- Simulation of Auditory-Visual Impairments for Studies on Supplementary Technical Communication Devices. This paper was presented by Sermed Al-Hamdani, one of two authors from the Technical University of Denmark.

- Engaging Minority Communities in Deaf Culture and Sign Language. Sadaqat Ali delivered this paper, which was co-written by Saduf Naqvi. Both researchers are based at Goldsmith's College in London.
- The Benefit of Speech Enhancement to the Hearing Impaired. This multi-authored paper was presented by Nir Fink of Tel Aviv University, Israel.
- Representing Emotions and the Context in Subtitles. This paper, co-authored by Marion Hersh of the University of Glasgow, and James Ohene-Djan of Goldsmiths College, London, was presented by James Ohene-Djan.

Focussed Stimulation in Auditory Implants. Søren Wulf Kristiansen presented this paper, which was co-authored by Hans-Heinrich Bothe at the Technical University of Denmark.

4.5.3 Assistive Technology for Education

This session comprised five papers:

- Speech and Braille Access to Computation Programs: User Experiences. Cristian Bernareggi of the Università degli Studi di Milano delivered this paper, co-written with Sauro Cesaretti and Jana Andrejkova.
- Community-based Rehabilitation and Educational Services. This paper was delivered by Adina Ionescu of the 'Octav Onicescu' National College in Romania. It was co-authored with Ileana Hamburg.
- Benefiting Disabled Students by Developing an Application that Uses Captioning of Multimedia to Enhance Learning for all Students. This paper was written by Mike Wald and John-Mark Bell, and was delivered at the conference by Mike Wald of Southampton University, England.
- Hybrid Books – Information Access in Combined Format. Svatoslav Ondra of Masaryk University in the Czech Republic wrote and presented this paper.

Sign Language – Online Interpreting at Masaryk University. This paper was written and delivered by Christoph Damm of Masaryk University.

4.5.4 Sign Language Representation and Translation

This session comprised five papers:

- Toward a Descriptive Language for Signs. This paper was delivered by Nour Ben Yahia; it was co-authored with Mohammed Jemni. Both research at the Ecole Supérieure des Sciences et Techniques de Tunis.
- Linguistic Processing of Text for Automatic Translation into Sign Language. This paper was written by Mehrez Boulares and Mohammed Jemni – and was delivered by Mehrez Boulares of the Ecole Supérieure des Sciences et Techniques de Tunis.
- Toward Facial Expression Generation for Sign Language Machine Translation. Co-authored by Oussama Elghoul and Mohammed Jemni, and delivered by Oussama Elghoul of the Ecole Supérieure des Sciences et Techniques de Tunis.
- Automatic Sign Language Recognition Using X3D/VRML Animated Humanoids. This paper was delivered by Kabil Jaballah of the Ecole Supérieure des Sciences et Techniques de Tunis. It was co-authored with Mohammed Jemni.

Emotional Engineering of Digital Representations of Sign Language – the Importance of Facial Detailing. This paper was presented by Saduf Naqvi, who co-wrote it with James Ohene-Djan at Goldsmith's College, London.

4.5.5 Mobility and Orientation for Blind and Visually Impaired People

This session comprised five papers:

- An Application for Smartphones Dedicated for the Blind and Visually Impaired Users. Piotr Skulimowski of the Technical University of Lodz delivered this multi-authored paper.

- A Remote Guidance System Aiding the Blind in Urban Travel. Michal Bujacz of the Technical University of Lodz presented this paper, which was co-written with three colleagues.
- mTransVIP – The System Facilitating Visually Impaired People in Unassisted Use of Urban Traffic. This paper was written and delivered by Jacek Jelonek of the Poznan University of Technology.
- Usage Analysis of a Sensory Substitution System: Report and Perspectives to Conceive a Tactile Interaction Network. Loïc Deschamps from the Technical University of Compiègne, France, presented this multi-authored paper.
- Micro Look: Travel Information System for Blind People. Lukasz Kulcsak and Hanna Paterny from the Design Innovation Integration Zone, Katowice, wrote and delivered this final paper in the panel.

