

===== WiC Newsletter =====

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In this Issue:

1. 1. Women in Control luncheon: CDC/CCC conference
2. 2. Report: IEEE Women in Engineering (WIE) Liaison
3. 3. Report: IEEE CSS Technical Committee on Control Education
4. 4. A letter from Bozenna
5. 5. Call for papers:
 - 5.1 4th IFAC SYMPOSIUM on SYSTEM, STRUCTURE and CONTROL
 - 5.2 UKACC International Conference on Control 2010

- 1 Women in Control luncheon: CDC/CCC conference
Contributed by Elena Zattoni

For those who attend the CDC/CCC Conference in China, you are welcome to attend:
Women in Control luncheon
CDC/CCC conference, Shanghai, PR China
Wednesday, December 16, 12:30 - 1:45 p.m.
Room: TBA

2. Report: IEEE Women in Engineering (WIE) Liaison
Report from Bozenna Pasik-Duncan, Control Systems Society

Bozenna Pasik- Duncan is pleased to report the following WIE activities in which she has participated in the last 6 months.

1). Report from April meeting of WIE in Orlando, Florida was presented at lunch for Women in Control on June 10, at the ACC'09 in St. Louis, MO

2). Participation in monthly WIE Teleconferences with the focus on strategic planning of a broad range of activities such as: clarification of the WIE mission, vision and strategic direction, for example clarification whether WIE is a resource for technical professionals who are women and belong to IEEE or it is a resource for all including those outside of IEEE, clarification whether WIE is focused on member networking and support of its affinity groups, internal (IEEE) diversity, external work place issues or some other objectives, examining and rethinking WIE's content best delivery mechanisms whether through a magazine or an electronic newsletter, at conference or through its web site.

Many other fascinating issues are discussed at these one hour well organized WIE Committee meetings such as: conferences, recognitions, scholarships and awards, WIE magazine articles for the 2010 Special Editions with June 2010 focused on Women Reinventing Themselves/Entrepreneurship and December 2010 focused on Renewable Energy, and Real World Engineering Projects Initiative.

Bozenna Pasik-Duncan plans to bring closer the Women in Control Group and WIE by establishing the partnership between these two very important groups which share the same mission, vision and goals.

3. Report: IEEE CSS Technical Committee on Control Education
Contributed by Bozenna Pasik-Duncan

TC Chair: Bozenna Pasik-Duncan, bozenna@math.ku.edu

The Technical Committee on Control Education (TCCE) is pleased to report on the following activities undertaken during the past six months (June 2009 – November 2009):

1). Faculty, Graduate Students and K-12 Teachers in Engaged Learning at ACC'09

The Power, Beauty and Excitement of a Field that Spans Science, Technology, Engineering and Mathematics workshop was held at the 2009 American Control Conference in St. Louis, MO, June 9, 2009. The workshop gave high school teachers and students the opportunity to meet passionate researchers and educators from academia and industry and National Science Foundation GK-12 fellows from Washington University, St. Louis, and Kansas University, Lawrence. The purpose of the workshop was to increase the general awareness of the importance of systems and control technology and its cross-disciplinary nature among high school teachers and students. The workshop activities included presentations by faculty and graduate students and informal discussions. The talks were designed to be educational, inspirational and entertaining showing the excitement of being an engineer.

This year's program included presentations on robots, mathematical models for medical treatments, and careers in mechatronics. Jessy Grizzle, Levin professor of engineering, University of Michigan, Ann Arbor, discussed his research to give robots the same sense of balance as humans. His videos featured MABEL, a bipedal robot designed to run. Mark Spong, Dean of the School of Engineering and Computer Science and Chair of Electrical Engineering at the University of Texas at Dallas, talked about the emerging area of mechatronics and its application to robotics and control.

Models describing the dynamics of cancer growth under various treatments and how control systems can help doctors and scientists find the optimal drug protocol was presented by Urszula Ledzewicz, professor of mathematics and statistics, Southern Illinois University, Edwardsville. The relationship between seizures in animals and earthquakes was shown by Dr. Ivan Osorio, professor of neurology, University of Kansas Medical Center, Dominique Duncan's, graduate student in engineering, Yale University, presentation focused on using diffusion geometry for the detection and prediction of anomalies in brain.

NSF STEM (Science, Technology, Engineering and Mathematics) Fellows from the Mechanical, Aerospace and Structural Engineering and Electrical and Systems Engineering Departments at Washington University, C.J. DeGroot, Jeffrey Mitchell, Jose Lopez and Kevin Derendorf, discussed their experiences of working with middle and high school students in St. Louis. They taught students about the math and physics involved in the analysis of a truss bridge, the basics of earthquake engineering, using LEGO® robots to promote STEM careers, and the challenges they faced to excite students about the sciences.

