



**INTERNATIONAL CONFERENCE
ON ENGINEERING EDUCATION
ICEE 2005
“GLOBAL EDUCATION INTERLINK”**

July 25-29, 2005, Gliwice, Poland

Conference Programme



**Silesian University of Technology
Gliwice 2005**



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Akademicka 2a
44-100 Gliwice, Poland

Editors

Jerzy Mościński
Danuta Obracaj

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IDO

Gliwice, July 2005

Dear Colleagues,

It is my great pleasure to welcome all the participants of the ICEE 2005 Conference. There are almost four hundreds of us this year – engineers, university staff members, industry representatives – which proves the esteem of the ICEE meetings. Since I have been personally involved in the ICEE Conferences for many years, let me express my joy of meeting the friends I have befriended at all ICEE and ICEER conferences sites. I am delighted to welcome all the accompanying persons, whose contribution to the conference is significant and their presence is extremely stimulating.



The ICEE 2005 Conference is hosted by the Silesian University of Technology (SUT), in the year of 60th anniversary of its establishing. With its main base in Gliwice in the Upper Silesia region, this University has been playing one of the most important roles in the engineering education in Poland since its beginning in 1945. Today the SUT is a self-governing state university offering various engineering courses at 12 basic faculties. Employing over 2200 academics, the University trains over 25.000 day-time students and offers also evening and extramural courses. Industry of the whole country and in particular branches presented in Upper Silesia region benefit from our graduates and from the research work carried out here.

All sessions, workshops and exhibitions will be organised at the Education and Congress Centre in the middle of the Silesian University of Technology campus. The conference reception and cultural events will be held at picturesque historical places in Gliwice, whereas the ICEE 2005 banquet attendants will have the opportunity to spend the most interesting evening at the Toszek medieval castle. All conference participants are invited to visit the old capital of Poland – Kraków, one of the most famous and glorious towns in Europe for its historic and architectural values, together with the nearby magnificent salt mine Wieliczka. The whole day visit, included in the conference fee, is scheduled on Thursday, July 28, and culminates in the dinner at Zalesie grange, close to Kraków as well as to Tatra mountains.

The Conference was created by people and the main contributors should be applauded, even though they would never be properly rewarded. In particular, I would like to express our highest thanks to Win Aung, as well as other iNEER and ICEE/ICEEE Steering Committees members, whose support was invaluable. I also wish to thank the Organizing Committee and all the University staff members who have assisted in the preparation of the Conference.

During the Conference we will have the opportunity of tracing innovating ideas, sharing our experience, exchanging views as well as making friends, learning different cultures and visiting interesting places. I hope that all of us will have a fruitful and enjoyable time during the Conference. Enjoy your time at the Conference and your stay in Poland!

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SUNDAY, 24TH JULY, 2005

- 10:30-15:00 Pre-conference workshop (Pszczynska Conference Centre, PCC)
- 16:00-20:00 Registration (Education and Congress Centre, ECC)
- 19:00-21:00 Reception (ECC)
- 17:00-20:00 ISC/iNEER Meeting (PCC)
- 20:00-22:00 Dinner for ISC/iNEER Meeting attendants (PCC)

MONDAY, 25TH JULY, 2005

- 8:00-9:00 Registration (ECC)
- 9:00-10:00 Opening session (ECC)
- 10:30-12:30 Parallel sessions M11 (ECC)
- 12:30-14:00 Lunch (ECC)
- 12:30-14:00 iNEER Council Meeting (ECC)
- 14:00-15:45 Parallel sessions M14 (ECC)
- 16:15-17:45 Parallel sessions M16 (ECC)
- 16:15-17:45 IEET Symposium (ECC)
- 19:00 Departure for banquet in Toszek (from ECC)
- 20:00-23:00 Banquet in Toszek Castle

TUESDAY, 26TH JULY, 2005

- 8:30-10:00 Plenary session (ECC)
- 10:30-12:30 Parallel sessions T11 (ECC)
- 12:30-14:00 Lunch (ECC)
- 14:00-15:45 Parallel sessions T14 (ECC)
- 16:15-17:45 Parallel sessions T16 (ECC)
- 19:00-21:00 Reception and choir performance (SUT, Faculty of Chemistry)

WEDNESDAY, 27TH JULY, 2005

- 8:15-13:00 Optional tour to Auschwitz Museum
- 9:00-10:00 Poster session (ECC)
- 10:30-12:30 Parallel sessions W11 (ECC)
- 12:30-14:00 Lunch (ECC)
- 14:00-15:30 Plenary session W14 (ECC)
- 16:00-17:45 Parallel sessions W16 (ECC)
- 18:45-19:45 Reception (ECC)
- 20:00-21:30 Concert of classical music (Saint Peter and Paul's Cathedral)

THURSDAY, 28TH JULY, 2005

- 7:30-23:00 Excursion to Kraków, Wieliczka and Zalesie

FRIDAY, 29TH JULY, 2005

- 8:30-10:00 Parallel sessions F9 (ECC)
- 10:30-12:30 Closing session F11 (ECC)
- 12:30-14:00 Lunch (ECC)

FINAL PROGRAMME SCHEDULE
ICEE 2005 PROGRAMME

| | July 24 Sunday | July 25 Monday | July 26 Tuesday | July 27 Wednesday | July 28 Thursday | July 29 Friday |
|-------|---------------------------------|--------------------------------------|--------------------|-------------------------|----------------------------------|-------------------|
| 8:00 | | Registration | | | Departure to Krakow | |
| 9:00 | | Opening session | Plenary session | Poster session | | Parallel sessions |
| 10:00 | | Coffee break | Coffee break | Coffee break | | Coffee break |
| 11:00 | Pre-conference Workshop Part I | Parallel sessions | Parallel sessions | Parallel sessions | Krakow sight-seeing | Closing session |
| 12:00 | | | | | | |
| 13:00 | Lunch break | iNEER Council | Lunch | Lunch | Free time in Krakow | Lunch |
| 14:00 | Pre-conference Workshop Part II | | | | | |
| 15:00 | | Parallel sessions | Parallel sessions | Plenary session | Wieliczka salt mine sight-seeing | |
| 16:00 | | Coffee break | Coffee break | Coffee break | | |
| 17:00 | | iEET Symposium | Parallel sessions | Parallel sessions | | |
| 18:00 | Registration | iNEER Board ICEE & ICEER ISC Meeting | | | Dinner at Zalesie grange | |
| 19:00 | | | Reception | Departure for banquet | | Reception |
| 20:00 | | Dinner for iNEER Board/ISC | Choir performance | Classical music concert | | |
| 21:00 | | | | | Banquet iNEER Award Ceremony | |
| 22:00 | | Castle in Toszek | | | Return to Gliwice | |

ICEE 2005 SESSIONS PROGRAMME

Please note that sessions M11B, M14B, T11B and T14B are parts of the Workshop in Honour of Professor Janos Barsony, Pecs, Hungary

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| Opening session | M9B |
| Monday, 25th July, 2005, 9:00 – 10:00 | Room B |

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|--|---------------|
| Workshop in Honour of Janos Barsony - Current trends in engineering education (1) | M11B |
| Monday, 25th July, 2005, 10:30 – 12:30 | Room B |

- 10:30 **ICT in Civil Engineering Education**
Ralf Reinecke
- 10:45 **Project Centred-Learning in Chemical Engineering – an Australian Perspective**
Caroline A. Crosthwaite, Ian T. Cameron
- 11:00 **New Ways of Teaching Working Life Related Skills to Engineering Students**
Liisa E. Kairisto-Mertanen, Olli M. Mertanen
- 11:15 **A Common Core for Engineering**
David Edwards, Sam Fragomeni, Charles Lemckert
- 11:30 **Information Language Training Technologies for Engineers**
Tetyana Pavlova
- 11:45 **Harmonizing Civil Engineering Education in Europe**
Stanisław Majewski
- 12:00 **Application of New Methodologies in the Industrial Electronics Engineering Course: a Case Study**
Celina P. Leão, Filomena O. Soares
- 12:15 **A New Activity Based Course for Freshman Engineering**
Jim S. Cowart, Zbigniew Bzymek
- 12:30 **Increasing Retention Rates and Student Participation on Computer Engineering Courses**
Cornelia Connolly, Eamonn Murphy, Ita Richardson

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|---|---------------|
| Engineering computer graphics and graphics education (1) | M11C |
| Monday, 25th July, 2005, 10:30 – 12:30 | Room C |

- 10:30 **Virtual 3D Objects of Illusion in Engineering Education**
Maria Helenowska-Peschke
- 10:45 **Using of Graphical Methods for 3D Objects Design inside of Mechanical Desktop System**
Vidmantas Nenorta, Robertas Kersys, Nomeda Puodziuniene
- 11:00 **The Influence of Elements of Drawings on the Level of Difficulty in Solving Geometrical Tasks**
Krzysztof Tytkowski

- 11:15 **Introduction to CAD as an Introduction to Spatial-geometric Thinking**
Claus Pütz, Frank Schmitt
- 11:30 **Multimedia Presentation as Lecture Illustration on Engineering Graphics**
Anna Blach, Sławomir Bogacki
- 11:45 **Spatial Abilities Test TPS - Further Development and New Results**
Renata A. Góraska, Zuzana Juščáková
- 12:00 **Evaluation of Multimedia Software and a Workbook Designed to Improve 3-D Spatial Skills of Engineering Students**
Sheryl A. Sorby, Tom Drummer
- 12:15 **Roofs and Graph-theoretical Trees**
Edwin Koźniewski
- 12:30 **Using AutoCAD Features to Get the Orthogonal Projections of a Solid Model**
Elena Mereuta

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| Multi-disciplinary design projects (1) | M11D |
| Monday, 25th July, 2005, 10:30 – 12:30 | Room D |

- 10:30 **Civil Engineer Environmental Literacy: a Transdisciplinary Proposal**
Emilia W. Rutkowski, Orlando F. Lima Jr
- 10:45 **Humanitarian Projects in Interdisciplinary Senior Design**
Catherine K. Skokan, David Munoz, Joan Gosink, Jennifer Tafoya, Que Nguyen, Laura Kosbar
- 11:00 **Multi-disciplinary Final Projects at Freshmen Level**
Michael Jacobson, Habib-ur Rehman, Ra A. Said
- 11:15 **Multidisciplinary Major in the Engineering Technology Field**
Wes Grebski, Walter Janoski, Judith O'Donnell
- 11:30 **The Strontium Isotopes for the Analyses of the Bone to Study the Questions of Migration, Environment of the Ancient Population**
Ganna G. Zaitseva, Kirill I. Lokhov, I. N. Kapitonov, Marian F. Scott, Konstantin Y. Chugunov
- 11:45 **Technology Entrepreneurship Promoted by Universities' Incubation Centers in Taiwan: Its Successes and Challenges**
Lung-Sheng Lee, Chun-Chin Lai
- 12:00 **Robot Projects as Education Design Experiments**
Igor M. Verner, David J. Ahlgren
- 12:15 **Technology Entrepreneurship at the University of Maryland**
David F. Barbe

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| Engineering education and research (1) | M11E |
| Monday, 25th July, 2005, 10:30 – 12:30 | Room E |

- 10:30 **Reflections on the Attractiveness of the Civil Engineering Profession**
Francois G. Baron, Ralf Reinecke, Colin J. Kerr
- 10:45 **Negotiating a Merger between Two Paradigms of Engineering Education – Dealing with the Cultural Constraints**
Theo N. Andrew, Leon Pretorius, Jan Harm C. Pretorius

