APBC2013

The Eleventh Asia Pacific Bioinformatics Conference
Vancouver BC Canada / 21-23 January 2013

Conference Program

GenomeCanada

CIHR IRSC
Canadian Institutes of
Health Research
Instituts de recherche
en santé du Canada

APBC2013

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Contents

Welcome

Dear APBC 2013 attendee,

On behalf of the APBC 2013 organizing committee, it is a pleasure to welcome you in Vancouver, British Columbia. This is the 11th Asia-Pacific Bioinformatics Conference, and the first to extend to the Pacific coast of North America.

This year we will have 40 papers presented in APBC selected out of more than 100 submissions. We will also feature 3 distinguished plenary speakers who will each provide salient insights into the application of next-generation DNA sequencing. Additionally, an industry panel on application of bioinformatics in genomic medicine will be equally thought provoking. With more than 40 posters in the main conference, we are expecting an exciting and lively conference. The conference is also enhanced by the satellite tutorials, focusing on the issues of applying next-generation sequencing in cancer research. We are grateful for the efforts of Mr. Shaun Dunn Jackman and Drs. Sohrab Shah and Olena Morozova and their colleagues for their efforts in providing these pertinent tutorial topics.

We hope that the high quality of the technical program coupled with the attractions of beautiful Vancouver will help make this APBC 2013 a memorable meeting.

APBC 2013 has benefited from the voluntary contributions of many members of the computational biology and bioinformatics community in Vancouver. Special thanks to Pheobe Chen, Steering Committee Chair, Shira Gordon, Conference Organizer, Jack Chen, Tutorial Organizer and Inanc Birol, Industry Liason. We also thank all members of the Program, Steering and the Organization Committees, as well as our event coordinators and volunteers.

The conference would not be financially viable without our Canadian and International sponsors, including, Genome BC, Genome Canada, Simon Fraser University, the UBC Genome Sciences and Technology Program, the CIHR Bioinformatics Training Program, the Canadian Institutes of Health Research, Oxford Nanopore and the Canadian Cancer Society.

We wish you all a great meeting,

Sincerely,
Steven J.M. Jones & S. Cenk Sahinalp
Conference Chairs

APBC 2013 Organization

Conference Chair
- Steven Jones, BC Genome Sciences Centre, Canada

Program Chair
- S. Cenk Sahinalp, Simon Fraser University, Canada

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- Cedric Chauve, Simon Fraser University, Canada
- Jack Chen, Simon Fraser University, Canada
- Anne Condon, University of British Columbia, Canada
- Paul Pavlidis, University of British Columbia, Canada
- Sohrab Shah, University of British Columbia, Canada

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- Satoru Miyano, University of Tokyo, Japan
- Mark Ragan, University of Queensland, Australia
- Limsoon Wong, National University of Singapore
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- Wenlian Hsu Academia Sinica, Taiwan
- Jun Huan U Kansas, USA
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- Yuzhen Ye Indiana U, USA
- S.M. Yiu Hong Kong U, China
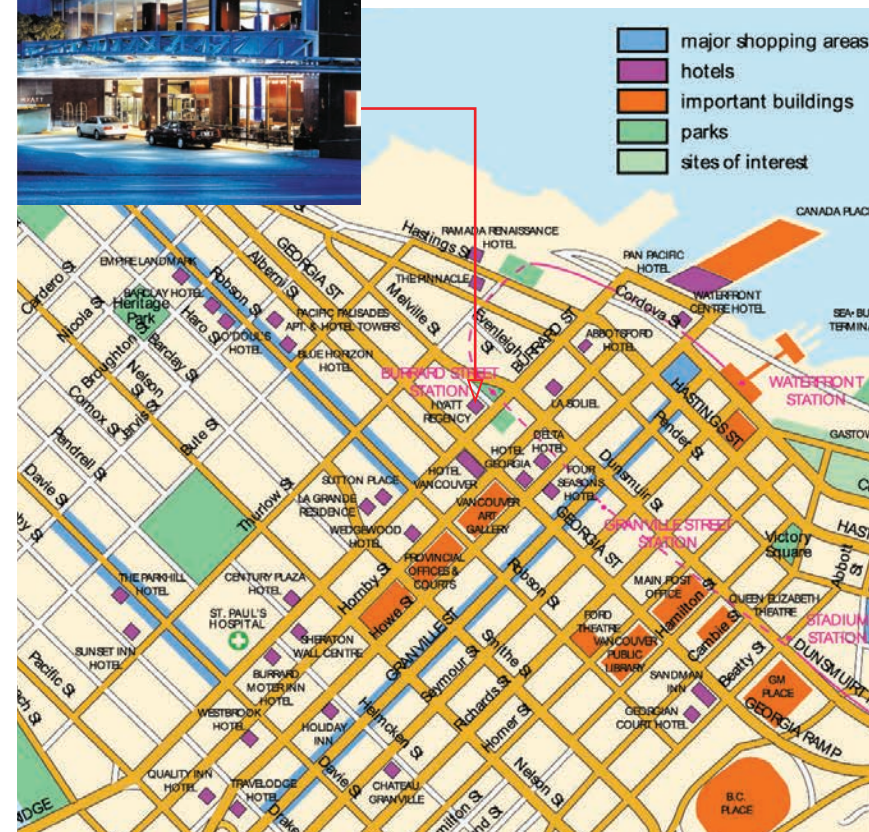- Xuegong Zhang Tsinghua U, China
- Shuigeng Zhou Fudan U, China

