## 2005 ACC Technical Program Wednesday June 8, 2005

| Track 1              | Track 2 | Track 3      | Track 4     | Track 5    | Track 6                               | Track 7 | Track 8   | Track 9 | Track 10       |
|----------------------|---------|--------------|-------------|------------|---------------------------------------|---------|-----------|---------|----------------|
| Grand<br>Ballroom II | Senate  | Galleria III | Broadway II | Galleria I | Broadway III                          | Forum   | Directors | Council | Broadway<br>IV |
|                      |         |              |             | WeF        | enary Ballroom<br>PPL<br>nael B. Leah | y       |           |         |                |

| 09:30-11:30                                    | 09:30-11:30                       | 09:30-11:30                       | 09:30-11:30  | 09:30-11:30  | 09:30-11:30                   | 09:30-11:50                                  | 09:30-11:30                                 | 09:30-11:30                    | 09:30-11:30  |
|--|-----------------------------------|-----------------------------------|--|--|-------------------------------|--|---|--------------------------------|--|
| WeA01  | WeA02                             | WeA03                             | WeA04  | WeA05  | WeA06                         | <b>WeA07</b>                                 | WeA08                                       | WeA09                          | <b>WeA10</b>   |
| Uncertain<br>Switched and<br>Hybrid<br>Systems | Stability of<br>Linear<br>Systems | Networked<br>Control<br>Systems I | Trajectory<br>Planning and<br>Tracking for<br>UAVs | Analysis and<br>Control of<br>Nonlinear<br>Systems I | Learning<br>Control<br>Theory | Manufacturing<br>Systems and<br>Supply Chain | Optimization<br>Methods and<br>Applications | Model<br>Predictive<br>Control | Optimal<br>Control and<br>Filtering for<br>Stochastic<br>Systems |

| 13:30-15:30                       | 13:30-15:30                               | 13:30-15:30   | 13:30-15:30            | 13:30-15:30   | 13:30-15:30         | 13:30-15:30                               | 13:30-15:30                | 13:30-15:30                                 | 13:30-15:30                  |
|-----------------------------------|---|---|------------------------|---|---------------------|---|----------------------------|---|------------------------------|
| WeB01                             | WeB02                                     | WeB03   | WeB04                  | WeB05   | WeB06               | <b>WeB07</b>                              | WeB08                      | WeB09                                       | WeB10                        |
| Stability of<br>Hybrid<br>Systems | Linear<br>Parameter<br>Varying<br>Systems | Networked<br>Control<br>Systems -<br>Delays and<br>Robustness | Underwater<br>Vehicles | Analysis and<br>Control of<br>Nonlinear<br>Systems II | Learning<br>Control | Mechanical<br>Systems and<br>Mechatronics | Optimization<br>Algorithms | Nonlinear<br>Model<br>Predictive<br>Control | Optimal<br>Control<br>Theory |

| 15:45-17:45                       | 15:45-18:05                | 15:45-17:45  | 15:45-17:45 | 15:45-17:45   | 15:45-17:45                 | 15:45-17:45                           | 15:45-17:45              | 15:45-17:45   | 15:45-17:45                        |
|-----------------------------------|----------------------------|--|-------------|---|-----------------------------|---------------------------------------|--------------------------|---|------------------------------------|
| WeC01                             | WeC02                      | WeC03  | WeC04       | WeC05   | WeC06                       | <b>WeC07</b>                          | WeC08                    | WeC09   | WeC10                              |
| Switched and<br>Hybrid<br>Systems | Linear<br>System<br>Design | Networked<br>Control<br>Systems -<br>Stability and<br>Identification | Tracking    | Theory and<br>Applications<br>of Nonlinear<br>Control | Neural<br>Network<br>Theory | Mechanical<br>Systems<br>and Robotics | Optimization and Control | Modeling and<br>Identification<br>of Process<br>Control | Optimal<br>Control<br>Applications |