- 11:00 **An Inexpensive LISP-Based Educational Platform to Teach Humanoid Robotics and Artificial Intelligence**
Tze-wen Wang, Marek A. Perkowski, Maciej Sajkowski, Tomasz Stenzel
- 11:15 **Assessing-to-Learn – Enriching the Assessment Process**
Mark B. Russell
- 11:30 **The Teaching of Architecture in the End of the Nineteenth Century**
Anna Wanclaw
- 11:45 **DART: An Online Tool to Assist Academic Tutors in Meeting the Needs of Disabled Students within the Engineering Disciplines**
Adam R. Crawford, John G. Dickens, Alan P. Maddocks
- 12:00 **Manager-Engineer – the Proposal of the Faculty of Management and Economics, Gdańsk University of Technology**
Krzysztof Leja, Andrzej Szuwarzyński
- 12:15 **A Case Study of Retention of Freshmen Engineering Students**
Hasan Sevim, Roger Missavage

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| E-learning and Internet technologies (1) | M11F |
| Monday, 25th July, 2005, 10:30 – 12:30 | Room F |

- 10:30 **VIPRATECH - An Internet Based Laboratory Course in Chemical Engineering and Unit Operations – Tutorials and Remote Access Control**
Ralf Moros, Frank Luft, Helmut Papp, Heike Thormann, Thomas Müller, Frank Rößner, Carl v. Ossietzky, Warwick Bailey
- 10:45 **Teaching Distillation in Chemical Engineering Using a Virtual Laboratory**
Ana Rafael, Licínio G. Ferreira, Maria da Graca B. Rasteiro, José Carlos Teixeira
- 11:00 **Master's Portal as the Practical Result of Studying Web Technologies**
Aleksandr Minaev, Yevgen Bashkov, Aleksandr Anoprienko
- 11:15 **Knowledge and Cooperation in Undergraduate Product Design Courses**
Ricardo M. Naveiro, Marcos M. Borges
- 11:30 **Implementation of E-Learning in Engineering Education: Evaluation of Students Skills and Learning Approaches**
James O. Uhomobhi
- 11:45 **Blended Learning in the Workplace: Why is it so Good?**
Ian Macdonald, Babur Imirzalioglu
- 12:00 **E-Learning System as a Support for On-Site Courses with a Large Number of Enrollments**
Vagner Barbeta, Alessandro La Neve
- 12:15 **Contextualizing New Pedagogic Practices With the Use of a Course and an Environment for Distance Education Based on the Web**
Maria Cristina P. Fernandes, Marisa Lucena, Carlos José P. Lucena

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| Workshop in Honour of Janos Barsony - Current trends in engineering education (2) | M14B |
| Monday, 25th July, 2005, 14:00 – 15:45 | Room B |

- 14:00 **A Study of Professional Curriculum Planning for the Information Engineering Technology Programs of De Lin Institute of Technology**
Hung-Jin Chen, Liang-De Chang, Chi-Pong Ouyang
- 14:15 **Development of Students' Design Skills Using an Integrated Learning Approach**
Habib-ur Rehman, Ra A. Said
- 14:30 **Engineering Profession and Engineering Education**
Janos Barsony, Tibor Kukai, Jozsef Mecsi
- 14:45 **Education of Engineering in Brazil - Experience of the Federal Center of Technological Education - CEFET/RJ**
Marina Rodrigues Brochado, Beatriz Martins Teixeira, Lilian da Motta Dias
- 15:00 **Advances in Engineering Education: Building Alliances With Professional Societies**
Aris Christou
- 15:15 **Increasing Enrollment in Engineering Technology Programs through Program Modification and Cross-Utilization of Resources by Multiple Programs**
Ceeyavash (Jeff) Salehi
- 15:30 **Pensajistan. Towards the Use of Game as a Methodology for Building Autonomy**
Nelson L. Lammoglia, Roberto A. Zarama, Juan C. Bohórquez
- 15:45 **Methodology for Selecting PDM System Information**
Jiří Maxa, Vilém Neděla

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| Collaboration between universities and industry (1) | M14C |
| Monday, 25th July, 2005, 14:00 – 15:45 | Room C |

- 14:00 **The Effect of Process Variables on Surface Grinding of SUS304 Stainless Steel**
Shen-Yung Lin
- 14:15 **Predicting the Success Rate of Engineering Students**
Anna M. Pretorius, Phippus D. Pretorius
- 14:30 **IS/IT Supports Process Management**
Petr Wolf
- 14:45 **Collaboration between SIU Carbondale and Technical University of Ostrava - Utilization of Biomass and Mixtures for the Gas Production**
Václav Roubíček, Tomasz Wiltowski, Helena Raclavska
- 15:00 **Digital Technology and Heritage – An Approach of New Age Technology towards Preservation**
Aurobinda Chatterjee, Vinay Pathak, Surya Prakash, Phalguni Gupta, Sanjay G. Dhande
- 15:15 **Acquisition of Research on the Filed COx Reduction**
Dagmar Juchelkova, Václav Roubíček, Pavel Kolat, Helena Raclavska
- 15:30 **An Attendance Administrative System Using Dactyloscopy**
Kuang-Chyi Lee, Gavin Thomson, Yong-Jia Huang
- 15:45 **Calculation and Programming of Pressing-poles in Sheet Metal Forming**
Xing-mei Huang, Hai-ge Qing, Zhi-hua Zhong

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| Multimedia teaching tools (1) | M14D |
| Monday, 25th July, 2005, 14:00 – 15:45 | Room D |

- 14:00 **Teaching Electrical Engineering using E-Learning methods at the Otto-von-Guericke University Magdeburg**
Angel N. Angelov, Helge Fredrich, Zbigniew A. Styczyński, Günter Wollenberg
- 14:15 **Student Engagement with Simulations in Engineering Education. A Case Study**
Eduardo Montero, Cristina Alonso, María Jesús González, Fernando Aguilar, Montserrat Díez
- 14:30 **Virtual Reality Applied to Visualize Construction Activities: Two Didactic Models**
Alcínia Z. Sampaio, Pedro G. Henriques, Pedro S. Ferreira, Rui P. Luizi
- 14:45 **Multimedia Learning Materials for Foreign Languages: Protocall and SPIK**
Claudia S. Hallikainen
- 15:00 **A Computer Based Approach to Class Room Teaching of Computer Networks**
Bhaskar Choubey
- 15:15 **Multimedia Teaching and Learning Tools in Education of Surveyors**
Barbara Gąsowska
- 15:30 **Considerations in the Development of a Computer Networks Teaching Laboratory**
Hamid R. Majlesein

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| Internationalization and globalization of engineering education (1) | M14E |
| Monday, 25th July, 2005, 14:00 – 15:45 | Room E |

- 14:00 **International Student and Teacher's Exchange Programs as a Necessary Factor of Progressive Development of Modern Higher Educational Institutions**
Tatjana N. Odintsova
- 14:15 **German-Polish Double Graduation in Materials Science on M.Sc. Level**
Jerzy Lis, Mariusz Wójcik, Leszek Blacha, Malgorzata Sopicka-Lizer, Horst Altenburg, Julian Plewa, Michael Bredol
- 14:30 **Critical Determinants of Engineering Education**
Józef A. Haber, Remigiusz Sosnowski
- 14:45 **Current Trends in International Engineering Education in Finland- The Case of Degree Programme in IT at Rovaniemi Polytechnic**
Piotr M. Krawczyk, Markku Taipale, Taisto Arkko
- 15:00 **Developing International Partnerships to Globalize Undergraduate Engineering Education**
Patricia L. Fox, Kay Wilding, Stephen Hundley, Elizabeth Coles
- 15:15 **ECTS - Modularisation - Workload**
Günter Schäfer, Martina Wächter
- 15:30 **Foreign Students at VŠB - Technical University of Ostrava, Faculty of Mechanical Engineering**
Milada Hlaváčková, Lenka Landryová

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| E-learning and Internet technologies (2) | M14F |
| Monday, 25th July, 2005, 14:00 – 15:45 | Room F |

- 14:00 **An E-Learning Program of Composite Material Made by the RTM (Resin Transfer Method)**
Gwo-Chung Tsai
- 14:15 **Experience with E-learning for Electrical Engineering - from Ideas to Realisation**
Viliam Fedák, Pavol Bauer, Roman Miksiewicz, Helmut Weiss
- 14:30 **How can Blackboard Assist in Assessment and Facilitation of Knowledge Exchange?**
Anne L. Nortcliffe
- 14:45 **Internet Interactive Teaching Texts**
Zdeněk Neustupa
- 15:00 **Internet, New Space for the Distance Education at the Contestado University - UnC**
Liamara Scortegagna Comassetto, Leandro Ramires Comassetto, João Bosco da Mota Alves
- 15:15 **Promoting Understanding using a Virtual Learning Environment**
Elizabeth M. Laws
- 15:30 **E-learning Based Teaching of Alternating Current Electrical Machines**
Andrzej Boboń, Jerzy Kudła, Roman Miksiewicz
- 15:45 **Distance Learning Platform Based on Moodle Open Source Software**
Jerzy Rutkowski, Piotr Kłosowski, Katarzyna Mościńska

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| Taiwan-Euro Alliance on Advancing Engineering Education and Academic Exchanges | M16B |
| Monday, 25th July, 2005, 16:15 – 17:45 | Room B |

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| Accreditation and quality assessment (1) | M16C |
| Monday, 25th July, 2005, 16:15 – 17:45 | Room C |

- 16:15 **Selection of General Education Courses for Engineering Students**
Hasan Sevim
- 16:30 **An Evaluation Process of the University Engineering Degrees: the Portuguese Case**
Carlos S. Furtado
- 16:45 **Testing as an Instrument of Educational Process Improvement in Technical University**
Victor D. Polezhaev, Maria Polezhaeva
- 17:00 **European Accredited Engineer**
Iring Wasser
- 17:15 **Quality Assurance and Accreditation of Engineering Programmes in Russia**
Alexander I. Chuchalin, Yuri P. Pokholkov, Oleg V. Boev, Sergey B. Mogilnitsky

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| Virtual and tele-laboratories | M16D |
| Monday, 25th July, 2005, 16:15 – 17:45 | Room D |

- 16:15 **Development of a Software Interface and Virtual Laboratory for the Emerging Security Technology Decsipline**
Babak Dastgheib-Beheshti, Lazaros Pavlidis
- 16:30 **The Web Applications Supporting Education Processes**
Radim Farana, Marek Babiuch
- 16:45 **Creating Web Based Virtual Processes for E-learning**
Jussi Horelli, Matti Väänänen
- 17:00 **VLANSim: Simulation of Virtual LANs**
Rainer Oechsle, Hermann Schloss, Ralph Weires
- 17:15 **On-Line Laboratories for a Distance Engineering Degree Program**
John L. Watson, George Bibel, Kenneth Ebeling, John Erjavec, Hossein Salehfar, Marcellin Zahui
- 17:30 **Virtual Laboratory - Kinematic Analysis and Animation of a Cupboard Hinge**
Jacek Uziak, John D. Foster

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| Physics in engineering education (1) | M16E |
| Monday, 25th July, 2005, 16:15 – 17:45 | Room E |

- 16:15 **Physics and Engineering Education for Isotopic Environmental Studies and Environmental Protection**
Anna Pazdur, Grzegorz Adamiec
- 16:30 **Relativity in Classical Mechanics: Momentum, Energy and the Third Law**
Roberto Assumpção
- 16:45 **Teaching „by Means of Physics” as an Important Tool in the Creation of a European Higher Education Area**
Bogusława Adamowicz, Jerzy Krzak, Marian Urbańczyk
- 17:00 **The Analysis of Preparation for the Subject Physics for the First Year Students at Faculty of Materials Science and Metallurgy and Faculty of Transport at Silesian University of Technology**
Beata Kauch, Ewa Wilk
- 17:15 **Implications of Creative Thinking-inspiring Teaching to Occupation Exploitation Programs under Information Electronics Departments in Vocational High Schools**
Shao-Tsu Chu, Yu-Wen Chu
- 17:30 **A New Methodology for the Teaching of Experimental Physics**
Anna Cristina B. Carvalho, Maria Ilná S. de Oliveira, Antonio Braga Feliciano

