Model Reduction Problems
and Matrix Methods
April 3-8, 2004

MEALS
(Saturday dinner to Thursday lunch are included in workshop)

Breakfast (Continental): 7:00 – 9:00 am, 2nd floor lounge, Corbett Hall, Sunday-Thursday
*Lunch (Buffet): 11:30 am – 1:30 pm, Donald Cameron Hall, Sunday-Thursday
*Dinner (Buffet): 5:30 – 7:30 pm, Donald Cameron Hall, Saturday-Wednesday
Coffee Breaks: As per daily schedule, 2nd floor lounge, Corbett Hall
*Please remember to scan your meal card at the host/hostess station in the dining room for each lunch and dinner.

MEETING ROOMS

All lectures will be held in Max Bell 159. *Please note that the meeting space designated for BIRS is the lower level of Max Bell, Rooms 155-159. Please respect that all other space has been contracted to other Banff Centre guests, including any Food and Beverage in those areas.*

TENTATIVE SCHEDULE
Sunday, April 4

7:00 – 9:00   BREAKFAST, 2nd floor lounge, Corbett Hall
9:00 – 9:10   Welcome from BIRS
9:10 – 9:55   Roland Freund, "Dimension Reduction of Higher Order Systems via Krylov
                 Subspace Techniques"
9:55-10:00   discussion
10:00 – 10:30 COFFEE, 2nd floor lounge, Corbett Hall
10:30 – 11:15 Dan Sorensen, "An Overview of Gramian Based Model Reduction"
11:15-11:20   discussion
11:20 – 12:05 Tatjana Stykel, "Model Reduction of Descriptor Systems via Low Rank
                 Generalized Gramians"
12:05-12:10   discussion
12:10-1:30   LUNCH
1:00 – 2:00   TOUR of Banff Centre facilities. Meet in 2nd floor lounge, Corbett Hall.
2:00-2:45   Thanos Antoulas, "Approximation of Large-Scale Systems: Overview and
                 Some New Results"
2:45-2:50   discussion
2:50-3:20   TBA
3:20-3:25   discussion
3:25 – 3:55   COFFEE, 2nd floor lounge Corbett Hall
3:55-4:40   Jacob White, "Parameterized and Nonlinear Model Order Reduction
                 Techniques and Applications"
4:40-4:45   discussion
4:45-5:15   Karen Willcox, "Model Reduction for Large-Scale Applications
                 Computational Fluid Dynamics"
5:15-5:20   discussion

5:30 – 7:30   DINNER

Monday, April 5

9:00-9:45   Alexandre Megretski, "Optimal Model Order Reduction for Finite Length Segments of LTI System Unit Sample Response
9:45-9:50   discussion
9:50-10:20   Henrik Olsson, "Dual Rational Arnoldi for Non-Normal LTI-systems, and a Look at a DAE with Nonlinearities"
10:20-10:25 discussion
10:25-10:55 coffee break
10:55-11:25 Ming Gu, "Rapid Solution of the Stein Equation"
11:25-11:30 discussion
11:30-12:00 Luca Daniel, "Parameterized Model Order Reduction for High Frequency Interconnect and RF Inductors"
12:00-12:05 discussion
12:10-12:20 group photo; meet on front steps of Corbett Hall

12:20-2:00 lunch

2:00-2:45   Serkan Gugercin/Thanos Antoulas, "Approximation and Control of Large-Scale Dynamical Systems via Krylov Projection Methods"
2:45-2:50   discussion
2:50-3:20   coffee break
3:20-4:05   Zhaojun Bai, "Dimension Reduction of Second-Order Dynamical Systems via a Second-Order Arnoldi Method"
4:05-4:10   discussion
4:10-4:25   break
4:25-4:55   Linda Petzold, "Error Estimation for Reduced Order Models of Dynamical Systems"
4:55-5:00   discussion

Tuesday, April 6

9:00-9:45   Paul Van Dooren, "Model Reduction of Interconnected Systems"
9:45-9:50   discussion
9:50-10:20   Roland Freund, "Structured Krylov Subspaces Associated with Higher-Order Systems"
10:20-10:25 discussion
10:25-10:55 break
10:55-11:25 Brigitte Verdonk, "Shape Reconstruction: An Identification Problem"
11:25-11:30 discussion
11:30-12:00 Jaijeet Roychowdhury, "LPTV MOR and its Uses for Estimating Floquet Exponents of Large Systems"

12:00-12:05 discussion
12:05-12:35 Peter Benner, "Passive Reduced Order Modeling Using Positive Real
              Balancing"
12:35-12:40 discussion

Afternoon free for a walk, etc.

Wednesday, April 7

9:00-9:45   Luca Gemignani, "QR Algorithms for Eigenvalue Computation of Structured
             Matrices"
9:45-9:50   discussion
9:50-10:20   Dan Boley, "Transpose-Free Matrix Pade' via Lanczos"
10:20-10:25 discussion
10:25-10:55 break
10:55-11:25 Annie Cuyt, "Adaptive Scattered Rational Interpolation with Applications
              in Metamodelling"
11:25-11:55 Qiang Ye, "An Inverse-Free Preconditioned Krylov Subspace Method for
              Symmetric Generalized Eigenvalue Problems"
11:55-12:00 disucssion
12:00-2:00   lunch
2:00-2:45   Lothar Reichel, "Implicitly Restarted Lanczos Methods"
2:45-2:50   discussion
2:50-3:20   Felix Kwok, "Combining Direct and Iterative Methods to Solve Partitioned
             Linear Systems"
3:20-3:25   discussion
3:25-3:55   break
3:55-4:25   Chen Greif, "Generalized Augmented Lagrangian Techniques for Solving
             Saddle Point Linear Systems"
4:25-4:30   discussion
4:30-5:15   Uri Ascher, "Cloth Simulation: Mesh Decomposition and a Preconditioned
             Constrained Conjugate Gradient Algorithm"
5:15-5:20   discussion

Thursday, April 8

Informal talks
Breakfast and lunch are included on Thursday.