

Munich Paper Assignments/Times

Saturday, 10 November

9:15 - 10:30

Paper Session #1: Focus on Attracting Students, Moderated by Tony Ward, ROM

- 9:25 - 9:40 The Skills Deficit Myth: The Case for Strategic Re-orientation in Industrial Training Portfolios as a Measure to Overcome Barriers to Innovation and Growth
Bernd Kriegesmann; Marcus Kottmann; Frank Striewe
- 9:40 - 9:55 A "STEM" (Science, Technology, Engineering & Mathematics) Education Initiative for Elementary Students and Teachers
Brian Hogg, Senior Member IEEE
- 9:55 - 10:10 IEEE Activities in Pre-University Engineering, Computing and Technology (ECT) Education
Moshe Kam, College of Engineering, Drexel University, Philadelphia, PA,;
Yvonne Pelham, Douglas Gorham, IEEE Educational Activities, Piscataway, NJ, USA
- 10:10 - 10:25 History of Electrotechnology as Incentive to Engineering Studies
Jacob Baal-Schem, Tel Aviv University, Tel Aviv, Israel

Paper Session #2: Focus on Collaborations, Moderated by Kristen Harris, CALGARY

- 9:25 - 9:40 Educating a Nation's Engineers: A New Paradigm for Industry/Academia Cooperation
V. Melikyan, G. Markosyan, H. Musayelyan, Synopsys Armenia CJSC;
K. Bartleson, T. Wood, R. Goldman, Synopsys, Inc.
- 9:40 - 9:55 A Flagship Joint Sino-British Engineering Degree
Dan Zhang, Ying Yashu, Beijing University of Posts and Telecommunications,
Beijing, China; Laurie Cuthbert, Na Yao, Queen Mary, University of London, UK
- 9:55 - 10:10 University Society Interface: A Case Study from Portugal and Spain
Natália Fernandes Gomes, Instituto Politécnico da Guarda, Portugal
- 10:10 - 10:25 An Integral Model for Interleaving 21st Century Education with Career and Life-Long Learning: Introduction to Historical Scope and Design Rational
Evangelos M. Mylonas, P. K. Bouyouris, R&D Department DAEDALUS Informatics,
Athens, Greece

Paper Session #3: Focus on Educators, Moderated by Charles Turner, MONTREAL

- 9:25 - 9:40 Developing Engineers: The Case of Electronics Education in English Schools
Torben Steeg, University of Manchester and Electronics in School Strategy, England,
UK; David Barlex, Brunel University and Electronics in Schools Strategy
- 9:40 - 9:55 System Engineering Education for Humanities and Social Science Majors at the

United States Military Academy
John B. Halstead, Department of Systems Engineering, United States Military
Academy, West Point, NY, USA

- 9:55 - 10:10 Holistic Engineering and Educational Reform
Domenico Grasso, College of Engineering and Mathematical Sciences, The University
of Vermont, VT; Joseph J. Helble, Thayer School of Engineering, Dartmouth College,
NH, USA
- 10:10 - 10:25 Attractive Universities: New Curricula in Natural Sciences and Engineering
Christian Schröder, Maria Elsner, Nicole Natho, Olivier Pfeiffer, MuLF-Center for
Multimedia in Education and Research, Berlin University of Technology; Sabrina
Jeschke, Center of Information Technologies, RUS Institute of Information
Technology Services, University of Stuttgart, Germany

Paper Session #4: Focus on Pedagogical Approaches, Moderated by Michael Schanz, ATLANTA

- 9:25 - 9:40 Potential Remedies for Improving the Engineering Students' Learning Strategies at
Thailand's Assumption University
Kyi Kyi Tin, Min Aung, Assumption Univeristy, Bangkok, Thailand
- 9:40 - 9:55 Teaching "Real World" Design in the Classroom
Daniel R. Sommers, Gustav Engbretson
- 9:55 - 10:10 Lack of Mathematical Knowledge and Skills of Students as a Problem for the
Further Development of Modern Quantitative Geography
U. Wiczorek, University of Augsburg, Germany; A. Zaree, Assiut University, Egypt
- 10:10 - 10:25 Planting the Seeds of Change: K-12 Engineering Education
Yvonne M. Spicer, National Center for Technological Literacy, Museum of Science,
Boston, MA, USA