A panel discussion on how to engage teachers and K-12 students in control engineering education, what role engineering plays in STEM education, and how to attract more students to control field concluded the workshop.

Sponsored by: IEEE CSS and AACC Technical Committees on Control Education

Organizers: Bozenna Pasik-Duncan, professor of mathematics and courtesy professor of electrical engineering and computer science, University of Kansas, and Shirley Dyke, Dicke professor of engineering, Washington University.

2). Special Session at the Committee Meeting at ACC'09.

Preparing Tomorrow's Scientists and Engineers for the Challenges of the 21st Century session was held at the 2009 American Control Conference in St. Louis, MO, June 11, 2009. This presentation discussed multiple challenges and opportunities that are presented to young investigators to prepare for careers in science and engineering. Examples from projects supported from various programs at the National Science Foundation (NSF), especially in the Division of Graduate Education, answered questions on how research and education can be integrated, how interdisciplinary research is supported; and how graduate students gain value-added skills while obtaining their degrees.

Dr. Sonia Ortega, NSF Program Director for the Graduate STEM (Science, Technology, Engineering and Mathematics) Fellows in K-12 Education (GK-12) Program, was the keynote speaker. The GK-12 program supports graduate students in science, mathematics and engineering to bring their scientific research to K-12

classrooms and help graduate students communicate science to lay audiences. The exciting discussion on new challenges followed with participation of NSF GK-12 Fellows from the University of Kansas and Washington University.

The following new challenges were identified and discussed:

- Processing of information
- Ability to work with complex systems
- Ability to handle change
- Ability to manage people
- Ability to handle large data sets

The following practical tips were given: and discussed:

- Be flexible and open-minded
- Be willing to take risks
- Take advantage of opportunities
- Balance personal/professional life
- Take care of mind, body and spirit daily

This remarkable, most inspirational session was open to all participants of the ACC, in particular, to the members of Women in Control Group, graduate students and invited teachers from local high schools. Over 60 people were in audience. including representation of European Union Control Association (EUCA).

Sponsored by: IEEE CSS and AACC Technical Committees on Control Education
Organizers/Chairs: Bozenna Pasik-Duncan, professor of mathematics and courtesy professor of electrical engineering and computer science, University of Kansas
Shirley Dyke, Dicke professor of engineering, Washington University
Fahmida Chowdhury, program director for the Cross-Directorate Activities Program, NSF

3). The Control Education Committee continues building bridges with other control organizations and communities such as SIAM, IFAC and EUCA.

The Control Education Committee was well represented at the 2009 SIAM Control and Its Applications Conference, July 7- 9 in Denver organized by the SIAM Activity Group on Control. The discussion on the future directions in control in financial engineering and biomedical engineering, non-traditional areas of systems and control, was held with participation of invited members of five mini-symposia on Stochastic Control and its Applications organized by Bozenna Pasik-Duncan, TCCE chair.

The message from the discussion is that both areas generate new opportunities for Control Engineers therefore both areas need to be included and well represented in control educational activities.

4). The Control Education Committee has been a strong advocate for Systems and Control as a field that spans Science and Engineering. The Committee promotes CSS educational activities such as Plain Talk in Control, the series of short presentations demonstrating the power, beauty and excitement of control in other communities.

On September 21, Bozenna Pasik-Duncan, TCCE chair gave the Inauguration Lecture "The Beauty of a Field that Spans Science and Engineering" at the 4th Conference "Young scientists towards the challenges of modern technology".

The Ph.D Students and Young Scientists Conference which was held at Warsaw University of Technology was sponsored by Polish Chapter of IEEE <http://konferencja.doktoranci.pw.edu.pl/en>

The Committee is planning to prepare its recommendation for co-sponsorship this fascinating conference next year as well as is planning to organize invited sessions in which American graduate students will participate.

On October 23, Bozenna Pasik-Duncan gave a similar talk focusing on promoting the committee's educational activities at the 2009 IFAC Advances in Control Education Symposium in Kumamoto, Japan.

The committee has built a strong bridge with IFAC Education Committee. Both committees are planning to continue organizing jointly educational activities at major control conferences.

5). The Control Education Committee has been a strong advocate for women in engineering. One of its mission is to recognize, mentor and promote women in control through joint activities with Standing Committee on Women in Control.

6). The Committee has prepared the article on its activities for the Control Systems Magazine and is in preparation of the proposal for a Special Issue on Control Education.

7). The Committee has scheduled its meeting on Thursday, December 17 at CDC/CCC'09 and plans to have a Special Session. The Committee will discuss its future plans for the educational activities that include the Workshop for High School Teachers and Students at 2010 ACC as well as for 2010 CDC.