General Information

Conference Venue

The Hyatt Regency Vancouver
655 Burrard Street
Vancouver, British Columbia
Canada V6C 2R7
Tel: +1 (604) 683-1234
Toll Free: +1 (888) 591-1234
Email: salesyvrrv@hyatt.com
Website: http://vancouver.hyatt.com/
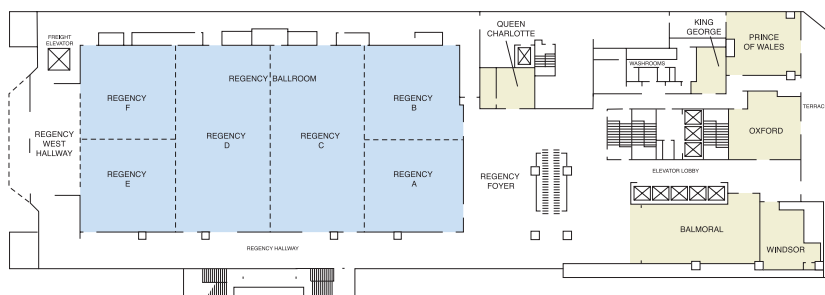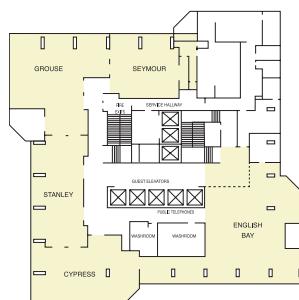hyatt/hotels-vancouver/

Let the luxurious Hyatt Regency Vancouver be your ideal starting point to explore everything this dynamic city offers. Freshly updated to reflect the excitement and vibrancy of Vancouver, the hotel is located within the city's bustling business centre and is within close proximity of the unique shops of Robson Street, the greenery of Stanley Park, the Vancouver Convention Centre, and Rogers Arena, home of the National Hockey League's Vancouver Canucks. For business travel or vacation, reward yourself with a stay at the favoured choice of hotels in Vancouver, British Columbia.

Hyatt Regency Vancouver Floor Plans

CONVENTION LEVEL (THIRD FLOOR)

The conference will take place on the third floor of the Hyatt Regency Vancouver in meeting rooms entitled Regency A, B, C. Meals will be served in Regency D, E, F. The registration desk will be located in the Regency Foyer.

The Welcome Reception and Conference Dinner will take place on the 34th floor of the Hyatt Regency Vancouver in the English Bay, Cypress, Seymour, Grouse and Stanley rooms.

PERSPECTIVES LEVEL (34th FLOOR)

Conference Registration Desk

The conference registration desk is located in the Regency Hallway of the Hyatt Regency Vancouver and is open during the following times:

- January 20, Sunday: 1:00pm – 7:00pm
- January 21, Monday: 7:00am – 2:00pm
- January 22, Tuesday: 7:00am – 2:00pm
- January 23, Wednesday: 7:00am – 12:00pm

Have a Question?
Speak with someone at the conference registration desk, or ask anyone with a blue staff badge.

Message Board
There will a message board at the conference registration desk.