10:45 - 12:00

Paper Session #5: Focus on Attracting Students, Moderated by Gerald Gerlach, ROM

- 10:55 - 11:10 Recruiting Future Engineers Through Effective Guest Speaking in Elementary School
Classrooms
Kevin L. Young, US Department of Energy, Idaho National Laboratory, ID, USA
- 11:10 - 11:25 Addressing the Demand for Engineers by Teaching Engineering to Counselors and
Teachers
G. Bruce Gehrig, Lyndon Abrams, Deborah Bosley, James Conrad, Stephen Kuyath,
University of North Carolina at Charlotte, NC, USA
- 11:25 - 11:40 Generation NXT
Richard Gale, Tanja Karp, Department of Electrical & Computer Engineering;
Laura Lowe, Vickie Medina, Department of Sociology, Anthropology, and Social
Work, Texas Tech University, Lubbock, TX, USA
- 11:40 - 11:55 Ways of Increasing the Pool of Technologists and Engineers, and the Role of the

Teacher In-Service Training Program (TISP) in the Field of Technology and Engineering - A South African Approach
Moloko E. Matlala, Nico Buete, South Africa

Paper Session #6: Focus on Collaborations, Moderated by Moshe Kam, CALGARY

- 10:55 - 11:10 The UNH InterOperability Lab: Exploring Successful Collaboration Between Corporations and Academia
Brad Booth, Ethernet Alliance; Kristin Harris, University of New Hampshire; David Jaffe
- 11:10 - 11:25 Futureintech: A Career in Technology, Engineering and Science
Angela Christie, Laura Fergusson, The Institution of Professional Engineers New Zealand, Wellington, New Zealand
- 11:25 - 11:40 How Industry Can Help Improve STEM Graduation Rates
Renato Recio, Lisa Gable, IBM
- 11:40 - 11:55 Universities, Research Institutions, Industry & Schools Can Jointly Increase the Interest of Pupils in Engineering
A. Schütze, B. Krämer, T. Conrad, Lab for Measurement Technology, Saarland University, Saarbrücken, Germany; A. Picard, Department IMST, University of Applied Sciences Kaiserslautern, Zweibrücken, Germany

Paper Session #7: Focus on National Systems, Moderated by William Sparkman, MONTREAL

- 10:55 - 11:10 Education and Human Resources Strategy for the Vision 2023: Technological Foresight Study of Turkey
A. Hamit Serbest, Department of Electrical and Electronics Engineering, Çukurova University, Adana, Turkey
- 11:10 - 11:25 Strategy for Training and Development of Engineering Manpower in Indian Context
V.K. Sharma, Kavita Menon, Harish C. Rai, Maharashtra Academy of Engineering, Pune, India
- 11:25 - 11:40 Shortage of Engineers - A U.S. Government Contractor Perspective: The U.S. Defense Contractor Challenge
Thomas Decot, CSC, A Raytheon Company; Mike Townshend, Houston Associates, Inc. A Raytheon Company, USA
- 11:40 - 11:55 Modeling Student Interest in Science, Technology, Engineering and Mathematics
Brian H. Wells, H. Alex Sanchez, Joanne M. Attridge, Raytheon Company, Waltham, MA, USA

Paper Session #8: Focus on Pedagogical Approaches, Moderated by Rolf Remshardt, ATLANTA

- 10:55 - 11:10 Aerospace Education Initiative of Hochschule Bremen
Bernd Steckemetz, Christian Siegmund, Hochschule Bremen Institute of Aerospace Technology, Bremen, Germany

- 11:10 - 11:25 The EEA (Electronic, Electrical and Automation Engineering) and Surface Transportation Platform: Education by Practice and Projects: the Systems Approach
David Bouquain, Abdellatif Miraoui, Department Génie Électrique et Systèmes de Commande (GESC), Université de Technologie de Belfort-Montbéliard (UTBM), Belfort, France
- 11:25 - 11:40 The Making Of Engineers: The Robot Challenge
Neville Jacobs
Director for Student Activities, IEEE Baltimore Section
- 11:40 - 11:55 Trends in Engineering Education
Michael Wald, International Journal of Engineering Education, Cork, Ireland