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| Engineering education in the age of digital technology and global communication | M16F |
| Monday, 25th July, 2005, 16:15 – 17:45 | Room F |

- 16:15 **Information Technologies: What Has to be Taught at the University?**
Olga N. Dolinina
- 16:30 **Computer Graphics Communication „Digital Documentation Using 3D-CAD Data and Web-3D”**
Tatsuya Mochizuki
- 16:45 **Design of an Automated Assessment System to Support Student Retention**
Brian O’Connell, Breannan P. O’Cinneide
- 17:00 **Engineering Skills for Global Economy: The role of the Hemisphere of the Americas**
Luiz C. Scavarda do Carmo, Jorge P. Dalledone, Lueny Morell, Russel . Jones
- 17:15 **A New Algorithms for Improving the Remote Sensing Data Transmission over the LEO Satellite Channels**
Ali Payandeh, Mohammad Reza Aref
- 17:30 **Teaching Computing in a Civil Engineering Course: Experience and Future Directions**
Maria H. Braz
- 17:45 **Earning a B.S. Degree at 18**
Ali Amirfazli, Elham Sahraei, Damoon Soudbakhsh

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| Theoretical and applied geometry and graphics | M16G |
| Monday, 25th July, 2005, 16:15 – 17:45 | Room G |

- 16:15 **Visualization of the Educational Information in Engineering Graphics**
Robertas Kersys, Vidmantas Nenorta, Nomeda Puodziuniene
- 16:30 **New Methods of the Computer Aided Design of Roofs in Descriptive Geometry**
Edwin Koźniewski
- 16:45 **Descriptive Geometry in Basis of the Technical Designing**
Marek Cyunel, Marcin Jonak, Krystyna Romaniak
- 17:00 **New Descriptive Geometry or Computer Geometry?**
Henryk Merta, Stanisław Sulwiński
- 17:15 **Aspects of Display of Surface Projections**
Alexey Lyashkov, Vladimir Volkov
- 17:30 **Conics in Engineers Projections**
Anna Kulig, Krystyna Romaniak, Marcin Janak
- 17:45 **The Geometric Simulation of the Cake Formation Processes (by the Example of Industrial Filtration)**
Alexander V. Chernikov

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| Plenary session | T9A |
| Tuesday, 26th July, 2005, 8:30 – 10:00 | Room A |

- 8:30 **The Degree in Chemistry: Past, Present and Future (?)**
Domenico Spinelli
- 9:00 **Institutionalization and Mainstreaming Innovations in Engineering Education**
Tim Anderson
- 9:30 **Skill Needs Analysis for Micro/NanoElectronics Industry**
Jugdutt (Jack) Singh

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| Workshop in Honour of Janos Barsony - Current trends in engineering education (3) | T11B |
| Tuesday, 26th July, 2005, 10:30 – 12:30 | Room B |

- 10:30 **The Education Advancement Program on Precision Mechatronics in Taiwan**
Wenlung Li, Jhy-Cherng Tsai, Cheng-Kuo Sung, Wei-Chung Wang, Jennie Wu
- 10:45 **Multidisciplinary Matter of Electric/Electronics Technology Education**
Ivan Szendiuch
- 11:00 **Introducing Design Skills at Freshmen Level**
Ra A. Said, Habib-ur Rehman, Michael Jacobson
- 11:15 **Engineering! How to Survive the First Two Years**
Klaus Wuersig
- 11:30 **Application of the „Team Syntegrity” Invention as a Proposed Learning Methodology: Cybernetics of Cybernetics, a Case Study**
Jose Bermeo, Roberto Zarama
- 11:45 **Validating the Assessment of Individuals within Undergraduate Teams**
Peter Willmot, Adam R. Crawford
- 12:00 **Attractiveness and Effectiveness of the Study at the Faculty of Architecture, Silesian University of Technology**
Joanna M. Serdyńska, Jerzy Witeczek
- 12:15 **Developing the Engineering Cadre in Post Independence Namibia: Major Challenges in a Rapidly Developing Technological Society**
Edward Chikuni, Michael Tjvikua
- 12:30 **The Creation of an Environmental Engineering Course: the Experience of the Polytechnic School of Rio de Janeiro Federal University - UFRJ**
Eduardo G. Serra, Maximo C. Masson

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| Collaboration between universities and industry (2) | T11C |
| Tuesday, 26th July, 2005, 10:30 – 12:30 | Room C |

- 10:30 **A Mobile Robot Vision-Feedback System**
Kuang-Chyi Lee, Po-Ting Tsai

- 10:45 **Multidisciplinary Entrepreneurial Team Building Project**
Wes Grebski
- 11:00 **Minerals Industry and Universities Work Together in Australia**
Marcin Ziemiński, Kevin D. Tuckwell
- 11:15 **Factors that Contribute to Effective Research in an Engineering Department**
Gavin Van Winsen, Jan Harm C. Pretorius, Leon Pretorius
- 11:30 **Periodic Evaluation System for Continued Education Programs in Engineering**
Paulo C. Kaminski, Eduardo P. Freire Ferreira
- 11:45 **Quality of EU Leonardo Mobility Projects University-enterprise**
Peter Moson, Ildikó Varga
- 12:00 **On Planning and Executing Successful Engineering Student Orientation Visits to High Technology Companies in North Carolina, USA**
Tony L. Mitchell, Angelitha Daniel
- 12:15 **Facial Recognition Technology: A University-Enterprise Cooperation**
Ines Brosso, Alessandro La Neve, Graça Bressan

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| Multi-disciplinary design projects (2) | T11D |
| Tuesday, 26th July, 2005, 10:30 – 12:30 | Room D |

- 10:30 **The Development of a New Course in Nontraditional Machining**
Kuen Ming Shu, Shan Ying Pan
- 10:45 **Project Based Learning in an International Study Environment**
Jan U. Wolff
- 11:00 **Information Processing in Bioinformatics Database Systems – Mirror-based Architecture and Approximate Search**
Dariusz Mrozek, Bożena Małysiak, Jacek Frączek
- 11:15 **Learning at the Edge of Chaos - Reflections on Project Based Learning**
Gunnar Andersson, Björn Gitle Hauge
- 11:30 **Improving the Engineering Competencies in Education with Multi-Disciplinary Design Projects**
Anna Friesel
- 11:45 **Exploration and Practice of Quality Education on Students' Entrepreneurship and Scientific Innovation**
Shihe Lei, Bingzhang Zheng, Ni Wang, Hong Wu, Gunnar Andersson
- 12:00 **A Student Design Project Named Flying Kite**
Jiun-Jih Miao, Shau-Shiun Jan, Yi Jen Chan, Wei-Ting Hsu, Guan-Hua Leu, Ying-Ju Lin, Hsin Chung Wang, Shou Hsien Wang, Dar-Yun Chiang, Kung-Ming Chung
- 12:15 **A Novel Approach Based on Outcomes-based Criteria to Maximize Students' Performance Outcomes: An Example from a Mechatronics Course in Taiwan**
Pei-Fen Chang, Dau-Chung Wang
- 12:30 **Didactic Library of Environmental Technologies: a Contribution for the Environmental Literacy of Civil Engineers**
Emilia W. Rutkowski, Thiago M. Campi

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| Engineering education and research (2) | T11E |
| Tuesday, 26th July, 2005, 10:30 – 12:30 | Room E |

- 10:30 **Why Engineering Students Study**
David Edwards
- 10:45 **Do Future Professors Need Teacher Training?**
Charles R. Bauer
- 11:00 **Investigating Development Trends at the Faculty of Mining and Geology, VŠB - Technical University of Ostrava, in New Economic Paradigm**
Jaroslav Dvořáček
- 11:15 **Introductory Computer Programming Course: Major and Gender Differences in Performance on Tests Employing Multiple-Choice Questions and Programming Problems**
Barbara T. Piro
- 11:30 **Role of a Professional Organisation in Engineering Education**
Michael Michaud, Vojislav Ilic
- 11:45 **Increasing the Number of Female Students and Participation in Engineering Courses**
Cornelia Connolly, Eamonn Murphy, Ita Richardson
- 12:00 **Thermal Treatment of Monolithically Founded Concrete in Vertical Diaphragms at Dwelling Structures**
Răzvan Giușcă, Vladimir Corobceanu
- 12:15 **A Framework of Problem-Based Learning Course Portfolio**
Chu Shao-Tsu, Lin Yi-Ping
- 12:30 **Design of a Novel Satellite Attitude Determination Algorithm**
Mehrzad Nasirian, Hossein Bolandi, Ali Khaki Sedigh, Reza Khogar

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| E-learning and Internet technologies (3) | T11F |
| Tuesday, 26th July, 2005, 10:30 – 12:30 | Room F |

- 10:30 **Structuring Internet Meetings for International Student Discussion**
Emília Mironovová, Gabriela Waleková, Kevin D. Taylor
- 10:45 **Student Portal of Knowledge Intensive Services**
Matti Väänänen, Jussi Horelli
- 11:00 **E-learning Tools to Supplement and Substitute Activities in an Electric Circuits Course**
Ana M. Pavani
- 11:15 **Creative Application of E-Learning, Internet Technologies in Education – An Example of How Students with Disabilities Are Benefited –**
Kuei-Chih K. Chuang, Tsong-Ming Lin, Chi-feng (Tom) Tsai
- 11:30 **E-learning Applications for Process Engineering Education**
Paula Postelnicescu, Anca Dumitrescu, Raluca Isopescu, Ana-Maria Josceanu, R. Onofrei

- 11:45 **Working together for a global Nursing Education : New Didactic Strategy, Commonalities and Challenges**
Julita Sansoni
- 12:00 **About the Virtual Preadmission Department for International Students**
Sergiy I. Sidorenko, Inna H. Malyukova, Anna D. Kholmakaya, Sergiy M. Shukayev, Vladimir P. Gabeyev, Sergiy O. Poteshkin
- 12:15 **Learning Digital Video via Visual Programming**
Antonio Moraes
- 12:30 **Role of Engineering Education in Development of the Information Society and the Information Management**
Vlasta Rabe

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| Workshop in Honour of Janos Barsony - Current trends in engineering education (4) | T14B |
| Tuesday, 26th July, 2005, 14:00 – 15:45 | Room B |

- 14:00 **Evaluation Process in Engineering and Computer Education**
Clara A. de Oliveira
- 14:15 **Laboratory Framework for Teaching the Subject of Automatic Control of Process Technologies at the Faculty of Mechanical Engineering, Silesian University of Technology**
Jerzy Świder, Grzegorz Wszolek, Piotr Michalski
- 14:30 **Learning Theory by Developing Important Skills**
Marcelo Massarani
- 14:45 **Geometric Modelling in Education Process**
Ivana Linkeová
- 15:00 **Introducing Cross-disciplinary Projects: a First Step towards Implementing CDIO Standards**
Johan D’Heer, Paul Raes, Christian Vandenplas
- 15:15 **Investigation of the Need for Continuing Education**
Julius Christauskas
- 15:30 **Advising for Course Registration: A UAE University Perspective**
Mohammad S. Laghari, Qurbon A. Memon, Habib-ur Rehman

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| New technologies in mathematics for engineering and other sciences | T14C |
| Tuesday, 26th July, 2005, 14:00 – 15:45 | Room C |

- 14:00 **The Concept of Teaching Mathematics at the Faculty of Architecture**
Krystyna Romaniak
- 14:15 **Portal Technologies on Czech Universities**
Jiří Šimonek
- 14:30 **Static and Dynamic Surfaces Representation**
Matilde P. Legua, Jose A. Moraño, Luis M. Sanchez Ruiz
- 14:45 **Using FlexLearn to Improve Learning in Mathematics and Statistics: A Web-based Learning-aid Based on Student Self-administration and Automatic Feedback**
Reidar Kvadsheim, Mari Mehlen