Conference Name Badge
Please wear your name badge at all times. It is your ticket for attending the tutorials, conference sessions, welcome reception and conference dinner.

Name Badge Key
- Staff/Volunteers - Blue
- Delegates/Speakers – White

Specific Requirements
We have accommodated for general needs in order to make your conference experience comfortable. Should you require additional assistance, please speak with staff at the conference registration desk.

Dietary Requirements
We want to ensure that lunches and dinners cater to special dietary requirements. We hope you indicated any special dietary preference in your registration form. If you missed doing so, please advise someone at the conference registration desk right away. You may also need to identify yourself to the catering staff.

No Smoking Policy
The Hyatt Regency Vancouver is a 100% non-smoking property. As per city bylaws you are permitted to smoke outside the hotel, at a distance of 8 meters from any doorway or air intake point.

Internet Access
If you are a hotel guest, you will have complimentary access to the Internet. Internet is only available in your room and in the lobby area of the hotel. It is not available on the conference level.

Coat Check and Baggage Storage
There will be coat racks available inside Regency A, B, C. Please note there are no rooms for holding baggage and coats will not be monitored.

Mobile Phones
Please ensure that your mobile phones are turned off during all conference sessions.

Lost and Found

Please provide any lost items to the conference registration desk during registration hours. Any items that are not claimed during registration hours will be given to the Hyatt Regency Vancouver concierge.

Speaker Ready Room

Speakers who would like a quiet space to review their presentations can use the Queen Charlotte room in the Hyatt Regency Vancouver during the following times:

- January 21, Monday: 7:00am – 3:00pm
- January 22, Tuesday: 7:00am – 3:00pm
- January 23, Wednesday: 7:00am – 1:00pm

Poster Sessions

Poster authors will be available to explain, discuss and answer questions about their posters on Monday, January 21 at 4:40pm – 6:10pm in the Regency Hallway on the 3rd floor of the Hyatt Regency Vancouver.

CONVENTION LEVEL (THIRD FLOOR)
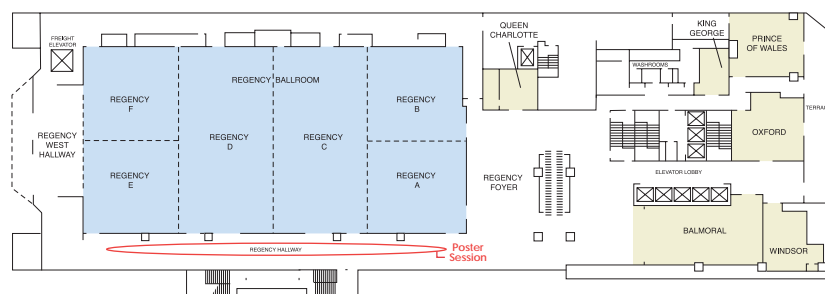
Social Events

Welcome Reception

January 20, Sunday: 7:00pm – 9:00pm
English Bay, Cypress, Seymour, Grouse and Stanley, 34th Floor
Hyatt Regency Vancouver

Conference Dinner

January 22, Tuesday: 6:30pm – 9:30pm
English Bay, Cypress, Seymour, Grouse and Stanley, 34th Floor
Hyatt Regency Vancouver

Conference Proceedings

All conference delegates will receive a USB of the APBC 2013 proceedings upon registration.

Emergency Assistance/Medical

The emergency number in Canada is 911. Hospitals provide 24-hour emergency service. The closest hospital is St. Paul's Hospital:
Address: 1081 Burrard Street
Phone: +1(604) 682-2344

The nearest pharmacy to the hotel is Shoppers Drug Mart:
Address: 586 Granville Street
Phone: +1 (604) 683-4063

Post Office

The nearest post office is located at 1014 Robson Street and is open Monday to Friday.
Phone: +1 (604) 684-4011

Credit Cards & ATM Cash Machines

The most common accepted credit cards in local hotels, restaurants and shops are Visa, MasterCard and American Express. ATM cash machines are widely available.

Conference Host City

Location and Access

The following transportation options are available from the Vancouver International Airport to The Hyatt Regency Vancouver.