16:15 - 18:00

Paper Session #9: Focus on Educators, Moderated by Gerald Anleitner, ROM

- 16:25 - 16:40 I'd Rather be a Hammer Than a Nail
Edward C. Epp, Intel Corporation, Beaverton, OR, USA
- 16:40 - 15:55 Meeting the Demand for Broadband Communications Engineers: The Role of Academia
G. Liodakis, I.O. Vardiambasis, J. Kaliakatsos, Department of Electronics;
K. Vassilakis, Science Department/Computer Science Div., Technological Educational Institute of Crete, Greece
- 16:55 - 17:10 Preparation of Teachers for a Rapidly Changing Technological World: Engineering in Teacher Education
Holly Garrett Anthony, Mathematics Education Department of Curriculum & Instruction; Darrell Garber, College of Education (2000–2007); Glen Johnson, College of Engineering (1998–2007), Tennessee Technological University, Cookeville, TN, USA
- 17:10 - 17:25 Attracting More Students with New Engineering Programs
Jan A van Alsté, University of Twente and Royal Dutch Engineering Society, The Netherlands
- 17:25 - 17:40 Responding to Declining Applications and a Move Towards SME Employment in Electronics: The Effect of an Accounting and Finance Module on Enterprising Self-Efficacy
A. Ward, Department of Electronics, University of York, England
- 17:40 - 17:55 SPARCS from the University of Victoria: Supporting Sustainable and Integrated Outreach Activities for Educators and Young Minds
Jennifer Murdoch, Anissa Agah St. Pierre, Yvonne Coady, Sarah Carruthers, Celina Gibbs, Steven Lonergan, Gautam Srivastava, Ulrike Stege, Onat Yazir, Department of Computer Science, University of Victoria, BC, Canada

16:15 - 18:00 Paper Session #10: Focus on National Systems, Moderated by Andreas Luxa, MONTREAL

- 16:25 - 16:40 Status of the Engineering Workforce: Industry Perspective Status in Region 8
Jean-Gabriel Remy, IEEE Region 8 Director 2007-2008
- 16:40 - 16:55 Demand and Supply for Science and Technology Teachers at the Secondary and Tertiary Level Within Jamaica and Wider CARICOM Region
Paul R. Aiken, Diane M. West, The University of the West Indies, Mona Campus, Jamaica
- 16:55 - 17:10 Rethinking of Engineering Education in China
Hanbing KONG, Yangqiong QIU, Research Center for Science, Technology and Education Policy (RCSTEP), Zhejiang University, Hangzhou, China
- 17:10 - 17:25 Attracting More Entrants into Engineering: The UK Perspective
F.J. Maillardet, University of Brighton; F. Martland, Engineering Professors' Council; R.C.S. Morling, University of Westminster, UK
- 17:25 - 17:40 Growing Demand of Educators in Electrical and Electronic Engineering
Olivier Bonnaud, University of Rennes 1 and SUPELEC Campus de Rennes, Cedex, France
- 17:40 - 17:55 Future View of Engineer Education at the "College of Technology" in Japan
Tomio Fujii, Department of Electrical Engineering, Kobe City College of Technology, Kobe, Japan

16:15 - 18:00

Paper Session #11: Focus on Collaborations, Moderated by David Janosz, CALGARY

- 16:25 - 16:40 Modeling Motivation: Improving Young People's Interest in Natural Sciences and Technology
Uwe Pfenning, University of Stuttgart/Dialogik, Germany
- 16:40 - 16:55 The Challenges and Opportunities to Meet the Workforce Demand in the Electric Power and Energy Profession
Wanda Reder, S & C Electric Company, Chicago, IL; Vahid Madani, Pacific Gas & Electric Company; Roger King, Mississippi State University; S. S. (Mani) Venkata, Iowa State University, USA
- 16:55 - 17:10 Educating 21st Century Engineers
James Gover, Department of Electrical Engineering, Kettering University, Flint, MI; Paul Huray, Department of Electrical Engineering, University of South Carolina, Columbia, SC, USA
- 17:10 - 17:25 An Innovative Linkage of Curricula Design, Power Engineering Industries and Universities in Queensland, Australia to Promote Engineering Education

Nasser Hosseinzadeh, Steven Senini, Central Queensland University, North Rockhampton, Queensland, Australia

- 17:25 - 17:40 Urgent Demand for the Highly Skilled: Challenges for the ICT Industry and Policy Responses
Stephan Pfisterer, German Association for Information Technology, Telecommunications and New Media (BITKOM), Berlin, Germany
- 17:40 - 17:55 SIA – Students Engineer Academy
Alexandra Klaes, Südwestmetall, Germany

16:15 - 18:00

Paper Session #12: Focus on Pedagogical Approaches, Moderated by Fanny Klett, ATLANTA