Acknowledgement: The Control Education Committee expresses its sincere gratitude to the organizers of the ACC'09, the CSS Board of Governors and the AACC for recognizing the importance of control education activities, for encouragement and their generous support.

4. 4. A letter from Bozenna

Dear Friends,

The time is passing very fast and my summer was busier than ever before.

I attended terrific IFAC Council meeting in London and was refreshing my memory of good summer times spent there when I was a student, then i attended terrific IFIP conference in Buenos Aires, Argentina in July with my husband and daughter and the three of us gave talks. I fell in love with the place and Argentina tango which I listen frequently in my office. In September I spent two weeks in Poland attending two conferences, one on applications of mathematics in Zakopane, in my beloved Polish mountains called Tatry, and another one in Warsaw, enjoying the 4th conference for Ph.D students and young scientists, the conference which I advertised to you last Spring.

It was superb! I had a privilege to give the inauguration lecture and I had a great pleasure to interact, discuss and make real friendship with so many wonderful enthusiastic passionate young people. I hope that you will join me at that remarkable conference next year. I made a strong commitment to the organizers that the WIC group will prepare and submit a few sessions next year. There are beautifully published the conference proceedings with the reviewed papers so you or your students can have a good publication.

Please visit the conference web site at: <http://konferencja.doktoranci.pw.edu.pl/en/2006> and think about next year.

In October I travelled to Kumamoto City in Japan for the IFAC Advances in Control Education Symposium which I also advertised to you earlier in our Newsletter. It was a very long trip from Kansas but worth it to make that effort. The place was gorgeous, food delicious and people kind, nice and friendly. I learned a lot from our Japanese colleagues about their big changes in education, about their way of modifying programs, courses and teaching approaches for preparing the future scientists and engineers.

I came to Kansas and I cannot stop talking of all my new international experiences and learning. I take all my friends (many of them) to my favorite newly opened by my friend restaurant where all food is "simple, homemade, affordable and fun" and we share our many stories about great places which we visited, most inspirational talks we listened, and changes that have been made in particular in education around the world.

I love this new place, called 715 Mass! Please come to visit me and I guarantee you will enjoy the place as much I do. Tomorrow my daughter is coming to visit me from New Haven and she is bringing her lovely puppy pug bruno!

I cannot wait to see them both!

My summer was the most memorable and productive. With this great feeling, teaching the Honors Vector Calculus this semester with newly developed approaches, focusing on good communication and engaging in learning, is a real joy.

I hope that your summer was as exciting as mine. I would love to hear from you! Be in touch! Join me in education activities!

I hope to see you at the CDC in Shanghai and you will come please join me at the meeting of Control Education Committee on Thursday at 12:30! But before that let me take the opportunity to wish all of you here and there Very Happy Thanksgiving!

Let me say in my words to those who are not here in this country that Thanksgiving is one of the most special holidays. You focus on those whom you would like to thank for many things. I would like to thank you for your important friendship and important role you play in my life.

Happy Holiday Season to You and Your Family!

Bozena

5. Call for papers

5.1 5.1 Call for papers for the 4th IFAC Symposium on System, Structure and Control, September 15-17, 2010, Ancona, Italy.
Contributed by Elena Zattoni

The 4th IFAC Symposium on System, Structure and Control is the seventh edition of this IFAC meeting, the fourth one as a Symposium, and it will be held in Ancona, Italy, on September 15 - 17, 2010, on the campus of the Università Politecnica delle Marche. Coherently with its tradition, SSSC10 will concern the mathematical structure of dynamical systems, from a point of view that, bridging several approaches, provides additional insight on analysis and synthesis problems and produces new design procedures.

Topics of the conference include: Linear and non linear systems, Structural invariants, Algebraic and geometric methods, Infinite dimensional systems, Time delay systems, Implicit and hybrid structures, Control strategies, Robust control, Constrained control, Computational algorithms for analysis and design. The Proceedings will be published on-line on the IFAC-PapersOnLine.net website. For more information, please, visit the conference web-site <http://leibniz.diiqa.univpm.it/SSSC10/>

General Chairman G. Conte, Italy

International Program Committee A. M. Perdon - IT (chair), A. Stoorvogel - NL (co-chair)
F. Algöwer – DE, P. Antsaklis – USA, H. T. Banks – USA, E. Camacho – ES, E. de Santis – IT, C. E. De Souza – BR, J. M. Dion - FR, L. Dugard – FR, A. Germani – IT, K. Gu – USA, T. Iwasak – USA, N. Karcnias - UK , J. F. Lafay – FR, F. Lewis – USA, M. Malabre - FR, G. Meinsma – NL, W. Michiels – B, D. Miller – USA, C. Moog – FR, K. Morris - USA, S. Niculescu – FR, A. Rantzer – SE, J. P. Richard – FR, P. Rocha - PT , E. Rogers – FR, S. Roy – USA, O. Sename - FR, M. Smith – UK, E. Verriest – USA, A. van der Schaft.- NL, J. H. van Schuppen – NL, J. Winkin – BE, Y. Yamamoto. – JP, E. Zattoni - IT