- 15:00 **Impacting Expectations and Preparation of High School Students Through K-12 Outreach**
Eric Bell, Helen Grebski, Wes Grebski, Marlene Guers
- 15:15 **Physical Science and Mathematics in the Middle School Classroom: An Integrated Approach**
Catherine K. Skokan, Barbara M. Moskal, Jennifer Tafoya, Que Nguyen, Laura Kosbar, Judith Duffield
- 15:30 **Children: Engineers of Tomorrow Engineering the World Today**
Georgina Echániz-Pellicer
- 15:45 **A Computer in Class Technique for Teaching Mathematics to Engineering Students**
Bhaskar Choubey, Janardan Choubey

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| Engineering computer graphics and graphics education (2) | T14D |
| Tuesday, 26th July, 2005, 14:00 – 15:45 | Room D |

- 14:00 **Comparing the Use of a ‚Tabletop’ Experiment and a Collaborative Desktop Virtual Environment for Training Police Officers to Deal with Traffic Accidents**
Ahmed BinSubaih, Steve Maddock, Daniela Romano
- 14:15 **Computer Graphics in Training Donetsk National Technical University’s Students Whose Major is Software**
Yevgen Bashkov, Vitaliy Karabchevskiy
- 14:30 **Development of Geometry and Engineering Graphics Curriculum for Civil Engineering Course**
Ewa Kalinowska, Monika Sroka-Bizoń, Jolanta Tofil
- 14:45 **Aesthetics, Visualization and Graphics in Highway Design**
Lidia Żakowska
- 15:00 **Aspects of Using 3D-CAD (AutoCAD2005) Teaching Descriptive Geometry to Students of Architecture**
Frank Schmitt
- 15:15 **Modelling of Information Engineering Graphics**
Lionginas Čiupaila, Jonas Zemkauskas
- 15:30 **Information Communication Technologies in Architectural Education**
Modris Dobelis
- 15:45 **The Models of Information Geometrical Drawing**
Lionginas Čiupaila, Rytė Ziūrienė, Jonas Zemkauskas

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| Distance learning and self-access learning | T14E |
| Tuesday, 26th July, 2005, 14:00 – 15:45 | Room E |

- 14:00 **Teaching Engineering Concepts by Using Collaborative Work Tools**
Carmen Bachiller Martin, Carlos Hernandez Franco, Francisco Ramos Pascual
- 14:15 **Lift Technology by Distance Learning „Comes of Age”**
Jonathan P. Adams, Phillip J. Andrew, Stefan Kaczmarczyk
- 14:30 **Postgraduate Programme in Lift Engineering at University College Northampton: Bridging the Gap between Practice, Learning and Research**
Stefan Kaczmarczyk, Phillip J. Andrew, Jonathan P. Adams

- 14:45 **Design of a Progressive Learning Assessment & Guidance Model in a Distance Learning Environment.**
Abhijit Pandya, Jay H. Thakkar, Sam Hsu, Young-Uhg Lho
- 15:00 **ICoTeL and ELefANTS Projects - Bringing Help and New Skills**
Jaromír Hrad, Tomáš Zeman
- 15:15 **Functional Architecture of an e-Laboratory: Real Time Remote Installation and Configuration of the Linux Operation System**
Alassane Diop, Hamadou Saliah-Hassane
- 15:30 **Virtual Platform to Improve the Teaching-Learning Process of English Language**
Leydiel Argüelles Torres, Alvaro Ranzola Martinez, Alain Calzadilla Rivero, Ariel Castellanos Isaac, Mirelle Lorenzo Cuadra, Mayté Herrera Noa, Liz Martinez Delgado

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| Collaboration between universities and industry (3) | T14F |
| Tuesday, 26th July, 2005, 14:00 – 15:45 | Room F |

- 14:00 **Integrating Industrial Placements into Engineering Degree Provision**
Alan J. Casey
- 14:15 **Simulation of Robot Soccer Game**
Kuang-Chyi Lee, Yong-Jia Huang
- 14:30 **The University-Industry Collaboration as Critical Determinants of Success to Engineering Education**
Luiz A. Gargione
- 14:45 **Leonardo da Vinci Project „CELGAS” - Blended e-Learning International Education Initiatives in Teaching of Gas Engineering**
Jakub Siemek, Peter Büttner, Dan Maniu Duse, Volker Koeckritz, Hans-Juergen Kretzschmar, Paweł Krzystolik, Stanisław Nagy, Stanisław Rychlicki, Jan Pinka, Stanisław Stryczek
- 15:00 **Engendering Social Capital through Collaboration in Engineering Education**
Vojislav Ilic, Katherine Curic, Brian Mulvey
- 15:15 **Assessing Corporate Reinvestment in Engineering Education: University-Industry Collaboration**
Susan Haag, Trina Corbin
- 15:30 **EUTOR: An International Collaboration for Industrial-oriented Practical Training in Robotics**
Martin Mellado, Detlef Zühlke, Jochen Schlick, Eduardo Vendrell

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| Accreditation and quality assessment (2) | T16C |
| Tuesday, 26th July, 2005, 16:15 – 17:45 | Room C |

- 16:15 **A Study of Evaluating the Quality of Group Study (2)**
Tetsuro Furukawa, Masakatu Matsuishi, Shigeo Matumoto, Kazuya Takemata, Taketo Yamakawa
- 16:30 **Engineering Education in Taiwan: The Status of Engineering Programs and the Development of Accreditation System**
Mandy Liu, Pei-Fen Chang

- 16:45 **Estimation of Pedagogical Processes Quality**
Liudmila N. Polezhaeva, Maria V. Polezhaeva
- 17:00 **Program Assessment with Emphasis on Outcome Oriented Measures**
Babak Dastgheib-Beheshti, Edward A. Nelson, Heskia Heskiaoff
- 17:15 **„Biomedical technology” as a New Branch of Bachelor Study**
Jindřich Černohorský, Marek Penhaker, Hana Sochorová, Petr Tiefenbach
- 17:30 **Improving Quality of Engineering Education at Cairo University**
Adel K. Khalil, Nabil M. Abdel-Monem, El-Sayed K. Abouel Kassem

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| Collaboration between Engineering and Education faculty (1) | T16D |
| Tuesday, 26th July, 2005, 16:15 – 17:45 | Room D |

- 16:15 **The OSTE: Objective Structured Technical Examination for Engineering Students**
Guillaume Alinier, Nandini D. Alinier
- 16:30 **Transformation of a Freshman Year Engineering Course**
Vinod K. Lohani
- 16:45 **Learning Communication Skills through Non-verbal Interactions and Process Analysis – A None-traditional ICT Related Teaching Approach for Teaching Education**
Gunnar Andersson, Sissel Larsen, Hong Wu
- 17:00 **Integrating Literature in an Undergraduate Environmental Engineering Design Course to Enhance Technical Writing Ability**
Kathleen M. Leonard, Pamela K. Behrens
- 17:15 **Learning as a Feedback-control Process**
Michael H. Hoffmann
- 17:30 **Engineering Village 2 - Effective Tool for Engineering Education and Research**
Sandra Grijzenhout

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| Physics in engineering education (2) | T16E |
| Tuesday, 26th July, 2005, 16:15 – 17:45 | Room E |

- 16:15 **Education in Physics at the Silesian University of Technology in Gliwice**
Bogusława Adamowicz, Jerzy Krzak, Marian Urbańczyk, Jerzy Bodzenta
- 16:30 **Internet Remote Physics Experiments in Student’s Laboratory**
Miroslava Ožvoldová, Frantisek Lustig, Frantisek Schauer
- 16:45 **The New Method of Histeresis Loop Investigating**
Andrzej Nowrot
- 17:00 **Use of Simple Physical Effects to Practice Design and Related Problem Solving**
Zbigniew Prusak
- 17:15 **Once More about Anomalies Physics**
Vladimir A. Pinchuk
- 17:30 **Educational Integration at Doctoral Level in the Field of Metamaterials (within the NoE Metamorphose)**
Filippo Capolino, John Arnold, Filiberto Bilotti, Christophe Craeye, Ramon Gonzalo, Ferran Martin, Vladimir Podlozny, Alexander Schuchinsky, Sergei Tretyakov, Said Zouhdi
- 17:45 **A Distributed Approach of Teaching Physical Sciences to Engineering Students**
Janardan Choubey

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| Biotechnology education as an interdisciplinary field between engineering and science | T16F |
| Tuesday, 26th July, 2005, 16:15 – 17:45 | Room F |

- 16:15 **A New Paradigm: Bringing Biology and Chemical Engineering in Each Other's Classrooms**
Lorenzo Saliceti-Piazza, Rosa Buxeda
- 16:30 **Education Resource Integration Network with Academic-industry Collaboration in Medical Mechatronics**
Ming-Yih Lee, Chung-Hsien Kuo
- 16:45 **Industrial Biotechnology: A Major Driver for the Development of a Knowledge-Based Economy in Puerto Rico**
Lorenzo Saliceti-Piazza, Rosa Buxeda
- 17:00 **Teaching the Teachers – Way Forward in Training a New Generation of Life Science Engineers?**
Jarka Glassey

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| Bologna Declaration implementation | T16G |
| Tuesday, 26th July, 2005, 16:15 – 17:45 | Room G |

- 16:15 **Implementing the European Higher Education Area at the Universidad Politécnica de Valencia (Spain)**
Enrique Ballester, Ana M. Gimeno, Elias Hurtado, Luis M. Sanchez-Ruiz
- 16:30 **On the Problems of Reforming Higher Engineering Education in Ukraine in the Context of the Bologna Declaration**
Yuriy K. Rudavskyy, Petro P. Kostrobiiy, Yuriy M. Rashkevych, Orest Y. Lozynskyy
- 16:45 **Ph.D. Study – Third Level Engineering Education Program**
Jerzy Świątek
- 17:00 **The Informatics Engineering Programme Adaptation to the European Higher Education Area at the Faculty of Computer Science of Valencia**
Eduardo Vendrell, Emilio Sanchis
- 17:15 **A Bachelor's Program at Vorarlberg University of Applied Sciences According to the Bologna Declaration**
Johannes Steinschaden
- 17:30 **Bologna Declaration and Nursing Education in Europe**
Julita Sansoni, Shirley E. Keckley, Anna Rita Marucci

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| Poster session | W9H |
| Wednesday, 27th July, 2005, 9:00 – 10:00 | |

- Increasing Retention Rates and Student Participation on Computer Engineering Courses**
Cornelia Connolly, Eamonn Murphy, Ita Richardson
- Multi-disciplinary Final Projects at Freshmen Level**
Michael Jacobson, Habib-ur Rehman, Ra A. Said
- Development of Students' Design Skills Using an Integrated Learning Approach**
Habib-ur Rehman, Ra A. Said

Introducing Design Skills at Freshmen Level

Ra A. Said, Habib-ur Rehman, Michael Jacobson

Conics in Engineers Projections

Anna Kulig, Krystyna Romaniak, Marcin Janak

Distance Learning Platform Based on Moodle Open Source Software

Jerzy Rutkowski, Piotr Kłosowski, Katarzyna Mościńska

Virtual Laboratory - Kinematic Analysis and Animation of a Cupboard Hinge

Jacek Uziak, John D. Foster

EUTOR: An International Collaboration for Industrial-oriented Practical Training in Robotics

Martin Mellado, Detlef Zühlke, Jochen Schlick, Eduardo Vendrell

Current trends in engineering education (5)