- 16:25 - 16:40 Making Research Internships Work
Roger Boyle, Joanna Briggs, School of Computing, University of Leeds, UK
- 16:40 - 16:55 Educational Application of Role-Playing and Simulation of Professional Environments Related to the Power Systems and the Electricity Market
J. Carpio, G. Quejo, R. Guirado, M. Valcárcel, P. Simón, A. Santamaría, N. Acero, Department of Electrical and Computer Engineering; M. García-Lorenzo, R. Chacón, Department of Foreign Languages; Q. Martín-Moreno, M.D.Fernández-Pérez, Department of Curriculum and School Organization, UNED (Spanish National University for Distance Education), Madrid, Spain
- 16:55 - 17:10 The Pupils' Laboratory Techlab - A Bridge Between School and Engineering Science
Ole Gleiche, Gymnasium Goetheschule Hannover; Holger Thye, Heyno Garbe, Institut für Grundlagen der Elektrotechnik und Messtechnik, Leibniz Universität Hannover; Klaus Delto, Gymnasium Bad Nenndorf, Germany
- 17:10 - 17:25 Meeting the Growing Demand for Engineers and Their Educators: The Potential for Open and Distance Learning
Chris Bissell, Mark Endean, Open University, UK (UKOU)
- 17:25 - 17:40 The “Inside Tech USA” Summer Course: A Leadership Program that Offers New Qualifications for Engineers
Ramón R. Pecharromán, Romano Giannetti, Christine Heller, José Herrero; Escuela Técnica Superior de Ingeniería (ICAI), Universidad Pontificia Comillas de Madrid, Spain
- 17:40 - 17:55 Retraining Engineers for New Skills and Getting Jobs in a Modern World
Donald K. Hsu, Dominican College, Division of Business Administration, Orangeburg, NY, USA

Sunday, 11 November

7:00 - 7:50

Paper Session #13: Focus on Educators and Attracting Students, Moderated by Douglas Gorham,

MONTREAL

- 7:05 - 7:20 Industry Taking Control of its Future by Using Training as a Focus
Diane Tompson, Tasmanian Learning and Skills Authority, The Powercom Group, Australia
- 7:20 - 7:35 Engineering UBER ALLES: A Multi-System Approach to Educating and Developing Engineers
Paul Stiefel, Paul Stiefel Enterprises
- 7:35 - 7:50 Needs and Examination of Strategies for Lifelong Learning in Engineering Education
Ioannis Vardiambasis, George Liodakis, Costas Petridis, Michael Tatarakis, John Kaliakatsos, Technological Educational Institute of Crete, Branch of Chania
Department of Electronics, Crete, Greece

Paper Session #14: Focus on Collaborations and Pedagogical Approaches, Moderated by Victor Fouad

Hanna ROM

- 7:05 - 7:20 Quality Tools for the Education and Industry Relationship Management - Transilvania University Case Study
Elena Helerea, Maria Popescu, Transilvania University of Brasov, Brasov, Romania
- 7:20 - 7:35 CeTUSS (Centrum för Teknikutbildning i Studenternas Sammanhang): A National Center for Pedagogical Development in Technology Education from a Student-Oriented Perspective
Mats Daniels, Arnold Pears, Department of Information Technology, Uppsala University, Sweden

15:00 - 16:00 hours: Panel Session - SYDNEY
Moderated by Kristin Harris

Business and Academic Partnerships are Crucial to the Future Success of Engineering Programs and the Cultivation of Future Engineers Globally

Join industry leaders from Cisco, Hewlett Packard, Microsoft, the MIT Media Lab, the UNH InterOperability Lab, and IEEE Women in Engineering for an interactive discussion on the issues relevant to attracting, educating, and retaining the next generation of engineers.

Learn about collaborative industry and academic programs that have been successfully educating qualified engineers for decades; understand what industry expects from emerging engineers; hear how they plan to appeal to students and foster pre-university and university scholars; and learn about their future outreach goals.

Panelists:

- Joseph Urban - National Science Foundation
- Carsten Johnson - Director of the Cisco Networking Academy in Europe, Cisco
- Tricia Baker - Director of Software Applications, Cisco
- Mauricio Ulargui - Academic Director, Microsoft
- Jennifer Ng - Mercury Systems and IEEE
- Julie Grady - University Relations, Hewlett-Packard, UK