Canada Line Skytrain

The Canada Line Skytrain (light rapid transit system) departs every 12 minutes (every 6 minutes during peak periods) to downtown Vancouver. The current fare is $8.75 per person and will take you to Vancouver City Centre Station which is only a block away from the hotel. (This rate is subject to change as transit rates are scheduled to increase by 13% in 2013). The trip will take 30 minutes and is recommended for guests with little luggage. More information can be found on www.translink.ca under the "Skytrain" tab.

Taxi

The trip from the Vancouver International Airport to the Hyatt Regency Vancouver will take 30 minutes and the cost is a metered rate of approximately $40.00 – $50.00

- Yellow Cab: +1 (604) 681-1111
- Black Top and Checker Cabs: +1 (604) 731-1111

Car Rental

- Avis Rent-a-Car: +1 (604) 606-2869
- Enterprise Rent-a-Car: +1 (604) 688-5500
- National Car Rental: +1 (604) 609-7160

Exploring Vancouver

Vancouver offers cultural events, sightseeing and restaurants with cuisine from around the world. To begin exploring Vancouver, talk to someone at the conference registration desk for some great suggestions.

For the latest information on Vancouver events please visit:
http://www.tourismvancouver.com/do/calendar-events/
http://www.hellobc.com/vancouver/things-to-do/festivals-events.aspx

Shopping

The hotel is located in the heart of downtown Vancouver, which is also the shopping district.

The nearest mall is Pacific Centre (701 West Georgia Street) and is open from:

Mon & Tues: 10:00am – 7:00pm
Wed – Fri: 10:00am – 9:00pm
Sat: 10:00am – 7:00pm
Sun: 11:00am – 6:00pm
Website: http://www.pacificcentre.ca/

Should you prefer to shop outdoors, take a walk along Robson Street.

About Vancouver

Bordered by the Coast Mountain Range and the Pacific Ocean, Vancouver is located in the Lower Mainland of British Columbia, Canada and is recognized as one of the world's most livable cities. Canada is known for our people's friendly nature, and Vancouver's citizens take great pride in our welcoming, clean, safe streets - day or night, all year round. Vancouver is a coastal city of nearly 600,000 people (2,000,000 in the Greater Vancouver District). Known for its incredible natural beauty, and more recently for being the host city for the XXI Winter Games, Vancouver is a vibrant, accessible, and cosmopolitan metropolis. The Winter Olympics were a great success with approximately 2,600 athletes participating from 82 nations.

Tourist Information

For tourism information please visit: http://www.tourismvancouver.com/visitors/

Local Attractions:

- Science World (www.scienceworld.ca)
- Vancouver Aquarium (www.vanaqua.org)
- Stanley Park (vancouver.ca/parks/parks/stanley)
- Granville Island (www.granvilleisland.com)
- Vancouver Lookout at Harbour Centre (www.vancouverlookout.com)
- Space Centre (www.spacecentre.ca)
- Chinatown (www.vancouver-chinatown.com)

Disclaimer

APBC 2013, its organizers and Mitacs and their employees, subcontractors and agents will not be liable for any loss, death, injury, illness or damage (whether personal or property, direct or consequential, including consequential financial loss) of any nature sustained by registrants or their guests attending the APBC 2013 conference and/or exhibition or related events.

Privacy Statement

Information provided on the registration form will be used to administer the APBC 2013 conference including accommodation, catering, transport, and sponsorship. Data obtained will remain the property of the Organizing Committee and will not be shared with any third party.

Keynote Speakers

Dr. Jun Wang

Jun Wang is the Executive Director of the BGI (previously known as the Beijing Genomics Institute). He was instrumental in the 1999 founding and the growth of the BGI Bioinformatics Department, which is now widely recognized as one of world's premier research facilities committed to excellence in genome sciences. Dr. Wang also holds a position as an Ole Rømer professor at the University of Copenhagen. He has authored 100+ peer-reviewed original papers – of which 59 are published in Cell, Nature (including Nature series), N Engl J Med., and Science (17 as cover story). Among those 59, WJ is the first/co-first author or corresponding/co-corresponding author for 37 (10 as cover) of them. He has been recognized with an award from His Royal Highness Prince Foundation in Denmark, an Outstanding Science and Technology Achievement from the Chinese Academy of Sciences, Top 10 Scientific Achievements in China, and the prize for Important Innovation and Contribution from the Chinese Academy of Sciences. His research focuses on genomics and related bioinformatics analysis of complex diseases and agricultural crops, with the goal of developing applications using the genomic information.