W11B

Wednesday, 27th July, 2005, 10:30 – 12:30

Room B

- 10:30 **Shifting the Responsibility of Learning in First Year Electrical Engineering Students**
George J. Gibbon, Ian R. Jandrell, David Rubin
- 10:45 **Real-world Experimenting for Education of Dynamical System Modeling and Identification**
Zbigniew Ogonowski
- 11:00 **Possibilities for PowerPoint Program Application in the Classes of Engineering Studies**
Vidmantas Butkus, Rolandas Domeika, Algirdas Raila
- 11:15 **UK Engineering Students Knowledge of Mechanics on Entry: Has it All Gone?**
Stephen Lee, Martin C. Harrison, Carol L. Robinson
- 11:30 **Challenges in Implementation of FPAA/FPGA Mixed-signal Technology**
Adam Ziębiński, Lech Znamirowski
- 11:45 **Computer Assisted Technologies in Educational and Innovative Activity of the Technical University in the XXI Century**
Sergey A. Podlesny, G. B. Masalsky, A. V. Sarafanov
- 12:00 **Engineering Project Management: Doing not Teaching**
Marcin Ziemiński, Jon Whitty
- 12:15 **Language Skills: to what Extent do they Influence the Delivery and Understanding by Students of an Engineering Curriculum? Lessons from Multi-lingual, Multi-cultural Society**
Edward Chikuni, Zacchaeus Oyedokun, Elsie Hill

Multi-disciplinary design projects (3)

W11D

Wednesday, 27th July, 2005, 10:30 – 12:30

Room D

- 10:30 **A Novel Instructional Approach to Metal Forming in the Technology-oriented College**
Yuan-Chuan Hsu, Li-Chin Chiang
- 10:45 **Integration of „Six Sigma” into Multidisciplinary Engineering Design Projects**
Mahbub Uddin, Raj Chowdhury
- 11:00 **Fuzzy Petri Nets of Education**
Jaroslav Knybel, Cyril Klimes
- 11:15 **Integration of CPLD/FPGA Technology in the Undergraduate Engineering Curriculum**
David J. Ahlgren, Taikang Ning
- 11:30 **The Art of Architecture Based on Multidisciplinary Engineering Aspects.**
Zbyszko Bujniewicz

- 11:45 **Experience on Design and Prototyping of a Wafer Polishing Machine in Undergraduate Capstone Project**
Jhy-Cherng Tsai, Guo-Jen Wang, Shean-Juinn Chiou
- 12:00 **Carbon Tubes are Promising Materials for Nanotechnologies**
Sergey S. Savinskiĭ
- 12:15 **A Hands-on Design Course Integrating Computer Drawing, Numerical Simulation, Manufacturing, and Performance Testing for the Stirling Engines**
Chin-Hsiang Cheng
- 12:30 **Contact Force-controlled Surface Profiler Design with Kalman Filtering and Multi-sensor Data Fusion Methods**
Jium-Ming Lin

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| Engineering education and research (3) | W11E |
| Wednesday, 27th July, 2005, 10:30 – 12:30 | Room E |

- 10:30 **The New Single-silicon TFTs Structure for Kink-current Suppression with Symmetric Dual-Gate by Three Split Floating N+ Zones**
Dae-Yeon Lee, Jee-Young Yoon, Jang-Woo Ryu, Man Young Sung, Dong-Hee Rhie
- 10:45 **The Performances Improvement of Concrete Guniting Equipment**
Răzvan Giușcă, Vladimir Corobceanu
- 11:00 **Teaching of Electrotechnics - Ideas and Reality**
Krystyna M. Stec
- 11:15 **PLC Teaching Laboratories in the School of Engineering and Industrial Design at the University of Western Sydney, Australia**
Andrzej Hudyma
- 11:30 **Developing a Mobile Medical Robot Using ER1 Technology**
Muhammad S. Khan, Naaman Ashchenaz, Syed W. Ali, Muhammad B. Ahmed, Mahmood A. Khan
- 11:45 **An Implementation of Knowledge about Rheological Smart Materials into Engineering Curriculum**
Marek L. Szary
- 12:00 **Pitfalls to Avoid in Teaching Probability to Engineering Students when Using Spreadsheets**
Lorí Viali
- 12:15 **Design and Use of an Integrated Academic Decision Support System for Departmental and University-wide Administration**
Dervis Z. Deniz

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| E-learning and Internet technologies (4) | W11F |
| Wednesday, 27th July, 2005, 10:30 – 12:30 | Room F |

- 10:30 **Central and Eastern European Virtual University (CEEVU)**
Mykhailo Z. Zgurovsky, Sergiy I. Sidorenko, Inna H. Malyukova, Sergiy M. Shukayev, Vyacheslav V. Valuyskyĭ
- 10:45 **A study in Relationship of Engineering Education to Creation of Information Society in India**
Bhaskar Choubey, Janardan Choubey
- 11:00 **Web-based Distributed Learning Management System**
Yuriy M. Rashkevych, Dmytro D. Peleshko

- 11:15 **eLearning Academic Network**
Günter Schäfer
- 11:30 **Enhanced Learning Through Web-based Team and Individual Projects**
Charles R. Bauer
- 11:45 **The Analysis and Design of a Courseware Management System for Higher Education**
Hsin-Yih Shyu, Yu-Hur Chou
- 12:00 **The System Moodle in an Educational Process of an Engineer.**
Zuzana Krivá
- 12:15 **The Role of Internet Character-Oriented Application Protocols in an Elementary Communication Protocols Course**
Drago Hercog

Plenary session

W14A

Wednesday, 27th July, 2005, 14:00 – 15:30

Room A

- 14:00 **E-learning and other new technologies in engineering education**
Ryszard Tadeusiewicz
- 14:30 **A New Department of Engineering Education- Accomplishments in First Year and Near-Term Goals**
Vinod Lohani
- 15:00 **From Engineering to Economic Development**
Lueny Morell

Current trends in engineering education (6)

W16B

Wednesday, 27th July, 2005, 16:00 – 17:45

Room B

- 16:00 **Introducing Engineering and Industrial Design**
George P. Grodzicki
- 16:15 **Automatic Control Fundamentals Teaching at Faculty of Mechanical Engineering**
Renata Wagnerová, Radim Farana
- 16:30 **A New Integrated Curriculum for Computational Methods in Mechanics and Design**
Jan Szantyr, Krzysztof Kosowski, Wojciech A. Misiąg
- 16:45 **A Generic Model for a Pedagogically Successful Didactic Delivery**
Vojislav Ilic
- 17:00 **The PRiME Project: Web-based Materials on Engineering Ethics and Professional Responsibility**
Christy Moore
- 17:15 **Gender Component in the Structure of the Higher Engineering Education**
Sergiy Sidorenko, Julya Strebkova, Oleksandr Zakhovayko
- 17:30 **Best Practices in Freshman Engineering Design at the New Jersey Institute of Technology**
John D. Carpinelli, Angelo J. Perna, Deran Hanesian

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| Collaboration between Engineering and Education faculty (2) | W16C |
| Wednesday, 27th July, 2005, 16:00 – 17:45 | Room C |

- 16:00 **Co-operation of Ph.D. Candidates on a Post-Doc. Project Sponsored by Czech Science Foundation (GAČR)**
Ales Sliva, Jiri Zegzulka, Jaromir Polak
- 16:15 **Collaboration Between Engineering and Education Faculty: A Key to Student Retention**
Glennelle Halpin, Gerald Halpin, Larry Benefield
- 16:30 **CSCW: A Formation Support Tool of the Engineer**
Antonio J. Pithon, Marina R. Brochado
- 16:45 **The Nexus of Spatial Intelligence and Logical-Mathematical Intelligence**
Manuela N. Nechita, Ioan I. Tarau
- 17:00 **Factors Affecting Selection of Teaching Strategy in an Emerging Institution Higher of Learning with Heterogeneous Learner-Teacher Outlook**
Zacchaeus O. Oyedokun

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| Engineering computer graphics and graphics education (3) | W16D |
| Wednesday, 27th July, 2005, 16:00 – 17:45 | Room D |

- 16:00 **Technical Drawing Standards and Engineering Graphics Education**
Pranas Gerdžiūnas
- 16:15 **Specialist Computer Programmes in Didactical Process**
Ewa Zarzeka-Raczkowska, Andrzej Raczkowski
- 16:30 **Teaching Methodology of Engineering Graphics within AutoCAD Framework**
Romas Bausys, Birutė Juodagalvienė
- 16:45 **Programming Graphical Objects and Database in Design**
Algirdas Sokas
- 17:00 **Problems and Solutions in Didactic Process for „Computer Techniques in Architectural Design”**
Agnieszka Baron
- 17:15 **CAD, Rapid Prototyping and Digitization – A Successful Application in Coordinate Measurement**
Aurobinda Chatterjee, Surya Prakash, Sanjay G. Dhande
- 17:30 **Geometry Education for Developing Spatial Visualisation Abilities of Engineering Students**
Cornelie Leopold
- 17:45 **Teaching Spatial Kinematics for Engineers**
Hellmuth Stachel

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| Internationalization and globalization of engineering education (2) | W16E |
| Wednesday, 27th July, 2005, 16:00 – 17:45 | Room E |

- 16:00 **Development of Inventive Skills and Engineering Education – a Global Outlook**
Zbigniew Prusak
- 16:15 **An Example of Best Practice in Transnational Cooperation in the Field of Engineering Education: the European Thematic Networks**
Iacint Manoliu

- 16:30 **Internationalization Plan of Mechanical Engineering**
Anneli Kakko
- 16:45 **Joint Degrees in Binational Studies**
Günter Schäfer
- 17:00 **Parallel Courses in English in the Field of Control and Information Systems**
Pavel Nevřiva, Miroslav Pokorný
- 17:15 **The Estimation of Student Workload in Engineering Courses in the European Credit Transfer and Accumulation System (ECTS). A Case Study**
Eduardo Montero, Cristina Alonso, Maria Jesus Gonzalez, Fernando Aguilar, Montserrat Diez
- 17:30 **International Technology Transfer: An Insight into the Cooperation between a Multi-national and Two African Universities**
Edward Chikuni, Peter Gallert, Emanuel Rashayi

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| Collaboration between universities and industry (4) | W16F |
| Wednesday, 27th July, 2005, 16:00 – 17:45 | Room F |

- 16:00 **Chosen Solutions of Teaching SCADA Systems Programming**
Ryszard Jakuszewski
- 16:15 **Collaboration between Universities and Industry in the Energy Field**
Dagmar Juchelkova
- 16:30 **Two-semester American-Polish Post Diploma Studies For Top Industrial Managers**
Jerzy Barglik, Remigiusz Sosnowski
- 16:45 **The Constructionarium: a UK Collaboration of Industry, Academics and Students**
Alison L. Ahearn, Chris Wise, Ed McCann, Peter Goring
- 17:00 **Network Structure and Cooperation between Universities and Industry**
Tatiana Corejova, Jan Corej
- 17:15 **Partnership Programs to address Economic and Social Impact of Small Scale (Micro/ Nano) Technologies**
Jugdutt Singh
- 17:30 **Computer-aided Design of Technologies in the Field of Metallurgy Industry**
Vitali A. Zhuravlev

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| Current trends in engineering education (7) | F9B |
| Friday, 29th July, 2005, 8:30 – 10:00 | Room B |