Publication Chairperson L. Jetto, Italy

Paper submission Authors are invited to submit papers and session proposals that will be peer reviewed. For inclusion in the conference proceedings, it is required that for each paper at least one of the authors register at full rate. Author information will soon be available on the conference web-site <http://leibniz.diiqa.univpm.it/SSSC10/>

Papers and Invited Sessions submission deadline January 31, 2010

Notification of acceptance April 30, 2010

Submission of final manuscript and registration May 31, 2010

Conference dates: September 15 – 17, 2010

Registration fees Early registration (before May 31th) 420.00 Euro;

Late registration (after May 31th) 500.00 Euro

Student registration: 280.00 Euro

Registration fees include conference proceedings, coffee-breaks, lunches, social dinner.

Student registration fees include conference proceedings, coffee-breaks, lunches.

About Ancona and its Region Ancona is an important commercial port of the Adriatic Sea, on the Italian East coast, close to many historical cities, such as Venice to the North, Florence to the West, Rome to the South-West, all within 300 km. Located in the centre of Italy in the Marche region, were the coast forms an elbow,

Ancona is a quiet and nice city, with interesting historical monuments and natural beauties. The Marche territory presents, as those of Tuscany and Umbria, all the features of this part of Italy: beautiful sandy beaches and blue sea, hills that have been softly modelled by agricultural and vine growing activity, an immense artistic and cultural heritage and a central geographical position which facilitates travel in any direction and towards any destination. Historical sites of Romanic, Middle Age and Renaissance periods are present in and around Ancona and all over the territory of Marche. Ancona can be directly reached from many national and international locations by airplane (Ancona Falconara Airport); by train (railway station is located in the City centre); by car (Motorway A14); by ship (Port of Ancona).

5.2 5.2 UKACC International Conference on Control 2010 Contributed by Jihong Wang

UKACC International Conference on Control 2010, COVENTRY UNIVERSITY, COVENTRY, UK
7~10 September 2010

The UKACC International Conference on Control 2010 (CONTROL 2010) will take place at Coventry University, Coventry, UK. It is organised through the Control Theory and Applications Centre (CTAC), an interdisciplinary research centre based within the Faculty of Engineering and Computing.

Scope of Conference

CONTROL 2010 will aim to bring together engineers and scientists from academia, research institutes and industry to network and discuss the advances and developments in the general area of Control; with particular emphasis being placed on applications, typically including sessions on the following themes:

- Advanced Informatics and Control
- Algorithms and Architectures
- Artificial Intelligence in Control
- Biomedical Engineering Systems
- Control Applications in Transportation Systems
- Design Methods of Control Systems
- Educational Developments in Control
- Energy Efficiency and Environmental System
- Estimation and Filtering for Control
- Fault Detection and Condition Monitoring
- Image and Signal Processing
- Industrial Process Applications of Control
- Logistics and Scheduling in Manufacturing
- Modelling and Simulation Tools for Control
- Networked Control Systems and Applications
- Nonlinear Control System Design
- Robotics and Automation
- Smart Sensors and Actuators
- Supply Chain Modelling and Control
- System Identification

Preliminary programme

The programme will consist of traditional themed tracks with contributed and invited papers as well as tutorial sessions and workshops. Special interactive sessions comprising a mix of computer software algorithm demonstration along with shorter presentations will also be included, allowing hands-on experience with the latest developments. A further category of short industrial papers will be featured on Industry Day along with the three minisymposia organised by the three professional member bodies of the UKACC: The Institute of Measurement and Control, The Institution of Engineering and Technology and The Institution of Mechanical Engineers. In addition there will be three plenary presentations (one on each of the first three days) and two semi-plenary presentations on the last day. It is planned that a PreConference Workshop for postgraduate research students will be held on Monday 6th September, with a limited number of places being available.

Important dates

Expressions of interest for invited session, tutorial, workshop proposals: 22 January 2010

Full draft paper submission deadline: 12 February 2010

Paper acceptance notification: 16 April 2010
Final manuscript submission and early bird registration deadline: 25 June 2010
Preconference workshop registration deadline: 25 June 2010

Please find further information from: <http://www.coventry.ac.uk/control2010>