Workshop on Control of Infinite Dimensional Systems
Waterloo, July 25-29, 2005
(All talks will be in DC1304. Breaks and lunches in DC1301)

Monday

9:45 AM - 10:15 AM  REGISTRATION

10:15 AM - 10:30 AM  OPENING REMARKS (Dean T.F. Coleman)

Session Chair  Kirsten Morris

10:30 AM - 11:15 AM  Birgit Jacob
Minimum-Phase Infinite-Dimensional Second-Order Systems

11:15 AM - 12:00 PM  Denis Matignon
Optimal design and approximation for infinite-dimensional linear systems by means of diffusive representations: a series of examples

12:00 PM - 1:30 PM  LUNCH

Session Chair  John Burns

1:30 PM - 2:15 PM  Hans Zwart
Dirac Structures and boundary control systems

2:15 PM - 3:00 PM  Yann Le Gorrec
Dirac structures for infinite-dimensional systems: motivation and definition on Hilbert spaces

3:00 PM - 3:25 PM  COFFEE BREAK

3:30 PM - 4:15 PM  J.A. Villegas
Stability and Stabilization of a Class of Boundary Control Systems

4:15 PM - 5:00 PM  Elarbi Achhab  CANCELLED
Feedback Stabilization of a Class of Distributed Parameter Systems with Control Constraints
Tuesday

**Session Chair** Birgit Jacob
8:30 AM - 9:15 AM
Holgar Teismann
*Bilinear Control of Schrodinger Equations*

9:15 AM - 10:00 AM
Joseph Winkin
*LQ-Optimal Feedback Regulation of a Nonisothermal Plug Flow Reactor Infinite-Dimensional Model*

10:00 AM - 10:25 AM
COFFEE BREAK

10:30 AM - 11:15 AM
H.T. Banks
*Statistical and Mathematical Modeling in HIV: Estimation and Control*

11:15 AM - 12:00 PM
Hoan Nguyen
*Sensitivity of Dynamical Systems to Banach Space Parameters*

12:00 PM - 1:30 PM
LUNCH

**Session Chair** Kalle Mikkola
1:30 PM - 2:15 PM
Zbigniew Emirsaj CANCELLED
*Unbounded Perturbations in Lyapunov equations*

2:15 PM - 3:00 PM
Hans Zwart
*Is the inverse of A an infinitesimal generator?*

3:00 PM - 3:25PM
COFFEE BREAK

3:30PM - 4:15 PM
Michael Demetriou
*Another look at the optimal placement of actuating devices in distributed parameter systems: integrating spatial robustness and actuator switching with hybrid controller design*

4:15 PM - 5:00 PM
Kirsten Morris
*Optimal actuator placement*
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Chair</th>
<th>Speaker</th>
<th>Topic</th>
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<tbody>
<tr>
<td>8:30 AM - 9:15 AM</td>
<td>John Burns</td>
<td>Michel Delfour</td>
<td>CANCELLED Some Linear Quadratic Differential Games Revisited</td>
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<tr>
<td>9:15 AM - 10:00 AM</td>
<td>Kalle Mikkola</td>
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<td>The LQR Riccati equation and minimizing control for regular linear systems</td>
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<td>10:00 AM - 10:25 AM</td>
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<td>COFFEE BREAK</td>
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<tr>
<td>10:30 AM - 11:15 AM</td>
<td>Mark Opmeer</td>
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<td>A distributional approach to infinite-dimensional linear systems</td>
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<tr>
<td>11:15 AM - 12:00 PM</td>
<td>Olof Staffans</td>
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<td>The Infinite-Dimensional Continuous Time Kalman-Yakubovich-Popov Inequality</td>
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<td>AFTERNOON</td>
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<td>Free time (A hike in a conservation area and visit to a reconstructed Indian village is planned.) The bus will leave at 1:30 p.m. from the Ring Rd. in front of the Davis Center.</td>
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Thursday

Session Chair  Richard Rebarber

8:30 AM - 9:15 AM  Chris Byrnes  Comments on the Dynamics of Forced and Unforced Boundary Controlled Viscous Burgers’ Equation

9:15 AM - 10:00 AM  David Gilliam  
Boundary and Interior Point Control for Burgers’ Equation: A Zero Dynamics Approach

10:00 AM - 10:25 AM  COFFEE BREAK

10:30 AM - 11:15 AM  Ralph Smith  
Model Development and Nonlinear Optimal Control Design for Nonlinear Smart Material Systems

11:15 AM - 12:00 PM  John Burns  
Approximation and Sensitivity Analysis for PDE Control

12:00 PM - 1:30 PM  LUNCH

Session Chair  David Gilliam

1:30 PM - 2:15 PM  Enrique Zuazua  
Numerical Methods for the Control of Partial Differential Equations and Wave Propagation

2:15 PM - 3:00 PM  Marius Tucznak  
Uniformly exponentially stabilizable approximation for some infinite-dimensional systems

3:00 PM - 3:25 PM  COFFEE BREAK

3:30 PM - 4:15 PM  Kazufumi Ito  
Reduced Order Control based on Approximate Manifolds

4:15 PM - 5:00 PM  Ruth Curtain  
Towards a practical controller design for DPS

EVENING (7:00PM)  Dinner (barbeque) Laurel Creek Fire Pit
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<tr>
<td>8:30 AM - 9:15 AM</td>
<td><strong>Ruth Curtain</strong></td>
<td>Kenji Kashima</td>
<td><em>On standard H-infinity control problems for systems with infinitely many unstable poles</em></td>
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<tr>
<td>9:15 AM - 10:00 AM</td>
<td><strong>H. Logemann</strong></td>
<td>Sampled-data integral control of stable linear systems in the presence of actuator nonlinearities: an input-output approach</td>
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<td><strong>Richard Rebarber</strong></td>
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<td><em>Low-gain discrete-time tracking of non-constant reference signals</em></td>
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<td>11:15 AM - 12:00 PM</td>
<td><strong>Miroslav Krstic</strong></td>
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<td><em>Adaptive Stabilization for Unstable Parabolic PDEs Controlled from a Boundary</em></td>
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<td>12:00 PM - 12:10 PM</td>
<td>CLOSING REMARKS</td>
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<td>LUNCH</td>
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