- 8:30 **Facility Management and Building Quality Evaluations – New Directions of Architectural Education**
Elżbieta Niezabitowska, Dariusz Masły, Michał Sitek
- 8:45 **Teaching Electronic Circuits Top-Down and Bottom-Up**
Tamara A. Papalias
- 9:00 **Challenges and Opportunities Faced by Web-Enhanced English Teaching in Taiwan**
James Yu-Shan Liu
- 9:15 **Electrical Circuits Education with Maple**
Amir H. Khanshan
- 9:30 **Personal Development Planning: How do I Learn how to Learn?**
Eleri Bowen, Steve Lloyd, Steve Thomas

| Elements of ethics in engineering education | | F9D |
|--|--|---------------|
| Friday, 29th July, 2005, 8:30 – 10:00 | | Room D |
| 8:30 | Teaching Ethics to Students of Network and Systems Administration Kirsten Ribu | |
| 8:45 | Universal Design and its Relevance to Engineering Ethics Masahisa Seguchi, Terumasa Ohkusa | |
| 9:00 | Elements of Ethics and „Entrepreneurial Thinking” in 21st Century Engineering Education Raj A. Chowdhury, Mahbub Uddin | |
| 9:15 | Ethics in Engineering Practice; University to Company Gyanam Sadananda | |
| 9:30 | Teaching Ethics in Engineering Education. The Challenges and Solutions Tadeusz Kuczyński, Alicja Kuczyńska | |
| 9:45 | An Integrated Ethics Curriculum for Engineering Majors Wei-Lee Lu | |

| Internationalization and globalization of engineering education (3) | | F9E |
|--|--|---------------|
| Friday, 29th July, 2005, 8:30 – 10:00 | | Room E |

| | | |
|------|--|--|
| 8:30 | Master-degree Specialization in Computer Engineering in Electrical Systems, Carried in English at the AGH-UST Antoni Cieśla, Zbigniew Hanzelka, Jacek Nalepa, Tadeusz Orzechowski, Jan Rusek | |
| 8:45 | Preparing Students for Global Workplace - How Can Education Help Future Engineers Work Comfortably with Diversity of People? Yuko Hoshino, Leon Wayne Sanders | |
| 9:00 | The Role of ELT in Internationalisation of Structured Engineering Study Programmes Milena Krhutová, Dagmar Malíková | |
| 9:15 | Internationalization of the Geomatics Engineering Education Francisco García García, Inma Tomás Estellés | |
| 9:30 | International Experience for Freshman Engineering Students through Multi-National Global Design Projects Ivan E. Esparragoza | |
| 9:45 | Double Diploma Project - Step towards Internationalization and Globalization of Electrical Engineering Education Krzysztof Rudion, Zbigniew Styczyński, Janusz Szafran | |

| Biotechnology and environmental protection | | F9F |
|---|--|---------------|
| Friday, 29th July, 2005, 8:30 – 10:00 | | Room F |

| | | |
|------|---|--|
| 8:30 | Incomplete Combustion in Power Generation Utility Boilers Mustafa Al-Sudani | |
| 8:45 | Water System Control and Protection Device Mustafa Al-Sudani, Grant Stirling | |
| 9:00 | Informational Priority of International Development of Socially Useful Biotechnology Alexey K. Barsukov, Vitaly A. Zhuravlev, Sergey S. Savinskiy, Andrey V. Barmin, Alexandr I. Kuznetsov, Olga Y. Nesterova, Olga V. Kozhevnikova, Svetlana A. Ushnurtseva, Evgeny N. Zhelyshev | |

- 9:15 **Patent Analysis of Genetic Engineering Research in Japan, Korea and Taiwan - Assessment of the Research**
Szu-chia Lo
- 9:30 **Creation of Biologically Active Aerosols by Method of Electroactivation and Atomization of Water in Electric Field**
Tudor M. Sajin

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| Multimedia teaching tools (2) | F9G |
| Friday, 29th July, 2005, 8:30 – 10:00 | Room G |

- 8:30 **Teaching of Advanced Wave Propagation Phenomena in Passive Waveguide Devices Using MATLAB GUIs**
Carmen Bachiller Martin, Héctor Esteban, Angel Belenguer, Jose V. Morro, Ana Vidal, Vicente E. Boria
- 8:45 **A Web-Based Tutorial System in Engineering Dynamics**
Jacqueline Bridge
- 9:00 **Development of an Assessment System for Engineering Courses Using Petri-Net**
Yu-Hur Chou, Hsin-Yih Shyu
- 9:15 **The „Mathematica” Programme in Engineers’ Education Process**
Piotr Duka
- 9:30 **Teaching Matlab Based Toolbox for Antenna Course**
Olivier V. Vidémé Bossou, Juan R. Mosig
- 9:45 **Multimedia Prototype of an E-learning Bilingual Model for a Mathematics Learning System**
Zur’aini Dahlan, Akbariah Mohd. Mahdzir, Habibah N. Haron, Ismail Abdullah

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| Closing session | F11A |
| Friday, 29th July, 2005, 10:30 – 12:30 | Room A |

INFORMATION FOR ICEE 2005 PRESENTERS

ORAL PRESENTATION GUIDELINES

The total time limit for a speaker is 15 minutes, of which 12 are assigned for presentation and 3 for discussion. All session rooms are equipped with a personal computer (Microsoft Windows 2000/XP operating system, PowerPoint 2000/XP program, CD-ROM, USB port) and data projector. If you need an overhead projector for transparencies please let us know at least one day in advance. There will be internet access (including wireless) during presentation.

If your presentation was sent by e-mail early enough to be placed on the conference CD-ROM, it will be put on the computer by the conference staff. Otherwise please provide the conference staff with your presentation (CD, USB) at least 20 minutes before your session. Please report to the session Chairperson 10 minutes before the session.

POSTER PRESENTATION GUIDELINES

The authors will be provided with stands for A0 posters (108cm × 78cm), portrait orientation. The posters should be printed in advance. Please, make your presentation interesting and legible from distance – use large fonts, include graphs and figures. Assemble the display about an hour before the poster session opens. Be present till the end of the session in order to answer questions and exchange ideas.

BANQUET AT THE CASTLE IN TOSZEK

- Date:** 25.07.05 (Monday)
Venue: Castle in Toszek
Time: 8 p.m. – 11 p.m.
Time of departure: 7 p.m. – 7.15 p.m.
Pick-up point: car park nearby Education and Congress Centre
Attractions:
- performance of ‘Dąbrowiaczy’ Academic Dance Ensemble of the Silesian University of Technology
 - Knights’ Tournament - spectacle of archery – Fellowship of the Knights „Chorągiew Ziemi Górnośląskiej” (‘Company of Upper Silesia’)
 - Performance of ‘Allegro’ Early Music Ensemble



Panorama of the Castle in Toszek

In the past the Castle in Toszek was a magnificent building. Unfortunately, only a small part of it can be admired at present. However, despite the damage caused by time and numerous fires, the remaining rooms are perfectly suitable for a seat of a culture centre.

The history of Toszek and its castle reaches the Middle Ages. Even as far back as in the 9th century, there were the first mention and documents confirming the existence of a wooden castle, as well as a settlement of the Opolanie tribe.

Thanks to its favourable location the settlement, which later transformed into a town, developed very quickly both economically and socially. The discovery of Roman coins on the Castle hill allows to suppose that the ancient Amber Route went through it.

In the Middle Ages Toszek became an important town, the most important part of it being the Castle hill, enjoying border and customs privileges.

BUFFET RECEPTION AT THE COURTYARD OF THE FACULTY OF CHEMISTRY

| | |
|---------------------|--|
| Date: | 26.07.05 (Tuesday) |
| Venue: | courtyard of the Faculty of Chemistry, 7 Strzody Street |
| Time: | 7 p.m. – 9 p.m. (10 p.m.) |
| Attractions: | performance of the Academic Choir of the Silesian University of Technology |



The Faculty of Chemistry, 9 Strzody Street.

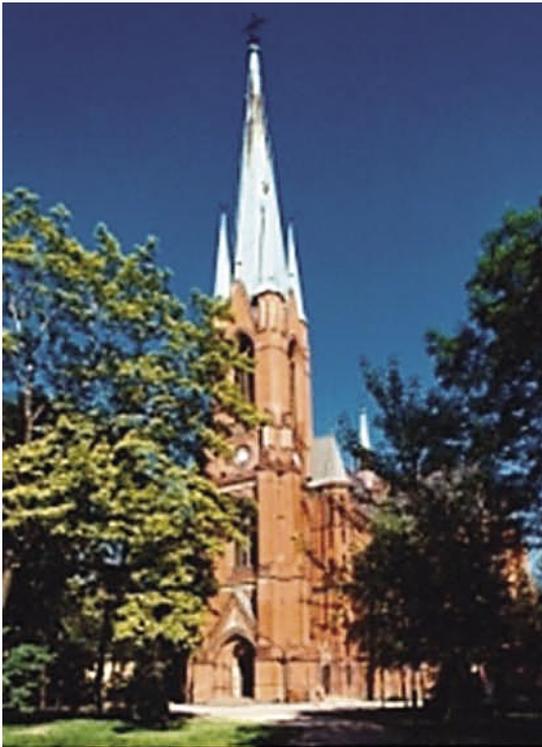
Strzody Street. This coat of arms, made of ceramics, is one of four appearing on the buildings of Gliwice. The main entrance, accentuated with a portal crowned with a gothic arch, leads us to the building. Special attention should be paid to its net and cross-ribbed vaults based on columns and consoles.

The building of the Faculty of Chemistry on the corner of Strzody and Wrocławska Street is an interesting example of a neo-Gothic brick building at the turn of the 20th century (built 1906 – 1907).

The designer of this building was an architect Georg Kuczora who also designed Saint Paul and Peter's cathedral in Gliwice. The façade, with its rich collection of forms and details draws on gothic motifs used in the 14th and 15th century throughout Krolewicz, Hamburg and Lubeca. The elements specific of this style include shaped stones (window frames), coloured and glazed bricks (window sills, frieze), as well as stone elements (window portals, bases). The monumentality of the building is emphasised by *breaks* (the protruding part of the building) crowned with step gables and a tower rising above the steep roof of the building. An interesting part of the facade is the old Gliwice coat of arms which is placed on the side of the tower overlooking

CONCERT OF CLASSICAL MUSIC AT KATEDRA ŚW. PIOTRA I PAWŁA (SAINT PETER AND PAUL'S CATHEDRAL)

Date: 27.07.05 (Wednesday)
Venue: Katedra Św. Piotra i Pawła, 5 Jana Pawła II Street
Time: 8 p.m. – 9.30 p.m.
Performers: Chamber Music Group of the National Polish Radio Symphony Orchestra under the management of Mr Piotr Tarcholik



Saint Peter and Paul's Cathedral

The church was built in 1886 – 1900 and is now one of the finest examples of neo-Gothic temples in Silesia. This three-nave building has a construction typical for Silesian gothic churches based on flying buttresses. The facade is made of clinker and glazed brick.

Above the main portal there is a colourful mosaic showing the patron saints of the church-the Apostles Peter and Paul.

The church has the best Rieger organs in Upper Silesia so numerous concerts and recitals take place there. In 1992 the church was elevated to cathedral status.

Programme of the concert

- Anton Dvořak - String sextet in A-major op.48
- Ignacy Jan Paderewski (1860 – 1941) – Minuet G-major op.14 no. 1
- Felix Mendelsshon – Bartholdy – Octet Es-major op. 20
- Johann Sebastian Bach – air *Erbarmedich* from St Matthew's Passion

A TRIP TO KRAKOW AND WIELICZKA

Plan of the trip:

| | |
|---------------|--|
| 7:30 | departure from Gliwice, pick-up point -18b Konarskiego Street – Education and Congress Centre |
| 9:30 | sightseeing of Krakow: Wawel, a walk along Droga Królewska (The Royal Route) to the Main Market Square, Kościół Mariacki (St Mary's Church), Sukiennice (Cloth Hall) |
| 12:30 – 14:00 | free time in Krakow |
| 14:00 | departure for Wieliczka - pick-up point in Plac Matejki (Matejki Square) |
| 14:45 – 17:30 | visit to the Salt Mine in Wieliczka |
| 17:30 | departure for Folwark Zalesie |
| 18:00 | a festive dinner at Folwark Zalesie |
| about 22:30 | return to Gliwice |



Krakow is the city of rich historical traditions, inseparably connected with the history of the Polish nation. Krakow is a very special place, where history and tradition alternate and intersperse with modern life. In this city there are several thousand historical monuments and objects, a dozen or so museums, and over four hundred cafés and restaurants in the centre of the city alone, not to mention the unique atmosphere of Krakow.

