

# Indo-US Workshop on Time Series Analysis

May 25-30, 2015

Organized jointly by IISER, Pune and SAMSI, USA

## Schedule

### 25.5.2015 (Monday) DAY 1

|           |  |   |
|-----------|--|---|
| 0830-0930 | Registration   |   |
| 0930-1000 | Inaugural session  |   |
| 1000-1030 | <b>Tea/Coffee Break</b>  |   |
| 1030-1130 | <b>Overview Lecture 1:</b><br>Kathy Ensor<br>(Rice University)                     | <i>Time domain methods for time series analysis</i>       |
| 1130-1230 | <b>Overview Lecture 2:</b><br>Suhashini Subba Rao<br>(Texas A & M Univ)            | <i>Frequency domain methods for time series analysis</i>  |
| 1230-1330 | <b>Lunch</b>   |   |
| 1330-1430 | <b>Overview Lecture 3:</b><br>Nalini Ravishanker<br>(Univ of Connecticut)          | <i>Bayesian dynamic modeling</i>                          |
| 1430-1530 | <b>Overview Lecture 4:</b><br>R E Amritkar<br>(IITRAM, Gandhinagar)                | <i>Nonlinear time series analysis</i>                     |
| 1530-1600 | <b>Tea/Coffee Break</b>  |   |
| 1600-1730 | <b>Breakout Research Session 1:</b>  | <i>Split into 6 research groups, initial discussions.</i> |
| 1730-1900 | <b>Lab Session 1:</b><br>Uttara Naik-Nimbalkar and Anindya Goswami<br>(IISER Pune) | <i>Time series analysis using R</i>                       |
| 1930-2100 | <b>Dinner</b>  |   |

**26.5.2015 (Tuesday)****DAY 2**

- 0930-1030 **Lecture 1:**  
Richard Davis  
(Columbia University) *Structural breaks in time series*
- 1030-1100 **Tea/Coffee Break**
- 1100-1200 **Lecture 2:**  
Scott Holan  
(University of Missouri) *Time-frequency estimation and time-frequency functional data models*
- 1200-1300 **Lecture 3:**  
R. E. Amritkar *Multifractality in time series*
- 1300-1400 **Lunch**
- 1400-1500 **Breakout Research Session 2:** *Split into six groups for discussions.*
- 1500-1600 **Lecture 4:**  
Bonnie Ray  
(IBM Watson Research Center) *Clustering linear and nonlinear time series*
- 1600-1630 **Tea/Coffee Break**
- 1630-1730 **Lecture 5:**  
T. V. Ramanathan  
(S.P. University of Pune) *High frequency data analysis in finance with duration models*
- 1730-1900 **Lab Session 2:**  
Bonnie Ray *Time series clustering analysis*
- 1930-2100 **Workshop Banquet and Dinner**

**27.5.2015 (Wednesday)****DAY 3**

- 0830-0930 **Lecture 6:**  
Vladas Pipiras  
(University of North Carolina) *Multivariate long-range dependence for real-valued and count series*
- 0930-1030 **Lecture 7:**  
T. N. Sriram  
(University of Georgia) *Dimension reduction in time series*

1030-1100 **Tea/Coffee Break and Group Photo**

1100-1200 **Lecture 8:**  
Arup Bose  
(Indian Statistical Institute, Kolkata)

*High dimensional time series*

1200-1300 **Lunch**

1300-1900 **Excursion**

1900-2100 **Dinner**

28.5.2015 (Thursday)

**DAY 4**

0930-1030 **Lecture 9:**  
Kathy Ensor

*Dynamic factor models for  
asynchronously observed time series*

1030-1130 **Lecture 10:**  
Nalini Ravishankar

*Hierarchical Bayesian dynamic models  
for count time series.*

1130-1200 **Tea/Coffee Break**

1200-1300 **Lecture 11:**  
M. S. Santhanam  
(IISER Pune)

*Random matrix theory and time series*

1300-1400 **Lunch**

1400-1500 **Breakout Research Session 2:**

*Split into six groups.*

1500-1600 **Lecture 12:**  
G. Rangarajan  
(Indian Institute of Science,  
Bangalore)

*Granger causality and multivariate  
analysis*

1600-1630 **Tea/Coffee Break**

1630-1800 **Lab Session 3:**  
Richard Davis

*Change-point data analysis*

1800-1900 **Panel Discussion**

Panelists : *Richard Davis, Kathy Ensor,  
Nalini Ravishankar, T. N. Sriram and G.  
Rangarajan.*

1930-2100 **Dinner**

29.5.2015 (Friday)

DAY 5

- 0930-1030 **Lecture 13:**  
Prasanta K. Panigrahi  
(IISER Kolkatta) *Multi-scale dynamics, causality and network structure in time series*
- 1030-1130 **Lecture 14:**  
G. Ambika  
(IISER Pune) *Complex recurrence networks and time series*
- 1130-1200 **Tea/Coffee Break**
- 1200-1300 **Lecture 15:**  
Sahasini Subba Rao *Proxy time series.*
- 1300-1400 **Lunch**
- 1400-1500 **Breakout Research Session 2:** *Split into six groups.*
- 1500-1600 **Lecture 16:**  
Somak Raychaudhury  
(Presidency Univ, Kolkata) *Time series analysis in astronomy*
- 1600-1630 **Tea/Coffee Break**
- 1630-1730 **Lab Session 4:**  
T. N. Sriram *Modeling Time series using Dimension Reduction Methods*
- 1730-1900 **Lab Session 5:**  
Rajeev Misra(IUCAA,Pune),  
K. P. Harikrishnan(Cochin College)  
and M. S. Santhanam *Nonlinear Time series analysis*
- 1930-2100 **Dinner**

30.5.2015 (Saturday)

DAY 6

- 1030-1130 **Lab Session 6:**  
Rajeev Misra, K. P. Harikrishnan and  
M. S. Santhanam
- 1130-1200 **Tea/Coffee Break**
- 1300 **Lunch**

