CSBio 2012 Technical Program (tentative)

Tuesday, October 2, 2012 – Pre-Conference Workshops at Thailand Science Park (pre-registration only)

07:30 – 8:30  Transfer from Centara Grand at Central Plaza Ladprao Bangkok to Sirindhorn Science Home, Thailand Science Park, Pathumthani
08:30 – 9:00  Registration [Foyer, Sirindhorn Science Home]
09:00 – 12:00  **Workshop I** [Lecture 1, Sirindhorn Science Home]
  Bairong Shen (Director, Center for Systems Biology, Soochow University, China), *Systems biology with R*
09:00 – 12:00  **Workshop II** [Lecture 2, Sirindhorn Science Home]
  Hon Wai Leong (Department of Computer Science, National University of Singapore, Singapore), Sriganesh Srihari (Department of Computer Science, National University of Singapore, Singapore), *Computational methods for detecting protein complexes from whole-genome PPI networks*
09:00 – 12:00  **Workshop III** [Auditorium, Sirindhorn Science Home]
  Gaurav Chopra (Department of Microbiology, University of Washington, USA), *Atomic modeling of complex biological systems*
12:00 – 13:00  Lunch at canteen
13:00 – 14:00  Transfer to Centara Grand at Central Plaza Ladprao Bangkok
  (for those not attending the afternoon session)
13:00 – 16:00  **Workshop IV** [Auditorium, Sirindhorn Science Home]
  Yang Cheng (Roche Diagnostics, China), *Whole genome sequencing data analysis* (using Roche 454 GS data analysis software)
16:00 – 17:00  Transfer to Centara Grand at Central Plaza Ladprao Bangkok

Wednesday, October 3, 2012

08:15 – 15:30  Registration [Ballroom Foyer, Centara Grand]
09:00 – 9:30  **Opening Ceremony and Welcome Speeches** [Ballroom B, Centara Grand]
  Dr. Sakarindr Bhumiratana/ Dr. Shoba Ranganathan/ Dr. Thaweesak Koanantakool
09:30 – 10:15  **Keynote Talk 1** [Ballroom B, Centara Grand]
  Jurg Ott (Professor Emeritus, Rockefeller University, New York, USA), *Statistical approaches to testing and estimating the number of functional variants in complex disease*
  Chair by Prasit Palitapongarnpim
10:15 – 10:45  Coffee Break
10:45 – 11:30  **Keynote Talk 2** [Ballroom B, Centara Grand]
  Tatsuhiko Tsunoda (Director, Research Group for Medical Informatics, RIKEN Center for Genomic Medicine, Japan), *Genomic medicine’s milestones and future*
  Chair by Sissades Tongsima
11:30 – 12:00  Asia Pacific Bioinformatics Network (APBioNet) 2012 report [Ballroom B, Centara Grand]
12:00 – 12:15  Corporate presentation 1 [Ballroom B, Centara Grand]
  Yang Cheng, Roche
  *Whole genome sequencing data analysis*
13:15 – 14:00  **INNS Keynote Talk 1** [Rungsit 1, Centara Grand]
  Fredric Ham (Professor, Florida Institute of Technology, USA),
  *A neurocomputing approach for monitoring plinian volcanic eruptions and other natural phenomena using infrasound*
  Chair by Irwin King
14:00 – 14:45  **INNS Keynote Talk 2** [Rungsit 1, Centara Grand]
  Irwin King (Professor, Chinese University of Hong Kong, China),
  *Social computing in the e-era*
  Chair by Fredric Ham
14:50 – 15:40  **Technical Session: CSBio1**
  **CSBio1: Biological Design and Analysis** [Rungsit 2 & 3, Centara Grand]
  Chair by Asawin Meechai
14:55 – 15:15  Design and analysis of genetically encoded combinatorial counters
  Pakpoom Subsoontorn and Drew Eddy
15:15 – 15:35  Conceptual design of RNA-RNA interaction based devices
  Jittrawan Thaprasit, Supapon Cheevadhanarak, Dujduan Waraho and Asawin Meechai
15:40 – 16:00 Coffee Break
16:00 – 17:00 Technical Session: CSBio2
CSBio2: Biological Modeling [Rungsit 2 & 3, Centara Grand]
Chair by Wanwipa Vongsangnak
16:00 – 16:20 Predicting the Evolution of Gene ura3 in the Yeast Saccharomyces Cerevisiae
Jacques M. Bahi, Christophe Gayeux and Antoine Perasso
16:20 – 16:40 Analysis of metabolic network of synthetic Escherichia coli producing linalool using constraint-based modeling
Iyarest Tawornsamretkit, Asawin Meechai, Rattana Thanansomboon, Jittrawan Thaiprisat, Dujduan Waraho and Supapon Cheevadhanarak
16:40 – 17:00 Simplified models for the mammalian circadian clock
Jean-Paul Comet, Gilles Bernot, Aparna Das and Francine Diener
17:00 – 18:15 Technical Session: CSBio3
CSBio3: Posters Session [Ballroom Foyer, Centara Grand]
- Construction of synthetic Escherichia coli producing s-linalool
  Ratana Thanansomboon, Dujduan Waraho, Supapon Cheevadhanarak and Asawin Meechai
- Identify Predictive SNP groups in GWAS: A Sparse Learning Approach
  Zhao Zhang, Yanwu Xu, Jiang Liu and Chee Keong Kwoh
- Identification and Characterization of Burkholderia pseudomallei Serine and Metallopeptidases
  Noraslinda Muhamad Bunnori and Rahmah Mohamed
- On the use of wavelet neural networks in the task of epileptic seizure detection from electroencephalography signals
  Zarita Zainuddin, Kee Huong Lai and Pauline Ong
- Exploring the Solution Space of Sorting by Translocations
  Amritanjali, Shivani Anand and G Sahoo
- Structural Bioinformatics and Molecular Dynamics Simulations Studies of Cathepsins as a Potential Target for Drug Discovery
  Surapong Pinitglang, Ratchanee Saiprajong, Tossaporn Dussadee and Khanok Ratanakhanokchai

