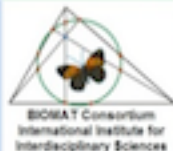


BIOMAT 2016

**16th BIOMAT International
Symposium on Mathematical and
Computational Biology**

**30th October-04th November 2016
Chern Institute of Mathematics, Nankai University,
Tianjin, People's Republic of China**



BIOMAT 2016 – 16th International Symposium on Mathematical and Computational Biology

President of BIOMAT Consortium/ International Institute for interdisciplinary Sciences, I3S – Professor Rubem P. Mondaini, Federal University of Rio de Janeiro, RJ, Brazil

Chern Institute of Mathematics, Nankai University, Tianjin, People's Republic of China, October 31 – November 04, 2016

Chair of Local Organizing Committee – Professor Jishou Ruan, Department of Mathematics, Nankai University, People's Republic of China

BIOMAT 2016 - 16TH INTERNATIONAL SYMPOSIUM ON MATHEMATICAL AND COMPUTATIONAL BIOLOGY - CHERN INSTITUTE OF MATHEMATICS, NANKAI UNIVERSITY, TIANJIN, PEOPLE'S REPUBLIC OF CHINA, OCTOBER 31 - NOVEMBER 04, 2016

LECTURE HALL 216, SHIING-SHEN BUILDING, CHERN INSTITUTE OF MATHEMATICS

| Timetable | Mon Oct 31 | Tue Nov 01 | Wed Nov 02 | Thu Nov 03 | Fri Nov 04 |
|------------------|---|--------------------------------|-------------------------------------|---------------------------|-----------------------------|
| 09:00-09:30 | Opening Session | CT2 Bairagi | CT4 Lemarchand | CT6 Qing Zhao | CT10 Junxian Yang |
| 09:30-10:00 | Tutorial Session PL1 Kerner | PL4 Somdatta Sinha | PL7 Venturino | CT7 Ferreira | PL11 Sorba |
| 10:00 -10:30 | | | | CT8 Laine | |
| 10:30-11:00 | BREAK | | | | |
| 11:00-11:30 | CT1 Mondaini | CT3 Albuquerque Neto | CT5 Mandal | CT9 Srivastava | CT11 Amaral |
| 11:30-12:00 | PL2 Barrio | PL5 Pal | PL8 Limei Zhang de Barrio | PL9 Niemi | PL12 Massad |
| 12:00-12:30 | | | | | |
| 12:30-14:00 | LUNCH | | | | |
| 14:00-14:30 | PL3 Moghadas | PL6 Banerjee | BIOMAT GA | PL10 Srivastava | CT12 Jishou Ruan |
| 14:30-15:00 | | | | | Closing Session |

PL= Plenary Talk, CT= Contributed Talk, GA= General Assembly
 Registration: 10:00 am-08:00 pm, October 30, "Jiayuan" Hotel, Nankai University
 Late registration: 08:00am-09:00am , October 31 - November 01, at the Lecture Hall

MONDAY, OCTOBER 31

09:00 – 09:30 –Opening Session

Session 1 - Tutorial Session

09:30 – 10:30 - PL1 – A COMPREHENSIVE INTRODUCTION TO GROWTH AND AGGLOMERATION IN BIOLOGY”- R. Kerner – Université Pierre et Marie Curie, Paris, France.

Chair: R.P. Mondaini

Session 2

11:00– 11:30 - CT1 - “THE PATTERN RECOGNITION OF PROBABILITY DISTRIBUTIONS OF AMINO ACIDS IN PROTEIN FAMILIES. GENERAL SETTINGS AND STEINER LOCI TECHNIQUES” – R.P. Mondaini, S.C. de Albuquerque Neto, - Federal University of Rio de Janeiro, RJ, Brazil.

11:30 – 12:30 – PL2 – “MODELLING THE ELECTRICAL ACTIVITY OF THE HEART”- R.A. Barrio, I. Dominguez-Roman, M.A. Quiroz-Juarez, O. Jimenez-Ramirez, R. Vazquez-Medina, J.L. Aragon – IPN, Universidad Nacional Autonoma de Mexico, Mexico.

Chair: R. Kerner

Session 3

14:00 – 15:00 – PL3 - “HOW THE INTERVAL BETWEEN PRIMARY AND BOOSTER VACCINATION AFFECTS LONG-TERM DISEASE DYNAMICS” – Affan Shoukat, Aquino L Espindola, Gergely Röst, Seyed Moghadas, - York University, Toronto, Canada, Federal Fluminense University, Volta Redonda, Brazil, Bolyai Institute, University of Szeged, Hungary.

Chair: R.A. Barrio

CC

TUESDAY, NOVEMBER 01

Session 4

09:00 – 09:30 - CT2– “STABILITY AND HOPF BIFURCATION IN A MULTI-DELAYED ECO-EPIDEMIOLOGICAL MODEL”- Debadatta Adak, Nandadulal Bairagi – Jadavpur University, India.

09:30 – 10:30 – PL4 - “PROPAGATION OF EXTRINSIC PERTURBATION IN MULTI-STEP BIOCHEMICAL PATHWAYS” – Aatira G. Nadungadi, Somdatta Sinha – Indian Institute of Science Education and Research, Mohali, India.

Chair: S. Moghadas

Session 5

11:00 – 11:30 - CT3 - “THE PATTERN RECOGNITION OF PROBABILITY DISTRIBUTIONS OF AMINO ACIDS IN PROTEIN FAMILIES. THE SADDLE-POINT APPROXIMATION” - R.P. Mondaini, S.C. de Albuquerque Neto, - Federal University of Rio de Janeiro, RJ, Brazil.