Session III

**Session IV** 

### 2005 ACC Technical Program Wednesday June 8, 2005

| Track 11 | Track 12  | Track 13   | Track 14    | Track 15       | Track 16              | Track 17 | Track 18 | Special<br>Session  | Special<br>Session   |
|----------|-----------|------------|-------------|----------------|-----------------------|----------|----------|---------------------|----------------------|
| Studio   | Executive | Broadway I | Galleria II | Parlor A       | Grand<br>Ballroom I   | Parlor B | Parlor C | Grand<br>Ballroom I | Grand<br>Ballroom II |
|          |           |            |             | 08:15-09:15 Pl | enary Ballroom<br>PPL |          |          |                     |                      |

Colonel Michael B. Leahy

09:30-11:30 09:30-11:30 09:30-11:30 09:30-11:30 09:30-11:30 09:30-11:30 09:30-11:30 09:30-11:30 WeA11 WeA12 WeA14 WeA15 WeA16 WeA17 WeA18 WeA13 Missile Analysis and Biomodeling Automotive Cooperative Fuzzy Logic Fault New Guidance Control of and Control I Applications I Detection Control with and Control I **Techniques** Stochastic the MultiUAV in Command Control and Accomo-Systems dation -Simulation Shaping for Applications Vibration Suppression 11:30-1:10 11:30-1:10 Special Session I Special Session II 13:30-15:30 13:30-15:30 13:30-15:30 13:30-15:30 13:30-15:30 13:30-15:30 13:30-15:30 13:30-15:30 WeB11 WeB12 WeB13 WeB14 WeB15 WeB16 WeB17 WeB18 Fuzzy Logic Spacecraft Control of Biomodeling Automotive Fault Cooperative Control and Control II | Applications I . Attitude Population and Control II **Applications** Detection Control Balance II (Engines) Methods and Control and Accomo-Systems dation Applications 15:45-17:45 15:45-17:45 15:45-18:05 15:45-17:45 15:45-17:45 15:45-17:45 15:45-17:45 15:45-17:45 WeC11 WeC12 WeC13 WeC14 WeC15 WeC16 WeC17 WeC18 Aircraft Probabilistic Bio-Automotive Fault Cooperative Intelligent Control Control and Methods and engineering Applications Detection in Control Control Applications Theory Applications Stochastic Ш Uncertain **Using Neural** Ш Optimization Systems Networks 6:00-7:30 6:00-7:30 **Special Special** 

# 2005 ACC Technical Program Thursday June 9, 2005

| Track 1              | Track 2 | Track 3      | Track 4     | Track 5    | Track 6                                   | Track 7 | Track 8   | Track 9 | Track 10    |
|----------------------|---------|--------------|-------------|------------|---|---------|-----------|---------|-------------|
| Grand<br>Ballroom II | Senate  | Galleria III | Broadway II | Galleria I | Broadway III                              | Forum   | Directors | Council | Broadway IV |
|                      |         |              |             | Thi        | enary Ballroom<br>PPL<br><i>M. Murray</i> |         |           |         |             |

| 09:30-11:30 ThA02  LMIs in Estimation and Control   | 09:30-11:30 ThA03 Stability and Control of Communications Networks | 09:30-11:30<br>ThA04<br>Multi-Agent<br>Coordination<br>and Control | 09:30-11:30<br>ThA05<br>Stability of<br>Nonlinear<br>Systems I                   | 09:30-11:30 ThA06  Machine Learning and Classification                                   | 09:30-11:30 ThA07  Modeling, Identification and Control of Mechanical Systems             | 09:30-11:30 ThA08  Advanced Control for Ships in the 21st Century          | 09:30-11:30 ThA09  Modeling and Control for Industrial and Material Processing Applications | 09:30-11:30 ThA10  Adaptive Linear Control                              |
|---|--|--|--|--|---|--|---|---|
|   |  | 11:3   |  | allroom of the H<br>Banquet  | lilton  |  |   |   |
| 13:30-15:30 ThB02  Maximum Likelihood Subspace Identification for Linear, Nonlinear, and Closed- Loop Systems | 13:30-15:30<br>ThB03<br>Communication Networks                     | 13:30-15:30<br>ThB04<br>Spacecraft<br>Formation<br>and Control     | 13:30-15:30<br>ThB05<br>Theory and<br>Applications<br>of Sliding<br>Mode Control | 13:30-15:30<br>ThB06<br>Imaging,<br>Modeling,<br>and Control<br>of Microscale<br>Systems | 13:30-15:30<br>ThB07<br>Stability,<br>Control and<br>Modeling of<br>Mechanical<br>Systems | 13:30-15:30<br>ThB08<br>Control of<br>Atomic Scale<br>Surface<br>Processes | 13:30-15:30<br>ThB09<br>Model<br>Reduction I<br>(Theory)                                    | 13:30-15:30<br>ThB10<br>Adaptive<br>Control and<br>Signal<br>Processing |

