

SAMSI/CRSC Undergraduate Workshop

May 20 - May 25, 2007

www.ncsu.edu/crsc/ugw07

Sunday, May 20

7:00 Welcoming Reception in Sullivan Hall TV Lounge

Monday, May 21

8:30 Meet participants at Sullivan Hall. Transport to SAMSI.

9:10 Introduction to SAMSI, followed by presentations from current SAMSI programs.

9:15 Computational Models (DR. GUILLAUME VERNIERES)

10:00 Computational Models (DR. CARI KAUFMAN)

10:45 *Break*

11:00 Random Matrices (DR. ELAINE SPILLER)

11:45 *Lunch* at SAMSI

12:30 Vans transport participants to Harrelson Hall.

1:15 Introduction and Background (DR. RALPH SMITH)

1:45 Introduction to the Forward Problem: Solving the Harmonic Oscillator System
(DR. GENTRY WHITE)

2:45 *Break-Refreshments/Drinks available in HA 326*

3:00 Brief Introduction to the Computing System and MATLAB (KRISTEN DEVAULT)

4:30 Vans take participants to Lake Crabtree

5:00 Dinner at Lake Crabtree

Tuesday, May 22

9:00 Linear Inverse Problems: A MATLAB Tutorial. (DR. ARIEL CINTRON-ARIAS)

10:30 *Break-Refreshments/Drinks available in HA 326*

10:45 Basic Statistical Concepts and Some Probability Essentials (DHRUV SHARMA)

12:15 *Lunch*

1:15 Introduction to Statistical Inference (DR. JAYANTA PAL)

2:45 *Break-Refreshments/Drinks available in HA 326*

3:15 Statistical View of Linear Least Squares: A MATLAB Tutorial. (DR. JIM CROOK AND SIMON LUNAGOMEZ)

Wednesday, May 23

8:45 Vans transport participants from Sullivan Hall to Centennial Campus

9:00 Rotating Sessions

- *Vibrating beam* Data Collection at CRSC Laboratory. (JOHN DAVID AND DR. RALPH SMITH)
- Graduate School Panel
 - JENNIFER JOYCE, MATHEMATICS DEPARTMENT, UNC-CH
 - DR. ERNIE STITZINGER, MATHEMATICS DEPARTMENT, NCSU
 - DR. KIM WEEMS, STATISTICS DEPARTMENT, NCSU
- Career Panel
 - DR. G. GORDON BROWN, RESEARCH TRIANGLE INSTITUTE
 - DR. KRISTEN FOLEY, ENVIRONMENTAL PROTECTION AGENCY
 - DR. JULIA KIMBELL, CIIT CENTERS FOR HEALTH RESEARCH

12:00 *Box Lunches from Bear Rock Cafe and then return to Harrelson*

1:15 Reflection on the Data Collection and Modeling Experiences (DR. GENTRY WHITE & DR. BALA RAJARATNAM)

2:15 *Break-Refreshments/Drinks available in HA 326*

2:30 Solving the Vibrating Beam: Inverse Problem (DR. BILL LEFEW)

3:00 Solving the Vibrating Beam: Optimization (KARYN SUTTON)

4:00 Teams Work on Inverse Problem (ALL)

Thursday, May 24

9:00 Statistical Analysis for the Vibrating Beam Inverse Problem (DR. JAYANTA PAL AND HONGYUAN CAO)

10:00 *Break-Refreshments/Drinks available in HA 326*

10:15 Alternative Beam Model (DR. RALPH SMITH)

11:15 Teams Work on Inverse Problem (ALL)

12:30 *Lunch*

- 1:30 What could we do better? Alternative models/statistical methods (DR. JIM CROOK AND XINGYE QIAO)
- 2:30 *Break-Refreshments/Drinks available in HA 326*
- 3:00 Teams Work on Inverse Problem; Begin to Prepare Reports (ALL)
- 5:00 Participants Return to Sullivan Hall; Get Dinner
- 6:30 Bowling

Friday, May 25

- 9:00 Presentations and Discussion (ALL)
- 10:30 *Break-Refreshments/Drinks available in HA 326*
- 10:45 Presentations and Discussion(ALL)
- 11:45 Closing Remarks & Workshop Evaluation (DR. RALPH SMITH)
- 12:00 *Lunch*
- 1:00 Participants Depart for Home