Thursday, October 4, 2012

08:15 – 15:30 Registration [Ballroom Foyer, Centara Grand]
09:00 – 9:45 Keynote Talk 3 [Ballroom B, Centara Grand]
  Yongyuth Yutlavong (Professor Emeritus, Mahidol University, Thailand), Bioinformatics within and beyond biology
  Chair by Suthai Fucharoen
09:45 – 10:15 Plenary Talk 1 [Ballroom B, Centara Grand]
  Ram Samudrala (Professor, University of Washington, Seattle, USA), Computational analysis of novel drug opportunities (CANDO)
  Chair by Wasun Chantratita
10:15 – 10:45 Coffee Break
10:45 – 11:15 Plenary Talk 2 [Ballroom B, Centara Grand]
  Yutaka Yasui (University of Alberta, Canada), Epistasis exploration as a key element in GWAS data analysis
  Chair by Wasun Chantratita
11:15 – 11:45 Plenary Talk 3 [Ballroom B, Centara Grand]
  Richard Wintle (Assistant Director, The Centre for Applied Genomics, Sick Children Hospital, Canada), Old disorders, new approaches: genomic variability in autism spectrum disorder
  Chair by Jonathan Chan
11:45 – 12:15 Corporate presentation 2 [Ballroom B, Centara Grand]
  Robert Fassett, Oracle
  Addressing big data challenges to accelerate personalized medicine initiatives
13:20 – 14:05 Tutorial [Rungsit 2 & 3, Centara Grand]
  Richard Wintle (Assistant Director, The Centre for Applied Genomics, Sick Children Hospital, Canada), Structural variation of the human genome – how do we find it, and what do we do with it?
14:50 – 15:40 Technical Session: CSBio4
**CSBio4:** Biological Data and Sequence Analysis [Rungsit 2 & 3, Centara Grand]
Chair by Chee Keong Kwoh
14:55 – 15:15 The Generalized Feed-Forward Loop Motif: Definition, Detection and Statistical Significance
Tobias Berka
15:15 – 15:35 Classification of real and pseudo pre-miRNAs in plant species
Worrawat Engchuan and Jonathan Chan
15:40 – 16:00 Coffee Break
16:00 – 17:00 Technical Session: CSBio5

**CSBio5:** Systems Biology & Structural Bioinformatics [Rungsit 2 & 3, Centara Grand]
Chair by Jean-Paul Comet
16:00 – 16:20 Comparison of structure-based tools for the prediction of ligand binding site residues in apo-structures
Ali Ezzat and Kwoh Chee Keong
16:20 – 16:40 Transcriptomic data integration inferring the dominance of starch biosynthesis in carbon utilization of developing cassava roots
Wanatsanan Siriwat, Sawalak Kalapanulak, Malinee Suksangpanomrung, Supatcharee Netrphan, Asawin Meechai and Treenut Saithong
16:40 – 17:00 Biobime mining platform and application for building metabolic interaction network
Preecha Patumchareonpol, Jonathan Chan, Asawin Meechai, Bairoing Shen and Wanwipa Vongsangnak
17:00 – 18:00 Technical Session: CSBio6 & INNS-WC6

**CSBio6:** Demonstration and Competitions [Rungsit 1, Centara Grand]
Chair by Jonathan Chan
17:10 – 17:55 Gustavo Stolovitzky – via videoconferencing
(Manager, Functional Genomics and Systems Biology, IBM Computational Biology Center)
IMPROVER diagnostic signature challenge and results + DREAM challenges
18:00 – 20:30 Conference dinner [Ballroom A, Centara Grand]

**Friday, October 5, 2012**

08:15 – 12:00 Registration [Ballroom Foyer, Centara Grand]
09:00 – 9:45 Keynote Talk 4 [Ballroom B, Centara Grand]
Sandra Baldauf (Professor, Uppsala University, Sweden), Comparative genomics of microbial eukaryotes
Chair by Prasit Palittapongarnpim
09:45 – 10:15 Plenary Talk 4 [Ballroom B, Centara Grand]
David Ussery (Center for Biological Sequence Analysis, Technical University of Denmark, Denmark), From bacterial genome sequence to taxonomy-progress and problems
Chair by Asawin Meechai
10:15 – 10:45 Coffee Break
10:45 – 11:15 Plenary Talk 5 [Ballroom B, Centara Grand]
Juncai Ma (Director, Information Center, Institute of Microbiology, Chinese Academy of Sciences, China), Toward the global cooperation: WFCC global catalog of microorganisms
Chair by Tin Wee Tan
11:15 – 11:45 Forum discussion on bioinformatics resources for teaching, training and research
[Ballroom B, Centara Grand]
Chair by APBioNet
11:45 – 12:00 Corporate presentation 3 [Ballroom B, Centara Grand]
Shu Qi Zhao, IBM
*IBM’s IT solutions for life sciences: speeding up your research*
12:00 – 13:00 Lunch [Ballroom A, Centara Grand]
13:00 – 15:30 End of CSBio2012 – delegates are free to join the InCoB2012 technical sessions
15:30 – 16:30 Closing session of InCoB2012 [Ballroom B, Centara Grand]