The Wawel Hill is one of the most valuable architectural complexes in the world. The Wawel Cathedral used to be the coronation place of the Polish monarchs. The temple has no match in Poland and there are few other royal necropolises elsewhere in Europe that were used continually for such a long time.

The most important Cracovian road is known as **the Royal Road**. It goes through the Market Square, one of the biggest squares in Europe, next along Kanonicza Street, the oldest and most charming street of the city and ends on Wawel Hill – the most important place for Cracovians. The Royal Road was established as a part of the ancient trade route known as the Hungarian-Prussian Road or more popularly the Amber Road.

Market Square is one of the biggest squares in Europe and still remains the “heart of the city”. It is here where Krakow’s life concentrates, in both spiritual and entertaining dimension. The beautifully lit vestibule and the crown of the highest tower of St. Mary’s Basilica, the small St. Adalbert’s church and the stony gargoyles of the Cloth Hall create an unforgettable impression.

St. Mary's Basilica (the Basilica of Ascension of the Blessed Virgin Mary) is one of the most valuable treasures of Gothic art in Poland. The Basilica is a symbol of the splendour of the Cracovian burghers. Its façade comprises of two towers, which are joined at its lower levels by a late-Baroque vestibule.

The higher tower, called Hejnalica, is topped with a unique Gothic cupola constructed in 1478, and as of 1666, a gilded crown.

The greatest treasure of the Basilica is the great altar; the work of Wit Stwosz (Veit Stoss), which dominates the entire interior of the temple – a real gem of medieval art. The biggest in Europe pentaptych presents in its central part the scene of the Demise of the Virgin Mary and her Assumption, while the sides show scenes from the lives of Mary and Christ. Two hundred gilded statues that are carved in linden-wood and covered with polychrome are a result of Master Stwosz's twelve years of work (1477 – 89) and his genius.

The historic Salt Mine in Wieliczka is the only site in the world where mining has continued since the Middle Ages. Lying on nine levels, its original excavations (longitudinal, traverses, chambers, lakes, as well as lesser and major shafts) stretch for the total of 300 kilometres: reaching the depth of 327 metres they illustrate all the stages of the development of the mining technology over time."

The quotation comes from an the justification of entering the Wieliczka Salt Mine into UNESCO's 1st World List of Cultural and Natural Heritage on 8th September, 1978 together with 11 other sites from all over the world. In 1994 it was recognized as the Monument of National History by the President of Poland. For, indeed, reaching back to the Middle Ages, the history of Wieliczka is a reflection of progress of mining technology, development of work organisation and management, birth of legislation in industry, as well as a lesson on patriotism and love of freedom. The beginnings of Wieliczka, one of the world's most famous mines of the world, reach the Middle Ages, when it assumed the name of *Magnum Sal* (Great Salt.)



Notice: It is recommended to take some warm clothes with you, as the temperature in the mine is rather low.

COMPANION TOURS – GENERAL INFORMATION

The pick-up point for all the tours is the Education and Congress Centre, Konarskiego 18b. The participants are kindly asked to board 15 minutes before the departure time. All the times are approximate and may vary due to Museum regulations, traffic conditions etc.

A Visit to Silesian Porcelain Factory, Katowice – Monday, July 25, 2005

| | |
|---------------------------|-------------|
| Transfer | 10.00-10.30 |
| Visit to the Factory | 10.30-11.30 |
| Visit to the Factory Shop | 11.30-12.15 |
| Arrival to Gliwice | 13.00 |

Katowice is the capital of Upper Silesia. It grew up in the times of rapid development of the mining and metallurgical industry. Nowadays Katowice is a centre of nearly 3 million agglomeration.



The **Silesian Porcelain Factory** (formerly known as *Giesche*), is the producer of the exclusive table porcelain. It started the production in the 20s of the previous century. Since then the company has become one of the best Polish porcelain producers. The factory specializes in the production of domestic, richly decorated porcelain. It offers more than 400 decorations, including inglaze decorations, which can be used in the washing machines and microwaves. During the excursion there will be the unique opportunity to track the process of porcelain masterpieces manufacturing, and to admire the results of the factory workers

skills.

Website: www.porcelanaslaska.pl

Tour to the Pszczyna Castle - the magnificent residence of the Princes of Pszczyna

– Tuesday, July 26, 2005

| | |
|----------------------------|-------------|
| Transfer to Pszczyna | 9.15-10.00 |
| Visit to the Castle Museum | 10.15-11.30 |
| Walk in the Castle Park | 11.30-12.30 |
| Return to Gliwice | 13.30 |

The documented history of the fortified gothic castle goes back to the first half of the 15th century. The castle – within the centuries - was many times rebuilt and extended. The last reconstruction – in the neo-baroque style – was carried out in the 19th century.

The name of Georg Philipp Telemann (1681-1767) is closely connected with the castle history. This outstanding German baroque composer performed in Pszczyna the important

function of Kapellmeister and organist. From 1850 the owner of Pszczyna estate was entitled to use the title of the Prince von Pless. At present the sixth prince von Pless, count von Hochberg Bolko lives in Munich.

It is worth mentioning that the major part of the castle's historical furnishings (about 80%) from the late 19th and early 20th centuries has been preserved. Nowadays several permanent exhibitions are open to the public, including *Interiorsofthe19th–20th century*, *Emperor'sApartaments* and others.



The castle is surrounded by the park, which stretches over an area of 48ha (120 acres). The current form of an English-style landscape park dates from the second half of the nineteenth century.

Website: www.zamek-pszczyna.pl

Tour to the Auschwitz-Birkenau State Museum – Wednesday, July 27, 2005

| | |
|------------------------------|-------------------------|
| Transfer | 8.15-9.30 |
| Visit to Museum + short film | 9.30-11.00, 11.30-11.45 |
| Return to Gliwice | 13.30 |

All over the world, Auschwitz has become a symbol of terror, genocide, and the Holocaust.

During the Second World War (1939 – 1945) Poland was occupied by Germans. In 1940 the German Nazis established in Auschwitz the extermination camp called “concentration camp” to conceal their true purpose. At first, Poles were imprisoned and died in the camp. Afterwards, Soviet prisoners of war, Gypsies, and prisoners of other nationalities were also incarcerated there. Beginning in 1942, the camp became the site of the greatest mass murder in the history of humanity, which was committed against the European Jews as part of Hitler’s



plan for the complete destruction of that people. The majority of the Jewish men, women and children deported to Auschwitz were sent to their deaths in the gas chambers immediately after arrival. At the end of the war, in an effort to remove the traces of the crimes they had committed, the SS began dismantling and razing the gas chambers, crematoria, and other buildings, as well as burning documents.

The total number of victims of Auschwitz from 1940-1945 is estimated at between 1,100,000 and 1,500,000 people. The majority, and above all the mass transports of Jews who arrived after 1942, died in the gas chambers.

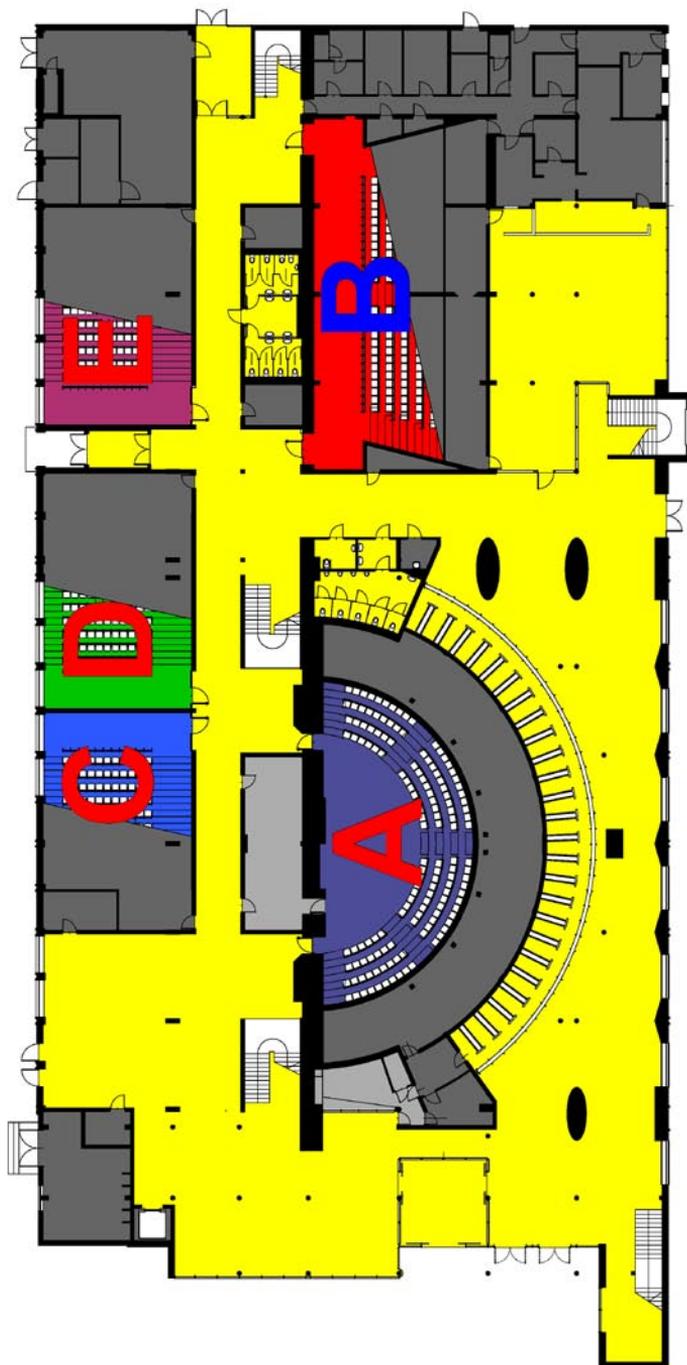
Website: www.auschwitz.org.pl

EDUCATION AND CONGRESS CENTRE, ECC (CENTRUM EDUKACYJNO-KONGRESOWE, CEK)

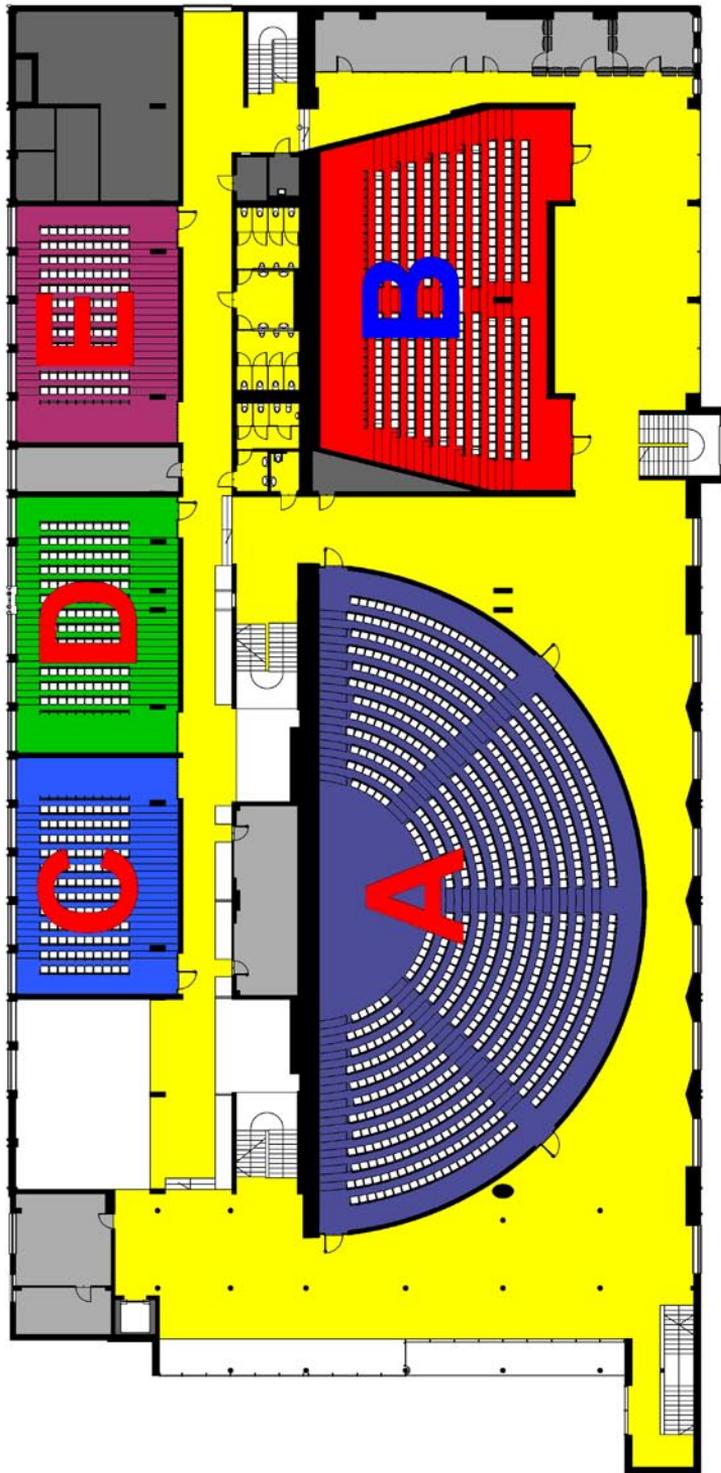
There are 2 large halls in the ECC for plenary meetings: Room A and Room B. Both rooms are accessible from ground floor as well as from 1st floor.