4.5.6 Assistive Technology Provision and Outcomes

This session comprised five papers:

- ICT and Ambient Intelligence Tools in New EU Countries. Zlatica Dolna of the Technical University of Kosice presented this paper, which she had co-written with two colleagues.
- The Analysis of E-Services and Their Accessibility for Elderly People and People with Disabilities. This multi-authored paper was presented by Jana Andrejkova of the Technical University of Kosice.
- Using the Comprehensive Assistive Technology (CAT) Model in an Assistive Technology Outcome Procedure with Personal Assistive Technology Profiles. This paper was jointly written by Marion Hersh and Mike Johnson – and was delivered by Marion Hersh.
- Assistive Awareness Referring to People with Hearing Disabilities. This paper was presented by Ileana Hamburg of the Institut Arbeit und Technik, and was co-written with Marina Muscan of Educational and Professional Development, Romania.
- Experience with New Services for Seniors and People with Disabilities in Slovakia. Juraj Bujnak presented this final paper on behalf of his co-writers at the Technical University of Kosice, Slovakia.

4.5.7 Access to Information and Education

This session comprised four papers:

- Contrapunctus Braille Music Reader: A Free Player for Accessible Music Scores. Sasja Ras delivered this paper, co-written with Kathleen Asjes and Neil McKenzie at Dedicon.
- A Pedagogical Approach to Accessible E-Learning Design. This paper was presented by Emma Bradburn of the University of Teeside, UK. It was co-written by Eric Bel.
- Wikipedia, The Open University: Is it Really Open to Blind Users? This was delivered and written by Barbara Leporini of ISTI-CNR, Italy.
- Accessibility in Design as a Discourse and Praxis. This final paper of the conference was written and presented by Anna Maj of the University of Silesia in Poland, and Michal Derda-Nowakowski of Ex-Machina Academic Press.

4.6 Meetings for Young Researchers

4.6.1 Meeting on Chairing Sessions

The high level training provided by the conference to young researchers included training in conference participation as well as assistive technology. As well as the opportunity to present papers and obtain constructive feedback from experienced researchers, young researchers are given the opportunity to chair sessions. Each session was chaired by a young researcher, supported by an experienced co-chair. In the process of choosing session chairs, as well as matching the research interests of the young researcher to the session, most of the disabled researchers attending the conference were given the opportunity to chair a session, as they are likely to have fewer opportunities to do this than non-disabled

researchers. The chairs of the tutorial sessions were chosen to be young researchers with previous experience of chairing sessions, as they took place before the meeting on chairing sessions.

A meeting on chairing sessions was held at the end of the first day after the three tutorials. It was attended by both young researchers and some of the co-chairs. It was open to all young researchers, not just those chairing sessions. It started with a brief presentation by Dr Hersh on what successful chairing involves and the potential problems. This was followed by a question and answer session, which led to discussion between all present. There were also a number of questions followed by general discussion on what was involved in a good presentation. A number of suggestions and tips were provided by Dr Hersh and the other more experienced researchers present.

4.6.2 Feedback Meeting

This meeting was held at the end of the conference. It took place in the conference room, but with the chairs arranged in a circle in order to enable all participants to see each other and facilitate discussion and suggestions. It was attended by the young researchers and a few experienced researchers and chaired by Dr. Hersh. Although participants were sufficiently close together not to require a microphone this was used as a symbolic device to ensure that only one person spoke at a time.

Comments about CVHI 09 were positive. Many of the young researchers were very appreciative of the opportunity to present their work, to mix with other researchers and to learn what was taking place across the whole field. Comments included the fact that 'this was the best conference' the researcher had attended and that attending CVHI again after several years felt like seeing 'family'.

There was some discussion of the history of CVHI and the fact that the existing funding had come to an end. Everyone present was very concerned about this and that the CVHI conference series should continue.

A number of young researchers expressed an interest in obtaining feedback on their presentations and there was some discussion as to how best to do this, without putting pressure on the young researchers and making them feel that they are being examined or being very time consuming of the more experienced researchers. One of the young researchers noted that a simple feedback form had been used at other conferences and it was agreed this would be investigated for use at subsequent CVHI conferences.

There was again discussion of the length of the programme each day and a suggestion that it should be shortened to allow more networking and participants to have the opportunity to visit the local area. However, after discussion it was felt that extending the duration of the conference to allow this was not desirable or realistic.

A number of young researchers expressed an interest in being involved in the organisation of future CVHI events. There were also suggestions that participants should make available information about themselves and the types of projects they would be interested in being involved in to further support networking and collaboration.