| 15:45-17:45                 | 15:45-17:45                            | 15:45-17:45                        | 15:45-17:45                                    | 15:45-17:45                          | 15:45-17:45                       | 15:45-17:45  | 15:45-17:45   | 15:45-17:45           | 15:45-17:45                   |
|-----------------------------|--|------------------------------------|--|--------------------------------------|-----------------------------------|--|---------------|-----------------------|-------------------------------|
| ThC01                       | ThC02                                  | ThC03                              | <b>ThC04</b>                                   | ThC05                                | <b>ThC06</b>                      | ThC07  | ThC08         | <b>ThC09</b>          | ThC10                         |
| Robust<br>Control<br>Design | H Infinity<br>Filtering and<br>Control | Networked<br>Control<br>Systems II | UAV<br>Autonomy<br>and<br>Formation<br>Control | Nonlinear<br>Control<br>Applications | Mechatro-<br>nics<br>Applications | Control and<br>Identification<br>of Large<br>Structural<br>Systems | Batch Control | Model<br>Reduction II | Direct<br>Adaptive<br>Control |

## 2005 ACC Technical Program Thursday June 9, 2005

| Track 11 | Track 12  | Track 13   | Track 14    | Track 15 | Track 16                                  | Track 17 | Track 18 | Special<br>Session  | Special<br>Session   |
|----------|-----------|------------|-------------|----------|---|----------|----------|---------------------|----------------------|
| Studio   | Executive | Broadway I | Galleria II | Parlor A | Grand<br>Ballroom I                       | Parlor B | Parlor C | Grand<br>Ballroom I | Grand<br>Ballroom II |
|          |           |            |             | Th       | enary Ballroom<br>PPL<br><i>A. Murray</i> |          |          |                     |                      |

| 09:30-11:30 ThA11 Aerospace Applications                             | 09:30-11:30 ThA12 Intelligent Vehicles and Highway Systems               | 09:30-11:30 ThA13  Modeling and Control of Systems for Critical Care Ventilation | 09:30-11:30 ThA14 Automotive Applications IV                           | 09:30-11:30 ThA15 Fault Tolerant Systems      |   | 09:30-11:30 ThA17 Intelligent Control Applications      | 09:30-11:30 ThA18  Computatio nal Methods for Optimal Filtering and Control  |          |
|--|--|--|--|---|---|---|--|----------|
|  |  |  | 11:3   |   | allroom of the H<br>Banquet                     | lilton  |  | <u> </u> |
| 13:30-15:30 ThB11  Robust and Adaptive Control of Aerospace Vehicles | 13:30-15:30 ThB12  Mixed- Integer Programm- ing for Control - a Tutorial | 13:30-15:30 ThB13 Sum of Squares in Industry: An Algorithmic Analysis Approach   | 13:30-15:30 ThB14 Power Systems - Electric and Automotive Applications | 13:30-15:30<br>ThB15<br>Fault<br>Diagnosis    |   | 13:30-15:30<br>ThB17<br>Control of<br>Hybrid<br>Systems | 13:30-15:30 ThB18  Computational Methods for Stability of Time-Delay Systems |          |
| 15:45-17:45<br>ThC11<br>Control for<br>Disk Drives                   | 15:45-17:45 ThC12  Adaptive Control of Rapidly                           | 15:45-17:45 ThC13  Modeling and Control for                                      | 15:45-17:45 ThC14  Automotive Powertrain Controls:                     | 15:45-17:45 ThC15 Fault Detection / Accomoda- | 15:45-17:45 ThC16 Cooperative Electronic Attack | 15:45-17:45 ThC17 Control of Networks - Applications    | 15:45-17:45<br>ThC18<br>Constrained<br>Control                               |          |