Dr. Jay Shendure

Jay Shendure, MD, PhD, is an Associate Professor in the Department of Genome Sciences at the University of Washington in Seattle, Washington. He graduated summa cum laude from Princeton University in 1996, and completed a Fulbright scholarship to India in 1997. He then entered the Medical Scientist Training Program at Harvard Medical School, receiving his PhD in 2005 and his MD in 2007. His PhD with George Church notably included one of the first successful demonstrations of massively parallel or next generation DNA sequencing.

Dr. Shendure joined the faculty at the Department of Genome Sciences in 2007. His research group in Seattle is broadly interested in technology development in genomics, and has made significant contributions to the development of methods for selective capture of targeted subsets of the human genome such as the exome, the integration of these methods with next-generation DNA sequencing, and their application to directly identify the basis of Mendelian disorders (e.g. Miller syndrome, Kabuki syndrome). Other technologies recently developed by the lab include haplotype-resolved genome sequencing and synthetic saturation mutagenesis.

Dr. Colin Collins

Dr. Collins is a professor of Urologic Sciences in the school of medicine at the University of British Columbia and a senior scientist at the Vancouver Prostate Centre where he directs the Laboratory for Advanced Genome Analysis (LAGA), which is the Centre's genomics and bioinformatics core facility. Expertise at LAGA spans from algorithm development, bioinformatics pipeline implementation, and biostatistics, to a wide range of microarray and sequencing applications. In addition, Dr. Collins is an associate adjunct professor at the University of California San Francisco (UCSF) Helen Diller Family Comprehensive Cancer Center. He has held positions at Lawrence Livermore National Laboratory and Lawrence Berkeley National Laboratory. Dr. Collins' current research is best described as translational genomics where mathematics, computer science, genomics and clinical science converge in systems biology, diagnostics, and ultimately therapeutics. His work as a member of the UCSF Prostate Specialized Program In Research Excellence resulted in identification and patenting of a suite of genome based biomarkers that show promise for predicting a patient's risk of progression to metastasis. Dr. Collins invented and patented End Sequence Profiling (ESP) the forerunner of paired-end sequencing. Dr. Collins is now combining novel computational methods with massively parallel sequencing to explore the mechanisms of prostate cancer progression including development of resistance to therapy. To date this work has resulted in identification of a new type of prostate cancer, sequence-based pathology, an important mechanism of prostate cancer progression, and a pilot study of personalized oncology that combined a patient-derived xenograft with a novel therapeutic strategy.

Conference Schedule

Sunday, January 20

13:00 - 19:00	Conference Registration Opens - Regency Foyer
15:00 - 19:00	**Tutorials** - Balmoral Room, 3rd floor

Session Chair: Jack Chen (Simon Fraser U.)

De novo Assembly of Illumina Reads using ABySS and Alignment using BWA

Mr. Shaun Dunn Jackman (MSc Student, UBC CIHR Bioinformatics Program)

Identifying and Interpreting Somatic Mutations in Cancer Genomes

Dr. Sohrab Shah (U. of British Columbia)

Interpreting Cancer Sequencing Data in terms of Functions, Pathways, and Drug Targets

Dr. Olena Morozova, PhD graduate (UBC Bioinformatics Graduate Program)

19:00 - 21:00	**Welcome Reception** - 34th Floor, English Bay, Cypress, Stanley, Grouse, Seymour

Monday, January 21

7:00 - 14:00	Conference Registration - Regency Foyer
7:00 - 8:00	Morning Coffee - Regency D, E, F
8:00 - 8:15	**Opening Remarks** - Regency A, B, C
8:15 - 9:15	**Keynote** - Regency A, B, C

"Of Mice, Men and Prostate Cancer"

Dr. Colin Collins (UBC, Vancouver Prostate Centre)
Chair: Steven Jones (BC Genome Sciences Centre)

9:15 - 10:15	**Genomics Applications** - Regency A, B, C Session Chair: Steven Jones (BC Genome Sciences Centre)
9:15 - 9:35	*BayesHammer: Bayesian Clustering for Error Correction in Single-Cell Sequencing* Sergey I. Nikolenko (St. Petersburg Academic U.), Anton Korobeynikov and Max Alekseyev