4.7 Other Contributions

In addition to the benefits to participants CVHI 09 has had a number of concrete outcomes, of which Dr Hersh is aware of the following:

- A contact list has been set up and circulated to participants to support networking.

Conferences – Workshops – Seminars - Tutorials

- An invited workshop on assistive technology with four presentations based on CVHI papers was organised by Dr Hersh at the Second International Conference on ICT and Accessibility Conference in Hamomet, Tunisia.
- The publication of a number of articles about CVHI 09.
- Plans for a workshop on the use of advanced learning and assistive technologies in education.
- The group from Łodz Technical University are planning a series of virtual reality experiments with advice from Jim Marston of the University of Santa Barbara.
- Cooperation between Łodz Technical University and the University Paris 6. including discussion of proposal submission to the Seventh Framework Programme in Health.
- Updating of information and web pages.
- Meeting between the Bio-Medical Engineering Department at Tel Aviv University and Siemens and Liaison with the Technical University of Denmark.

One of the concrete outcomes of CVHI 07 which has occurred since the last report is the development of work in London on supporting Asian Deaf people and on developing materials which can be used in the development and improvement of literacy and in education on Islam for Deaf Muslims.

5 Conclusions

This was a very successful event. A conference size of 40-60 participants has been found to facilitate networking between researchers and there have already been a number of positive outcomes of this. There were a number of important presentations, both of finalised and ongoing work. High quality training was provided to the young researchers both in assistive technology and conference participation. The availability of training of this type is particularly important for both attracting young researchers into the area of assistive technology and encouraging them to continue working in the area. It is also important for disseminating expertise associated with design for all and assistive technology more widely and for ensuring that the needs of disabled people are taken account of in the design of mainstream technologies.

The financial support from the European Commission was very important in the following three main areas:

- Supporting the participation of a large number of young researchers and giving them the opportunity to participate, present their work and engage in discussion with experts and other young researchers at a high level international conference.
- Supporting the participation of tutorial and keynote speakers.

Enabling the accessibility needs of disabled researchers to be met. This included the provision of a British Sign Language interpreter for a Deaf young researcher, Polish language transcription for a hearing impaired young researcher, a Czech Sign Language interpreter for two invited speakers and a travelling companion for a blind young researcher.

5.1 Recommendations to the Commission

Analysis of the CVHI 09 has led to the following recommendations:

1. The importance of continuing to support training for young researchers in the area of assistive technology.
2. The importance of targeted training for all young researchers on conference organisation, paper writing and presentation, that covers accessibility and usability, as well as other issues.
3. The need for a fund to be set up at the European level to cover or at least contribute to the costs of sign language interpretation, assistive technology and the other additional costs of making conferences and other events accessible to disabled people.
4. The need for pressure to be put on national governments to recognise that attending conferences and training events is an essential component of the work of researchers and lecturers, amongst other professional and that funding needs to be made available to cover the additional costs of, for instance, a sign language interpreter or a travel companion, in order to enable disabled people to attend such events.
5. The need for the development of funding mechanisms to enable disabled people in CEEC to access the assistive technology they require. This will probably require financial support from the other countries in Europe.
6. The need for research to be funded on design for all approaches which take account of the differing and sometimes conflicting needs of different groups of disabled people.
7. The need for significantly increased funding for research on assistive technology, disability studies and associated areas.
8. The inclusion on material on accessible web design in all courses that cover web design so that this becomes the norm.
9. The need to include material on design for all and assistive technology in all engineering, design and architecture programmes.

6 Acknowledgements

Particular and heartfelt thanks are due to Ms Vi Romanes who has run the CVHI Secretariat since the start of CVHI and has been responsible for many of the arrangements for all the CVHI Conferences and worked tirelessly in various capacities to ensure their success. She retired at the end of last year and I am sure all CVHI participants will join with me in best wishes to her for a happy retirement. Further heartfelt thanks are due to Ms Lucy Whiteley who has very ably succeeded her. Grateful thanks are also due to Prof Mike Johnson for support and advice along the way and to Dr Barbara Leporini who has contributed her expertise to create and design an accessible and beautiful CD of the conference proceedings, as well as Peter McKenna for help with the art work. Particular thanks are also due to Ms Hanny Pasterny and CRIS (Centre for the Development of Social Initiatives) for their support and help with the local arrangements. We would like to thank all the anonymous referees for participating in the peer review process which helps to ensure the all-important scientific quality of the event. Thanks are also due to the staff at the Hotel Jana Pawła II, Wrocław.

