Organizing and Program Committee:
Bozenna Pasik-Duncan
bozenna@ku.edu
University of Kansas
785-864-3651
Ljubo Vlacic
Griffith University
Linda Bushnell
University of Washington

Local Coordinator:
Aaron Cortes, Director
TRIO Upward Bound
Math and Science
Northeastern Illinois University

Sponsors:
American Automatic Control (AACC)
Technical Committee on Education
IEEE Control Systems Society (CSS) Technical Committee on Control Education

This outreach event is designed to increase the general awareness of the importance of systems and control technology and its cross-disciplinary nature among high school students and teachers. Control is used in many common devices and systems: cell phones, computer hard drives, automobiles, and aircraft. The control field spans science, technology, engineering and mathematics (STEM). The success of all STEM disciplines depends on attracting the most gifted young people to science and engineering professions.

Registration contact:
Gloria Prothe
gprothe@ku.edu
Department of Mathematics
University of Kansas
1460 Jayhawk Boulevard
Lawrence, KS  66045
785-864-3651
785-864-5255 FAX

Workshop for Middle and High School Students and Teachers
Wednesday, July 1, 2015
9:30 am – 2:30 pm
Red Lacquer Room, Hilton Palmer House*

The Power, Beauty and Excitement of Cross-Boundaries Nature of Control, a Field that Spans Science, Technology, Engineering & Mathematics (STEM) 15th Anniversary
This workshop is held in conjunction with the 2015 American Control Conference. http://acc2015.a2c2.org/hs_workshop.html

PROGRAM

9:30 Welcome
Bozenna Pasik-Duncan, University of Kansas and Chair AACC Committee on Education
Richard Braatz, Massachusetts Institute of Technology and General Chair, 2015 American Control Conference
Radhakishan Baheti, Program Director, National Science Foundation

10:00 The Miracle of Stabilization
Dennis Bernstein, Professor of Aerospace Engineering, University of Michigan

10:20 How to Design a Self-Driving Car
Richard Murray, Everhart Professor of Control and Dynamical Systems and Bioengineering, California Institute of Technology

10:40 Molecular Robots
Elisa Franco, Assistant Professor of Mechanical Engineering, University of California, Riverside

11:00 Controlling Batteries and Fuel Cells: Mastering the Mysterious World of Ions
Anna Stefanopoulou, Professor of Mechanical Engineering and Naval Architecture and Marine Engineering, University of Michigan

Naira Hovakimyan, Professor, University Scholar and Schaller Faculty Scholar of Mechanical Science and Engineering, University of Illinois, Urbana-Champaign

11:40 Computational Thinking as the Link Between Recent Curriculum and Applied Mathematics
Andrew Bucki, Associate Professor of Mathematics, Langston University and Faculty Member, Oklahoma School of Science and Mathematics

12:00 Lunch (provided on site) / Tour conference exhibits / Meet control researchers

12:50 Control of Complex Networks
Andrew Clark, Assistant Professor of Electrical and Computer Engineering, Worcester Polytechnic Institute

1:10 Think Mathematically Act Computationally
Alec Knutsen, B.S. Student in Math and Computer Science, University of Kansas

1:30 Medically Inspired Engineering: Building an Artificial Pancreas
Francis J. Doyle III, Dean, Paulson School of Engineering and Applied Sciences, Harvard University (Beginning August 1)
Mellichamp Endowed Chair Professor in Process Control at UCSB

1:50 Communicating Through Motion in Dance
John Baillieul, Distinguished Professor of Mechanical Engineering, Boston University and Kayan Ozcimder, Postdoctoral Research Associate, Princeton University

2:10 Student Reflections of the Workshop / Closing Discussion and Remarks
Bozenna Pasik-Duncan and Linda Bushnell

*17 East Monroe Street, Chicago, Illinois – (312) 917-1707