# 2005 ACC Technical Program Friday June 10, 2005

| Track 1              | Track 2 | Track 3      | Track 4     | Track 5    | Track 6                                      | Track 7 | Track 8   | Track 9 | Track 10    |
|----------------------|---------|--------------|-------------|------------|--|---------|-----------|---------|-------------|
| Grand<br>Ballroom II | Senate  | Galleria III | Broadway II | Galleria I | Broadway III                                 | Forum   | Directors | Council | Broadway IV |
|                      |         |              |             | FrF        | enary Ballroom<br>PPL<br>. <i>Christofid</i> |         |           |         |             |

| 09:30-11:30                        | 09:30-11:30                      | 09:30-11:30                           | 09:30-11:30          | 09:30-11:30   | 09:30-11:30   | 09:30-11:30 | 09:30-11:30   | 09:30-11:30      | 09:30-11:30                   |
|------------------------------------|----------------------------------|---------------------------------------|----------------------|---|---|-------------|---|------------------|-------------------------------|
| FrA01                              | FrA02                            | FrA03                                 | FrA04                | FrA05   | FrA06   | FrA07       | FrA08   | FrA09            | FrA10                         |
| Robust<br>Stability and<br>Control | Estimation<br>and Filtering<br>I | Autonomous<br>Systems and<br>Networks | Unmanned<br>Vehicles | Feedback<br>Linearization<br>Theory and<br>Applications | Micro-Motion<br>Control of<br>Mechanical<br>Systems | Observers I | Analysis and<br>Control of<br>Industrial<br>Processes | Visual<br>Servos | Robust<br>Adaptive<br>Control |

| 13:30-15:30       | 13:30-15:30                       | 13:30-15:30                           | 13:30-15:30   | 13:30-15:30                             | 13:30-15:30  | 13:30-15:30  | 13:30-15:30       | 13:30-15:30   | 13:30-15:30                      |
|-------------------|-----------------------------------|---------------------------------------|---|---|--|--------------|-------------------|---|----------------------------------|
| FrB01             | FrB02                             | FrB03                                 | FrB04   | FrB05                                   | FrB06  | FrB07        | FrB08             | FrB09   | FrB10                            |
| Robust<br>Control | Estimation<br>and Filtering<br>II | Sliding Mode<br>Control I<br>(Theory) | UAV's:<br>Control,<br>Estimation<br>and<br>Applications | Stability of<br>Nonlinear<br>Systems II | Modelling<br>and Control<br>of MEMS in<br>Industrial<br>Applications | Observers II | PI/PID<br>Control | Analysis and<br>Control of<br>Time-Delay<br>Systems | Robust and<br>Optimal<br>Control |

| 15:45-17:45  | 15:45-17:45               | 15:45-17:45  | 15:45-17:45                          | 15:45-17:45  | 15:45-17:45                           | 15:45-18:05                           | 15:45-17:45                            | 15:45-17:45                       | 15:45-17:45                                   |
|--|---------------------------|--|--------------------------------------|--|---------------------------------------|---------------------------------------|--|-----------------------------------|---|
| FrC01  | FrC02                     | FrC03  | FrC04                                | FrC05  | FrC06                                 | FrC07                                 | FrC08                                  | FrC09                             | FrC10   |
| Control and<br>Optimization<br>of Distributed<br>Processes | Filtering<br>Applications | Sliding Mode<br>Control II -<br>Theory and<br>Applications | Multiple<br>Unmanned<br>Air Vehicles | Control of<br>Output<br>Feedback<br>Nonlinear<br>Systems | Vibration,<br>Analysis and<br>Control | Control<br>Theory and<br>Applications | Observer<br>Design and<br>Applications | Large /<br>Distributed<br>Systems | Output<br>Feedback<br>Tracking and<br>Control |