7 Event Evaluation

- 1) Aims
 - Organisation of a small-scale residential conference-type event
 - To encourage the attendance and active participation of young and disabled researchers
 - To provide high quality training
 - To support and encourage networking and the development of collaborations
 - To stimulate and excite young researchers and encourage them to continue working in the field of assistive technology.
 - To have an impact several times what would normally be expected for an event this size.
- 2) Inputs
 - Tutorial speakers
 - Keynote speakers
 - Bursaries
 - Young and disabled researchers
 - Experienced researchers
 - An attractive venue
 - An interesting programme on assistive technology and associated areas
- 3) Activities
 - Technical programme
 - Social programme, including communal meals
 - Informal networking
- 4) Outputs
 - Organisation of successful small-scale event
 - Recommendations to Commission - See Section 5.1 of Deliverable
 - Tutorial sessions, keynote papers and panel discussions, presentations by young and experienced researchers
 - High quality training for young researchers in both assistive technology and conference participation
 - Further development and formalisation of CVHI network in the area of assistive technology.
 - Development of a number of collaborations
 - Stimulation of young researchers and interesting and exciting them by the field of assistive technology
 - Planning and organisation of other events
- 5) Short Term Impacts
 - Development of enthusiasm and excitement for the area of assistive technology and encouraging young researchers to enter and remain in assistive technology and associated areas
 - Development of CVHI assistive technology network and community and snowballing effect leading to impacts far beyond the network.
 - Organisation of other events.

8 Annex 1: PROGRAMME

MONDAY 20 April	
10am	Welcome: Marion Hersh, University of Glasgow, Scotland
10.10-12.10	<p>Tutorial Session 1</p> <p>Researching End-User Requirements with Application to Wayfinding Technologies</p> <p>Chair: Claudia Folska Vice-Chair: Edwige Pissaloux</p> <p>Jim Marston Research Unit on Spatial Cognition and Choice, Department of Geography, University of California Santa Barbara, U.S.A.</p>
12.30-13.30	Lunch
13.30-15.30	<p>Tutorial Session 2</p> <p>ICT for Deaf Users in Developing Regions: A South African Case Study</p> <p>Chair: Saduf Naqvi Vice-Chair: James Ohene-Djan</p> <p>Bill Tucker, Department of Computer Science, University of the Western Cape Meryl Glaser, Sign Language Education and Development, South Africa</p>
15.30-16.00	Break
16.00-18.00	<p>Tutorial Session 3</p> <p>Designing Assistive Technology to Support Independent Travel for Blind and Visually Impaired People</p> <p>Chair: Adina Ionescu Vice-Chair: Jim Marston</p> <p>Marion Hersh, Department of Electronics and Electrical Engineering, University of Glasgow, Scotland Edwige Pissaloux, Université Pierre et Marie Curie Institut des Systèmes Intelligents et de Robotique, France</p>
18.15-19.15	Meeting for Young Researchers on Chairing Sessions

19.30-21.30	Evening meal
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TUESDAY 21 APRIL	
9.00-9.10	Welcome: Marion Hersh, University of Glasgow, Scotland
9.10 -10.10	<p>Keynote Speech Audio-Visual Speech Processing – Analysis and Synthesis</p> <p>Chair: Zlatica Dolna Vice-Chair: Rüdiger Hoffman</p> <p>Hans-Heinrich Bothe Centre for Applied Hearing Research, Technical University of Denmark, Copenhagen</p>
10.10-10.40	Break
10.40-12.40	<p>Session 1: Orientation and Wayfinding Chair: Loïc Deschamps Vice-Chair: Pawel Strumillo</p> <p>A Remote Guidance System Aiding the Blind in Urban Travel Przemyslaw Baranski, Pawel Strumillo, Michal Bujacz, A. Materka Technical University of Lodz, Poland</p> <p>Beyond A Proposed Method for Sonification of 3D Environments Using Scene Segmentation and Personalized Spatial Audio Michal Bujacz, Piotr Skulimowski, G. Wróblewski, A. Wojciechowski, Pawel Strumillo Technical University of Lodz, Poland</p> <p>Beyond Boundaries; The Impact of Sex Differences in Wayfinding Without Sight – Implications for Urban Planning Design and Spatial Cognition Claudia Folska University of Colorado, USA</p> <p>Study of GPS Use for Accessibility in the Netherlands Sasja Ras, Kathleen Asjes Dedicon, Netherlands</p> <p>Auditory Orientation Training System for the Blind by using Wide-Range 3-D Sound Yoshikazu Seki Yukio Iwaya², Takeru Chiba², Satoshi Yairi², Makoto Otani² Makoto Oh-uchi³, Tetsuya Munekata⁴, Kazutaka Mitobe⁵, And Akio Honda⁶ ¹National Institute of Advanced Industrial Science and Technology (AIST) ²Tohoku University, ³Tohoku Fukushi University, ⁴National Institute of Special</p>