9:35 - 9:55	*Unraveling Overlapping Deletions by Agglomerative Clustering* Roland Wittler (Bielefeld U.)
9:55 - 10:15	*Inferring Evolution of Gene Duplicates Using Probabilistic Models and Nonparametric Belief Propagation* Sridhar Hannenhalli (U. of Maryland) and Jia Zeng
10:15 - 10:35	Break - Regency Foyer

10:35 - 12:00	**Systems and Network Biology** - Regency A, B, C Session Chair: Fengzhu Sun (U. of Southern California)
10:35 - 10:55	*A Novel Subgradient-based Optimization Algorithm for Block-Model Functional Module Identification* Yijie Wang (U. of South Florida) and Xiaoning Qian
10:55 - 11:15	*Inferring Homologous Protein-Protein Interactions through Pair Position Specific Scoring Matrix* Jinn-Moon Yang (National Chiao Tung U.), Chun-Yu Lin, Yung-Chiang Chen and Yu-Shu Lo
11:15 - 11:35	*A Model of the Circadian Clock in the Cyanobacterium Cyanothece sp. ATCC 51142* Nguyen Xuan Vin (Gippsland School of IT), Madhu Chetty, Ross Coppel, Sandeep Gaudana and Pramod P. Wangikar
11:35 - 11:55	*Building Markov State Models with Solvent Dynamics* Chen Gu (Stanford U.), Huang-Wei Chang, Lutz Maibaum, Vijay S. Pande, Gunnar E. Carlsson and Leonidas J. Guibas
12:00 - 13:00	Lunch - Regency D, E, F

13:00 - 14:40	**Proteomics** - Regency A, B, C Session Chair: Ugur Sezerman (Sabanci U.)
13:00 - 13:20	*Protein Disulfide Topology Determination through the Fusion of Mass Spectrometric Analysis and Sequence-Based Prediction Using Dempster-Shafer Theory* Rahul Singh (San Francisco State U.) and William Murad
13:20 - 13:40	*Spiral Search: A Hydrophobic-Core Directed Local Search for Simplified PSP on 3D FCC Lattice* Mahmood A Rashid (Griffith U.), M.A.Hakim Newton, Md Tamjidul Hoque, Swakkhar Shatabda, Duc-Nghia Pham and Abdul Sattar

13:40 - 14:00   *Mass Spectrometry-based Protein Identification by Integrating de novo Sequencing with Database Searching*
Penghao Wang (U. of New South Wales) and Susan Wilson

14:00 - 14:20   *Molecular Docking Analysis of 2009-H1N1 and 2004-H5N1 Influenza Virus HLA-B*4405-Restricted HA Epitope Candidates: Implications for TCR Cross-Recognition and Vaccine Development*
Chinh T.T. Su (Nanyang Tech. U.), Christian Schönbach and Chee-Keong Kwoh

14:20 - 14:40   *The Road Not Taken: Retreat and Diverge in Local Search for Simplified Protein Structure Prediction*
Swakkhar Shatabda (Griffith U.), M.A.Hakim Newton, Mahmood A Rashid, Duc Nghia Pham and Abdul Sattar

14:40 - 15:00   Break - Regency Foyer

15:00 - 16:40   **Genomics Applications** - Regency A, B, C
Session Chair: Jack Chen (Simon Fraser U.)

15:00 - 15:20   *Expanding the Boundaries of Local Similarity Analysis*
W. Evan Durno (U. of British Columbia), Niels W. Hanson, Kishori M. Konwar and Steven J. Hallam

15:20 - 15:40   *Accelerating Read Mapping with FastHASH*
Hongyi Xin (Carnegie Mellon U.), Donghyuk Lee, Farhad Hormozdiari, Samihan Yedkar, Onur Mutlu and Can Alkan

15:40 - 16:00   *A Genome-Wide Cis-Regulatory Element Discovery Method based on Promoter Sequences and Gene Co-Expression Networks*
Zhen Gao (U. of Texas at San Antonio), Ruizhe Zhao and Jianhua Ruan

16:00 - 16:20   *A Unified Approach for Allele Frequency Estimation, SNP Detection and Association Studies based on Pooled Sequencing Data using EM Algorithms*
Fengzhu Sun (U. of Southern California) and Quan Chen

16:20 - 16:40   *Improved Moderation for Gene-Wise Variance Estimation in RNA-Seq via the Exploitation of External Information*
Ellis Patrick (U. of Sydney), Michael Buckley, David M. Lin and Yee H. Yang

16:40 - 18:10   **Poster Session** - Regency Hallway
Sponsored by Oxford Nanopore Technologies Inc.