## 2005 ACC Technical Program Friday June 10, 2005

| Track 11                     | Track 12  | Track 13   | Track 14    | Track 15 | Track 16            | Track 17 | Track 18 | Special<br>Session  | Special<br>Session   |
|------------------------------|-----------|------------|-------------|----------|---------------------|----------|----------|---------------------|----------------------|
| Studio                       | Executive | Broadway I | Galleria II | Parlor A | Grand<br>Ballroom I | Parlor B | Parlor C | Grand<br>Ballroom I | Grand<br>Ballroom II |
| 08:15-09:15 Plenary Ballroom |           |            |             |          |                     |          |          |                     |                      |

FrPPL

Panagiotis D. Christofides

| 09:30-11:30<br>FrA11  | 09:30-11:30<br>FrA12  | 09:30-11:30<br>FrA13   | 09:30-11:30<br>FrA14  | 09:30-11:30<br>FrA15                | 09:30-11:30<br>FrA16  | 09:30-11:30<br><b>FrA17</b>                    | 09:30-11:30<br>FrA18                                      |                                    |  |
|---|---|--|---|-------------------------------------|---|--|---|------------------------------------|--|
| Control and<br>Pointing<br>Challenges<br>of Antennas<br>and<br>Telescopes | Stability of<br>Switched<br>Systems                         | Control<br>Applications<br>in Ventricular<br>Assist Device<br>Develop-<br>ment | Modeling and<br>Control of<br>Advanced<br>Automotive<br>Propulsion<br>Systems | Distributed<br>Parameter<br>Systems | Adaptive<br>Flight Control  | Discrete<br>Event<br>Systems                   | Control of<br>Wireless<br>Communica-<br>tions<br>Networks |                                    |  |
|   |   |  |   |                                     |   |  |   | 11:30-1:10<br>Special<br>Session V |  |
| 13:30-15:30<br>FrB11  | 13:30-15:30<br>FrB12  | 13:30-15:30<br>FrB13   | 13:30-15:30<br>FrB14  | 13:30-15:30<br>FrB15                | 13:30-15:30<br>FrB16  | 13:30-15:30<br>FrB17                           | 13:30-15:30<br>FrB18                                      |                                    |  |
| Control of<br>Underwater<br>Vehicles                                      | Power and<br>Energy   | Design of<br>Biological<br>Feedback<br>Circuits                                | Modeling and<br>Control of<br>Automotive<br>Powertrain<br>Systems             | Identification<br>I                 | Introduction to the MultiUAV Simulation and Its Application to Cooperative Control Research | Advanced<br>Controls for<br>Manufactur-<br>ing | Industry<br>Needs in<br>Embedded<br>Control<br>Education  |                                    |  |
|   |   | T  |   |                                     |   |  |   |                                    |  |
| 15:45-17:45<br>FrC11  | 15:45-17:45<br>FrC12  | 15:45-17:45<br>FrC13   | 15:45-17:45<br>FrC14  | 15:45-17:45<br>FrC15                | 15:45-17:45<br>FrC16  | 15:45-17:45<br>FrC17                           | 15:45-17:45<br>FrC18                                      |                                    |  |
| Mobility and Locomotion   | Discrete-<br>Time<br>Systems:<br>Design and<br>Applications | Autonomous<br>Systems  | Advances in<br>Automotive<br>Sensing and<br>Actuation                         | Identification<br>II                | Active-Vision<br>Control<br>Systems for<br>Complex<br>Adversarial<br>3-D Environ-<br>ments  | Advances in<br>Nonlinear<br>Control            | Control<br>Education                                      |                                    |  |