

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 - 10:15AM REGISTRATION

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

Session Chair Kirsten Morris

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

11:15 AM - 12:00PM 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

8:30 AM - 9:15 AM

Birgit Jacob

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 - 3:25 PM

COFFEE BREAK

3:30 PM - 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

Wednesday

Session Chair

8:30 AM - 9:15 AM

John Burns

~~Michel Delfour~~ CANCELLED

Some Linear Quadratic Differential Games Revisited

9:15 AM - 10:00 AM

Kalle Mikkola

The LQR Riccati equation and minimizing control for regular linear systems

10:00 AM - 10:25 AM

COFFEE BREAK

10:30 AM - 11:15 AM

Mark Opmeer

A distributional approach to infinite-dimensional linear systems

11:15 AM - 12:00 PM

Olof Staffans

The Infinite-Dimensional Continuous Time Kalman-Yakubovich-Popov Inequality

AFTERNOON

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.

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

Friday

Session Chair

Ruth Curtain

8:30 AM - 9:15 AM

Kenji Kashima

On standard H -infinity control problems for systems with infinitely many unstable poles

9:15 AM - 10:00 AM

H. Logemann

Sampled-data integral control of stable linear systems in the presence of actuator nonlinearities: an input-output approach

10:00 AM - 10:25 AM

COFFEE BREAK

10:30 AM - 11:15 AM

Richard Rebarber

Low-gain discrete-time tracking of non-constant reference signals

11:15 AM - 12:00 PM

Miroslav Krstic

Adaptive Stabilization for Unstable Parabolic PDEs Controlled from a Boundary

12:00 PM - 12:10 PM

CLOSING REMARKS

12:15 PM - 1:30 PM

LUNCH