Tuesday, January 22

7:00 - 14:00   Conference Registration - Regency Foyer

7:00 - 8:00   Morning Coffee - Regency D, E, F

8:00 - 9:00   **RNA Structure and Biology** - Regency A, B, C
Session Chair: Inanc Birol (U. of British Columbia)

8:00 - 8:20   *Efficient Known ncRNA Search including Pseudoknots*
Yanni Sun (Michigan State U.) and Cheng Yuan

8:20 - 8:40   *Shape and secondary structure prediction for ncRNAs including pseudoknots based on linear SVM*
Rujira Achawanantakun (Michigan State U.) and Yanni Sun

8:40 - 9:00   *A Multispecies Polyadenylation Site Model*
Eric Ho (U. of Medicine and Dentistry of New Jersey), Samuel Gunderson and Siobain Duffy

9:00 - 9:20   *Characterising RNA Secondary Structure Space using Information Entropy*
Zsuzsanna Sükösd (Aarhus U.), Bjarne Knudsen, James W. J. Anderson, Adam Novak, Jorgen Kjems and Christian N. S. Pedersen

9:20 - 9:40   *An Enhanced Computational Platform for Investigating the Roles of Regulatory RNA and for Identifying Functional RNA Motifs*
Hsien-Da Huang (National Chiao Tung U.), Tzu-Hao Chang, Hsi-Yuan Huang, Justin Bo-Kai Hsu, Shun-Long Weng and Jorng-Tzong Horng

9:40 - 10:00   Break - Regency Foyer

10:00 - 11:00   **Keynote** - Regency A, B, C
"Emerging Technologies for Personal and Medical Genomics"
Dr. Jay Shendure (U. of Washington)
Chair: Jack Chen (Simon Fraser U.)

11:00 - 12:00   **Evolution and Phylogenetics** - Regency A, B, C
Session Chair: Cedric Chauve (Simon Fraser U.)

11:00 - 11:20 *A Practical O(n log2 n) Time Algorithm for Computing the Triplet Distance on Binary Trees*

Christian Nørgaard Storm Pedersen (Aarhus U.), Andreas Sand, Gerth Stølting Brodal, Rolf Fagerberg and Thomas Mailund

11:20 - 11:40 *Sequence-only evolutionary and predicted structural features for the prediction of stability changes in protein mutants*

Lukas Folkman (Griffith U.), Bela Stantic and Abdul Sattar

11:40 - 12:00 *Reconstruction of Phyletic Trees by Global Alignment of Multiple Metabolic Networks*

Chung-Shou Liao (National Tsing Hua U.), Cheng-Yu Ma, Shu-Hsi Lin, Chi-Ching Lee, Chuan Yi Tang and Bonnie Berger

12:00 - 13:00 **Lunch** - Regency D, E, F

13:00 - 14:20 **Systems and Network Biology** - Regency A, B, C
Session Chair: Phoebe Chen (La Trobe U.)

13:00 - 13:20 *Widespread Evidence of Viral miRNAs Targeting Host Pathways*

Sridhar Hannenhalli (U. of Maryland), Joseph Carl and Joanne Trgovcich

13:20 - 13:40 *Adaptive Bi-Level Programming for Optimal Gene Knockouts for Targeted Overproduction under Phenotypic Constraints*

Xiaoning Qian (U. of South Florida), Shaogang Ren and Bo Zeng

13:40 - 14:00 *Discovery and Analysis of Consistent Active Sub-Networks in Cancers*

Raj Gaire (U. of Melbourne), Lorey Smith, Patrick Humbert, James Bailey, Peter Stuckey and Izhak Haviv

14:00 - 14:20 *Identifying Cross-category Relations in Gene Ontology and Constructing Genome-specific Term Association Networks*

Jin Chen (Michigan State U.), Yadong Wang (Harbin Institute of Technology) and Jiajie Peng

14:20 - 14:40 **Break** - Regency Foyer

14:40 - 16:00 **Genomics Applications** - Regency A, B, C
Session Chair: Francis Chin (Hong Kong U.)