	Needs Education, ⁵ Akita University, ⁶ Iwaki Meisei University, Japan
13.00-14.00	Lunch
14.00-16.00	<p>Session 2: Hearing Aids and Communication Technologies Chair: Kabil Jaballah Vice-Chair: Bill Tucker</p> <p>Simulation of Auditory-Visual Impairments for Studies on Supplementary Technical Communication Devices Sermed Al Hamdani, Hans-Heinrich Bothe Centre for Applied Hearing Research, Technical University of Denmark, Copenhagen</p> <p>Engaging Minority Communities in Deaf Culture and Sign Language Sadaqat Ali, Saduf Naqvi Goldsmiths College, London, UK</p> <p>The Benefit of Speech Enhancement to the Hearing Impaired Nir Fink, M. Furst, C. Muchnik Tel Aviv University, Israel</p> <p>Representing Emotions and the Context in Subtitles Marion Hersh¹, James Ohene-Djan² ¹ University of Glasgow, Scotland; ²Goldsmiths College, London, UK</p> <p>Focussed Stimulation in Auditory Implants Soren Wulf-Kristiansen, Hans-Heinrich Bothe Centre for Applied Hearing Research, Technical University of Denmark, Copenhagen</p>
16.00-16.30	Break

16.30-18.30	<p>Session 3: Assistive Technology for Education Chair: Sasja Ras Vice-Chair: Cristian Bernareggi</p> <p>Speech and Braille Access to Computation Programs: User Experiences Sauro Cesaretti¹, Cristian Bernareggi², Jana Andrejkova³, ¹Università di Urbino, Ancona, Italy; ² Università degli Studi di Milano; ³ Technical University of Kosice, Slovakia</p> <p>Community-based Rehabilitation and Educational Services Adina Ionescu¹, Ileana Hamburg² ¹'Octav Onicescu' National College, Romania; ²Institut Arbeit und Technik, Gelsenkirchen, Germany</p> <p>Benefiting Disabled Students by Developing an Application that Uses Captioning of Multimedia to Enhance Learning for all Students Mike Wald and John-Mark Bell, England Southampton University, UK</p> <p>Hybrid Books – Information Access in Combined Format Svatoslav Ondra Masaryk University, Czech Republic</p> <p>Sign Language Online Interpreting at Masaryk University Christoph Damm Masaryk University, Czech Republic</p>
19.30-21.30	Welcome reception, followed by evening meal

WEDNESDAY 22 APRIL

9.00-10.30	<p>Keynote Panel 1</p> <p>Chair: Hanna Pasterny Vice-Chair: Marion Hersh</p> <p>Assistive Technology Current and Future: The Perspectives of the Deaf and Deafblind Communities in Poland</p> <p>Grzegorz Kozlowski President of the Towarzystwo Pomocy Gluchoniewidomym (Society for Supporting Deafblind People)</p> <p>Kajetana Maciejaska-Roczán Vice President of Polski Związek Gluchych (Polish Association of Deaf People), Member of Board of European Union of the Deaf</p>
10.30-11.00	Break

11.00-13.00	<p>Session 4: Sign Language Representation and Translation Chair: Sadaqat Ali Vice-Chair: Mike Wald</p> <p>Toward a Descriptive Language for Signs Nour Ben Yahia, Mohammed Jemni Ecole Supérieure des Sciences et Techniques de Tunis, Tunis</p> <p>Linguistic Processing of Text for Automatic Translation into Sign Language Mehrez Boulares, Mohammed Jemni Ecole Supérieure des Sciences et Techniques de Tunis, Tunis</p> <p>Toward Facial Expression Generation for Sign Language Machine Translation Oussama Elghoul, Mohammed Jemni Ecole Supérieure des Sciences et Techniques de Tunis, Tunis</p> <p>Automatic Sign Language Recognition using X3D/VRML Animated Humanoids Kabil Jaballah, Mohammed Jemni Ecole Supérieure des Sciences et Techniques de Tunis, Tunis</p> <p>Emotional Engineering of Digital Representations of Sign Languages – the Importance of Facial Detailing Saduf Naqvi, James Ohene-Djan Goldsmiths College, London, UK</p>
13.00-14.00	Lunch
14.00-18.30	Group Visit