11:30 – 12:30 – PL5 – “ CATASTROPHIC TRANSITIONS IN CORAL REEF BIOME UNDER INVASION AND OVERFISHING” - J. Bhattacharyya, S. Pal - Texas A&M University, USA,;University of Kalyani, India.

Chair: Somdatta Sinha

Session 6

14:00 – 15:00 – PL6 – “SENSITIVITY ANALYSIS AND PARAMETER ESTIMATION IN A BRAIN TUMOR MODEL” – Sandip Banerjee – Indian Institute of Technology Roorkee, Uttarakhand, India.

Chair: S. Pal

CC

WEDNESDAY, NOVEMBER 02

Session 7

09:00 – 09:30 - CT4 - “SOMITOGENESIS AND TURING PATTERN”– Annie Lemarchand, L. Signon, B. Nowakowski, - Université Pierre et Marie Curie, Université Paris-Sud, France; Warsaw University of Life Sciences, Poland.

09:30 – 10:30 - PL7 –“AN EPIDEMIOLOGICAL MODEL OF VIRAL INFECTIONS IN A VARROA-INFESTED BEE COLONY: THE CASE OF A BEE-DEPENDENT MITE POPULATION SIZE” - Sara Bernardi, Ezio Venturino - Università di Torino, Italy.

Chair: N. Bairagi

Session 8

11:00 – 11:30 – CT5 – “DOES SENSITIVITY ANALYSIS VALIDATE BIOLOGICAL RELEVANCE OF PARAMETERS IN MODEL DEVELOPMENT? REVISITING TWO BASIC MALARIA MODELS”- Public Health Foundation of India, Delhi Sandip Mandal, Somdatta Sinha, Public Health Foundation of India, Institute of Science Education and Research, Mohali, India.

11:30 – 12:30 - PL8 - “SUBCORTICAL HOMEOSTATIC CIRCUITRY MODULATES BRAIN WAVES AND BEHAVIORAL ADAPTATION: THE URGENCY OF THE EMERGENT MULTIDISCIPLINARY SOCIAL NEUROSCIENCE ” - Limei Zhang de Barrio, Universidad Nacional Autonoma de Mexico, Mexico.

Chair: E. Venturino

Session 9

14:00 – 15:00 - BIOMAT CONSORTIUM GENERAL ASSEMBLY

CC

THURSDAY, NOVEMBER 03

Session 10

09:00 – 09:30 – CT6– “PROTEIN STRUCTURE ESTIMATION FROM INCOMPLETE NMR DATA”- Z. Li, Y. Li, Q. Lei, Qing Zhao, - Beijing Institute of Technology, China.

09:30 – 10:00 – CT7 – “SOME IDEAS AND TECHNIQUES OF ANALYSIS IN TOPICS OF MATHEMATICAL EPIDEMIOLOGY”- Claudia Pio Ferreira - State University of S. Paulo, UNESP, Brazil .

10:00 – 10:30 – CT8 – “PROTEIN INFOSTERY: A NEW WAY TO LOOK INTO PROTEIN MOTION AND TO PREDICT DELETERIOUS MUTATIONS”- Elodie Laine – Université Pierre et Marie Curie, Paris, France.

Chair: Limei Zhang de Barrio

Session 11

11:00 – 11:30 – CT9 – “DETERMINISTIC AND STOCHASTIC MODEL FOR HTLV-I INFECTION OF CDS4⁺S CELLS”- P. K. Srivastava – Indian Institute of Technology Patna, India.

11:30 – 12:30 – PL9 – “FOLDING PROTEINS AT THE SPEED OF LIFE”- Antti Niemi – University of Uppsala, Sweden.

Chair: Annie Lemarchand

Session 12

14:00 – 15:00 – PL10 – “STUDY OF GLOBAL STABILITY AND OPTIMAL TREATMENT FOR AN INFECTIOUS DISEASE MODEL” - A. Kumar, P. K. Srivastava, A. Yadav – Indian Institute of Technology Patna, India.

Chair: Jishou Ruan

CC

FRIDAY, NOVEMBER 04

Session 13

09:00 – 09:30 – CT10 – “GLOBAL STABILITY OF A MODIFIED HIV INFECTION MODEL WITH SATURATION INCIDENCE” - Junxian Yang, QingGuo Zhang, Leihong Wang – Anhui Agricultural University, Hefei, PR China.

09:30 – 10:30 – PL11 – “CODON BIAS FROM MINIZATION OF CODON-ANTICODON INTERACTION”- A. Sciarrino, P. Sorba – I.N.F.N. , Napoli, Italy, Laboratoire d’Annecy-le-Vieux, LAPH, CNRS, Université de Savoie, France.

Chair: S. Banerjee

Session 14

11:00 – 11:30 – CT11 – “ENTROPY MEASURES FROM JOINT PROBABILITY IN PROTEIN DATABASES – R.P. Mondaini, S.C. de Albuquerque Neto, E.A. G.G. Amaral, Federal University of Rio de Janeiro, Brazil.

11:30 – 12:30 – PL12 – “THE BIOETHICS OF INFECTIONS: A MODELLER PERSPECTIVE”- E. Massad, - University of S.Paulo, Brazil, London School of Hygiene and Tropical Medicine, UK.

Chair: P. Sorba

Session 15

14:00 – 14:30 – CT12 – “MINING THE CARDIOVASCULAR INDICES FROM PULSE SIGNAL ALONE” – Jishou Ruan – Chern Institute of Mathematics, Nankai University, China.

14:30 – 15:00 – Closing Session

Chair: R.P. Mondaini