There are 3 auditorium rooms C, D and E for parallel sessions, also accessible from ground floor and 1st floor.

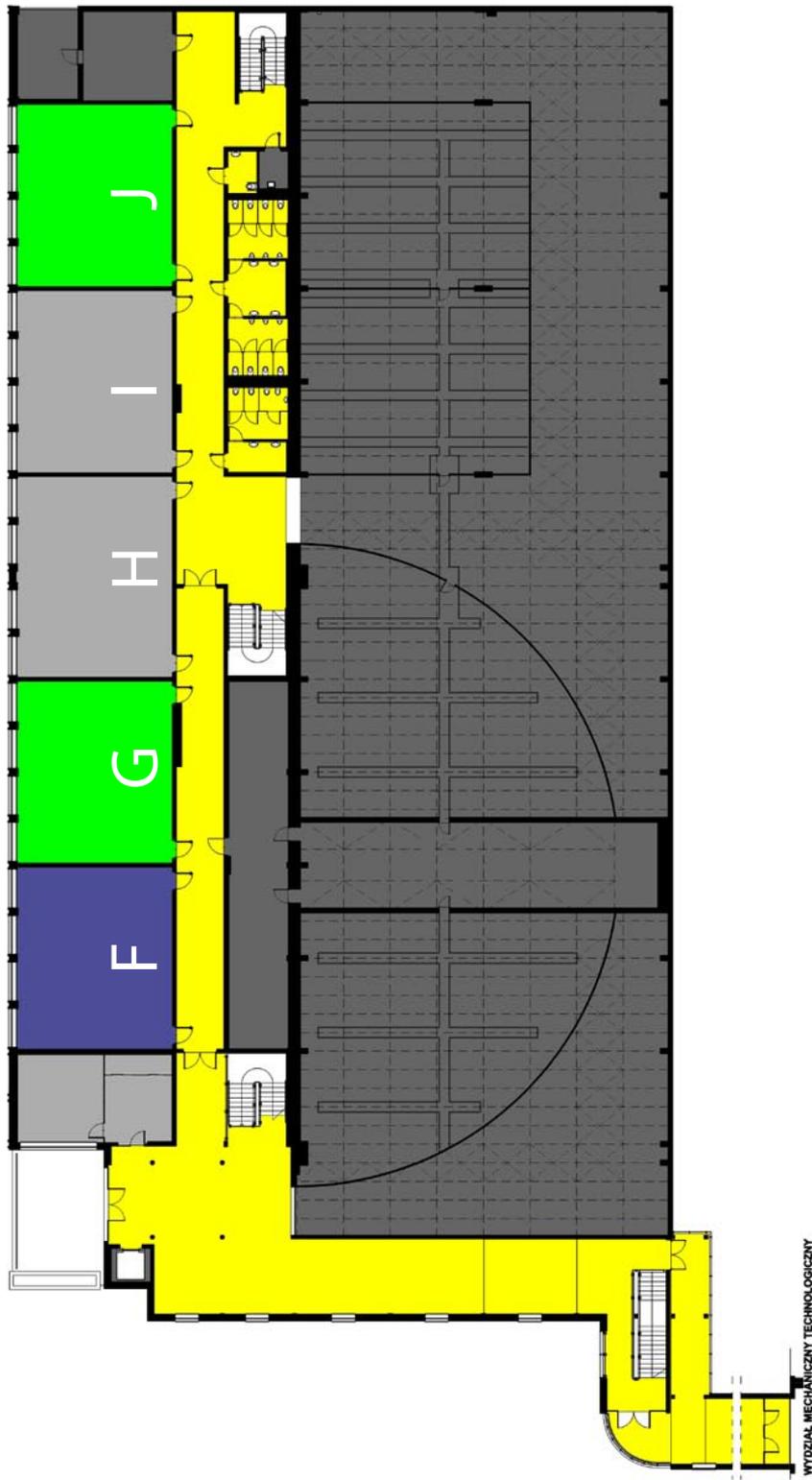
There are 5 general purpose rooms F, G, H, I and J, accessible from 2nd floor of the ECC, which are used for parallel sessions, Internet access and other meetings.



ECC ground floor plan



ECC 1st floor plan



ECC 2nd floor plan

GUIDE FOR INTERNATIONAL VISITORS

ABOUT POLAND

The Republic of Poland is the 9th biggest country in Europe. In 1990 Poland went through a transition into a democratic government, after being under the communist regime for over forty years. Since then the situation has changed fundamentally - in 1999 Poland became a member of NATO and in May 2004 a member state of the European Union.

Language: Polish, but English is familiar to most young people

Area: 312,685 km² (120,727sqm)

Population: 38.6 million

Capital: Warsaw

Neighbouring countries: Germany, Czech Republic, Slovak Republic, Ukraine, Belarus, Lithuania, Russia

Political system: parliamentary democracy

President: Aleksander Kwaśniewski

Climate: Continental; moderate, changeable weather.

Weather: In July the temperatures are usually over 20° C

Time: GMT/UTC plus one hour

ABOUT GLIWICE

Gliwice is a dynamically developing city which is considered one of the most beautiful cities in Upper Silesia. It was established in the XIII century and is one of the oldest cities in the area of Upper Silesia. During its fascinating history of over 750 years, Gliwice had been ruled by the Silesian Piast monarchy, the Kings of Bohemia, the Habsburg Dynasty, the Kings of Prussia and German Federal Empire. It became a part of Poland in 1945. In the past the city was famous for the steel mills and artistic foundries. Nowadays, it's the centre of chemical and machine engineering industry. The most famous event that happened in Gliwice was the episode called „Provocation of Gliwice” which took place on 31/1 September 1939 – the attack of Germans disguised as Polish soldiers on the radiostation of Gliwice. The attack was a pretext for starting the military intervention in Poland.

Gliwice is an important higher education, research, communication and investment centre of Upper Silesia.

Area: 134 km²

Population: 216 000

Interesting places to visit:

Gothic Piast Castle, Pod Murami Street 2

Fragments of City Walls, Grodowa and Dolnych Wałów Street, Rzeźniczy Square

Ruins of the Municipal Theatre, Przyjaźni Avenue

Town Hall and Neptun Statue

All Saints Church, Kościelna Street 4

Palm House, Chopin park

Caro Residential House, Dolnych Wałów Street

Radiostation, Tarnogórska Street

Former Industrial Buildings

BANKS, MONEY, EXCHANGE

Banks in Poland are open from 9 a.m. till 6 p.m.

The Polish currency is Polish zloty (PLN).

The exchange rate is about 1euro = 4,20 zl
and 1USD=3,40 zl.

1 Polish zloty /PLN = 100 groszy

Coins: Grosz: 1,2,5,10,20,50

Zloty: 1, 2, 5

Banknotes: 10, 20, 50,100,200

In most shops, supermarkets, hotels and restaurants you can pay by credit cards without any problems. You may also use the cash machines (ATM). Check payment may be a little bit more complicated but traveller's checks can be realized in major banks without any difficulty.

You can exchange money in a „kantor” (exchange office) or in a bank, but exchange offices are more convenient.

SHOPS

Shops are open from 10 a.m. till 6 p.m. from Monday to Friday. On Saturdays all shopping centres work from 10 a.m. to 2.p.m.. Most shops are located along Zwycięstwa Street.

There are also numerous supermarkets at the outskirts of Gliwice, open from 9 a.m. till 8 p.m.

MEDICAL CARE AND INSURANCE

If you are a citizen of the European Union you just need to get an E-111 form in your country which will give you the right to use the medical assistance in Poland.

TRANSPORT

For a foreigner in Poland using a taxi would be the best choice. The municipal transport system is also well organized, but since the information at the bus stops and in the buses is only in Polish it may be very complicated for a foreigner to use it.

TELECOMMUNICATION AND POST SERVICES

In Gliwice there are not a lot of public phones. To call abroad you may use a special phone cards which you can purchase at post offices. The main post office is located in Górnych Wałów Street.

USEFUL INFORMATION

Emergency number: 112

Country code: 0048

Area code: (0)32

Taxi: 032/231 91 92; 032/230 77 43; 032/270 23 10

Power supply: 220-230V AC, 50 Hz

USEFUL WORDS IN POLISH

| | |
|------------------------|------------------|
| Good Morning | Dzień dobry |
| Thank you | Dziękuję |
| Please | Proszę |
| Excuse me | Przepraszam |
| Yes | Tak, |
| No | Nie |
| I don` t understand | Nie rozumiem |
| How much does it cost? | Ile to kosztuje? |

WEBSITES

Silesian University
of Technology: www.polsl.pl
About Gliwice: www.um.gliwice.pl
About Poland: www.poland.gov.pl

ICEE 2005 SECRETARIAT

Address: Silesian University of Technology – ICEE 2005
ul. Akademicka 2a
44-100 GLIWICE, Poland
Phone: +48 32 237 2329
Fax: +48 32 231 8085
e-mail: icee2005@polsl.pl



GLIWICE CENTRUM

skala · scale 1 : 8 000

- linia tramwajowa
tram line
- droga jednokierunkowa
one way road

- Pre-conference Workshop
- ISC/INEER Meeting

- poczta, pomnik
post office, monument
- hala sportowa
sports hall
- kościół, kościół zabytkowy
church, historic church
- teatr, kino
theatre, cinema
- muzeum, zabytek architektury
museum, monument of architecture

- cmentarz, park
cemetery, park
- sygnalizacja świetlna, parking
traffic lights, car park
- hotel, dom studencki
hotel, student house
- stołówka
canteen
- policja
police station

PRINCIPAL SPONSORS

| | |
|---|--|
| POLISH MINISTRY OF NATIONAL EDUCATION AND SPORT | |
| INTERNATIONAL NETWORK FOR ENGINEERING EDUCATION AND RESEARCH |  |
| COLLEGE OF ENGINEERING AT UNIVERSITY OF FLORIDA |  |
| HEWLETT-PACKARD CORPORATION |  |
| DEPARTMENT OF ENGINEERING EDUCATION, COLLEGE OF ENGINEERING, VIRGINIA TECH. |  |
| FIAT AUTO POLAND |  |
| GZE S.A. GLIWICE |  |
| INT TRAVEL KATOWICE |  |
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