14:40 - 15:00 *A Probabilistic Method for Identifying Rare Variants Underlying Complex Traits*

Jiayin Wang (U. of Connecticut), Zhongmeng Zhao, Zhi Cao, Aiyuan Yang and Jin Zhang

15:00 - 15:20 *Genomic Differences between Cultivated Soybean, G. max and its Wild Relative G. Soja*

Trupti Joshi (U. of Missouri), Babu Valliyodan, Jeng-Hung Wu, Suk-Ha Lee, Dong Xu and Henry T. Nguyen

15:20 - 15:40 *A Computational Approach for Identifying microRNA-Target Interactions using High-Throughput CLIP and PAR-CLIP Sequencing*

Hsien-Da Huang (National Chiao Tung U.), Chih-Hung Chou, Jui-Hung Hung, Min-Te Chou, Feng-Mao Lin, Sheng-Da Hsu, Tzu-Hao Chang, Sirjana Shrestha, Shun-Long Weng and Chiung-Chih Hsiao

15:40 - 16:00 *FitSearch: A Robust Way to Interpret a Yeast Fitness Profile in Terms of Drug's Mode-of-Action*

Minho Lee (Korea Advanced Institute of Science and Technology), Sangjo Han, Hyeshik Chang, Youn-Sig Kwak, David M. Weller and Dongsup Kim

18:30 - 21:30 **Conference Dinner** -
34th Floor – English Bay, Cypress, Stanley, Grouse, Seymour

Wednesday, January 23

7:00 - 12:00 Conference Registration - Regency Foyer

7:00 - 8:00 Morning Coffee - Regency D, E, F

8:00 - 9:30 **PANEL** - Regency A, B, C
Bioinformatics Challenges as Genomics Meets Medicine
Session Chair: Inanc Birol (U. of British Columbia)
Moderator: Brad Popovic (Genome BC)
Aly Karsan (Genome Sciences Centre)
Jordan Stockton (Illumina)
George Michaels (Intel)
Elai Davicioni (GenomeDX)

9:30 - 9:50 **Break** - Regency A, B, C

9:50 - 10:50 **Proteomics** - Regency A, B, C
Session Chair: Hsien-Da Huang (National Chiao Tung U.)

9:50 - 10:10 | *Prediction of B-cell Epitopes using Evolutionary Information and Propensity Scales*
Emily Chia-Yu Su (Taipei Medical U.), Scott Yi-Heng Lin and Cheng-Wei Cheng

10:10 - 10:30 | *iStable: Off-the-shelf Predictor Integration for Predicting Protein Stability Changes*
Yen-Wei Chu (National Chung Hsing U.), Chi-Wei Chen and Jerome Lin

10:30 - 10:50 | *Prediction of Peptides Binding to MHC Class I and II Alleles by Temporal Motif Mining*
Osman Uğur Sezerman (Sabancı U.), Cem Meydan and Hasan H. Otu

10:50 - 11:50 | **Keynote** - Regency A, B, C
"Life is a Game of Evolution"
Dr. Jun Wang (BGI)
Sponsored by BC Cancer Foundation
Chair: S. Cenk Sahinalp (Simon Fraser U.)

11:50 - 13:00 | **Lunch** - Regency D, E, F

13:00 - 14:20 | **Genomics Applications** - Regency A, B, C
Session Chair: S. Cenk Sahinalp (Simon Fraser U.)

13:00 - 13:20 | *Scoring Relevancy of Features based on Combinatorial Analysis of Lasso with Application to Lymphoma Diagnosis*
Habil Zare (U. of Washington), Gholamreza Haffari, Arvind Gupta and Ryan R. Brinkman

13:20 - 13:40 | *Sum of Parts is Greater than the Whole: Inference of Common Genetic History of Populations*
Filippo Utro (IBM T J Watson Research), Marc Pybus and Laxmi Parida

13:40 - 14:00 | *Genome Reassembly with High-throughput Sequencing Data*
Nathaniel Parrish (U. of California Los Angeles), Benjamin Sudako and Eleazar Eskin

14:00 - 14:20 | *CoNVEX: Copy Number Variation Estimation in Exome sequencing data using HMM*
Kaushalya Amarasinghe (U. of Melbourne), Jason Li and Saman Halgamuge

14:20 - 14:40 | **Closing Remarks** - Regency A, B, C

14:40 | **Conference Adjourns**

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