THURSDAY 23 APRIL	
9.00-10.40	<p>Keynote Panel 2 E-Learning for Deaf People – Is This the Solution for Accessibility and Inclusion? Chair: Marion Hersh</p> <p>Advantages and Disadvantages of eLearning for Deaf People: The Case of Masaryk University Tomas Sklenak and Lucie Stefkova Masaryk University, Czech Republic</p> <p>The Use of ICT in Training for Deaf People: the Example of Deafax Saduf Naqvi Deafax, UK</p>
10.40-11.10	Break
11.10-13.00	<p>Session 5: Mobility and Orientation for Blind and Visually Impaired People Chair: Barbara Leporini Vice Chair: Yoshikazu Seki</p> <p>An Application for Smartphones Dedicated for the Blind and Visually Impaired Users Piotr Skulimowski, Artur Klepaczko, Pawel Strumillo Technical University of Lodz, Poland</p> <p><i>mTransVIP</i> – The System Facilitating Visually Impaired People an Unassisted Use of Urban Traffic Jacek Jelonek Poznan University of Technology, Poland</p> <p>Usage Analysis of a Sensory Substitution System : Report and Perspectives to Conceive a Tactile Interaction Network Loic Deschamps, Katia Rovira, Charles Lenay, Olivier Gapenne Technical University, Compiègne, France</p> <p>Micro Look: Travel Information System for Blind People Lukasz Kulczak and Hanna Pasterny Design Innovation Integration Zone, Katowice, Poland</p>
13.00-14.00	Lunch

14.00-16.00	<p>Session 6: Assistive Technology Provision and Outcomes Chair: Emma Bradburn Vice Chair: Jim Marston</p> <p>ICT and Ambient Intelligence Tools in New EU Countries Zlatica Dolna, Dusan Simsik, Alena Galajdova Technical University of Kosice, Slovakia</p> <p>The Analysis of E-Services and their Accessibility for Elderly People and People with Disabilities Jana Andrejkova, Dusan Simsik, Juraj Bujnak, Zlatica Dolna Technical University of Kosice, Slovakia</p> <p>Using the Comprehensive Assistive Technology (CAT) Model in an Assistive Technology Outcome Procedure with Personal Assistive Technology Profiles Marion Hersh¹, Mike Johnson² ¹University of Glasgow, Scotland, ²University of Strathclyde, Scotland</p> <p>Assistive Awareness Referring to People with Hearing Disabilities Ileana Hamburg¹, Marina Muscan² ¹Institut Arbeit und Technik, Gelsenkirchen, Germany; ²Educational and Professional Development, Romania</p> <p>Experience with New Services for Seniors and People with Disabilities in Slovakia Dusan Simsik, Stanislav Krajnak, Juraj Bujnak, Samer Abdo Al-Rabeei Technical university of Kosice, Slovakia</p>
16.00-16.30	Break

16.30-18.00	<p>Session 7: Access to Information and Education Chair: Jana Andrejkova Vice Chair: Jacek Jelonek</p> <p>Contrapunctus Braille Music Reader: A Free Player for Accessible Music Scores Kathleen Asjes, Neil McKenzie, Sasja Ras Dedicon, Netherlands</p> <p>A Pedagogical Approach to Accessible E-Learning Design Emma Bradburn, Éric Bel University of Teesside, UK</p> <p>Wikipedia, the Open Encyclopaedia: Is it Really Open to Blind Users? Barbara Leporini ISTI-CNR, Italy</p> <p>Accessibility in Design as a Discourse and Praxis Anna Maj¹, Michal Derda-Nowakowski² ¹University of Silesia, Katowice, Poland; ²ExMachina Academic Press, Poland</p>
18.15-19.30	Young Researchers Meeting
19.30-21.30	Evening meal