

THE 1ST INTERNATIONAL CONFERENCE ON GENOMICS IN THE AMERICAS

SEPTEMBER 27 - 28, 2012 PHILADELPHIA, PENNSYLVANIA

CONFERENCE PROGRAM



Welcome to ICG Americas 2012

On behalf of BGI and The Children's Hospital of Philadelphia (CHOP), it gives us great pleasure to invite you to attend **ICG Americas 2012**, the first annual International Conference on Genomics to be held in the U.S.

Scheduled for **September 27 to 28, 2012 in Philadelphia, PA**, the conference will be modeled after BGI's International Conferences on Genomics held annually in China since 2006 and regarded as one of the top gatherings to feature recent developments in genome sciences. With international thought leaders among its keynote speakers and panelists, as well as breakout sessions on human, plant and animal genomics research, ICG Americas aims to promote research in basic and applied genomics and lay the foundation of a new approach to sequencing and bioinformatics.

ICG Americas is uniquely formatted to maximize opportunities to interact directly with other **genomics industry luminaries, scientific thought leaders, key decision makers, top pharmaceutical executives, and influential policy makers**. Conveniently located in Philadelphia, one of the major pharmaceutical, hospital and medical research centers in the U.S., ICG Americas will offer an environment conducive to information exchange, generation of new ideas and acceleration of applications that benefit the life sciences.

Highlights of ICG Americas include:

- Prestigious gathering of global thought leaders devoted to the latest developments in human, plant and animal genome sciences.
- A private tour of recently announced BGI@CHOP Joint Genome Center and related facilities at CHOP, the number one ranked pediatric hospital and first children's hospital in the U.S.
- A full-service dinner at Penn Museum, featuring live entertainment, attended exclusively by conference speakers, luminaries and other conference attendees.
- Proximity to multiple international pharmaceutical and life sciences companies in the Philadelphia and New Jersey areas.
- Access to multiple national historical sites as well as the finest science and arts museums.



For more information, please visit www.icgamericas.org. We hope to see you there!



Huanming Yang, Ph.D.
Chairman and Professor
BGI



Hakon Hakonarson, M.D., Ph.D.
Director of Center for Applied Genomics
The Children's Hospital of Philadelphia

Speakers

	Dr. Huanming Yang Chairman and Professor, BGI		Dr. Jun Wang Executive Director, BGI		Dr. Hakon Hakonarson Director, Center for Applied Genomics at The Children's Hospital of Philadelphia
	Dr. Eric D. Green Director, National Human Genome Research Institute (NHGRI)		Dr. George M. Church Professor and Director of the Center for Computational Genetics, Harvard Medical School		Dr. Steven M. Altschuler Chief Executive Officer, The Children's Hospital of Philadelphia
	Dr. Douglas C. Wallace Director of Center for Mitochondrial and Epigenomic Medicine, CHOP Professor, University of Pennsylvania		Dr. David W. Burt Chair of Comparative Genomics, The Roslin Institute, University of Edinburgh		Dr. Maneesh Jain Vice President of Marketing and Business Development, Ion Torrent, Life Technologies
	Dr. Stephanie Chissoe Acting Head of Genetics, GlaxoSmithKline		Dr. Rupert Vessey Senior Vice President MRL Franchise Head, Respiratory and Immunology, Merck Research Laboratories		Dr. Mao Mao Research Fellow, Pfizer President, Asian Cancer Research Group, Inc., jointly established by Eli Lilly, Merck and Pfizer
	Dr. James Watters Head of Applied Genomics, Sanofi Oncology		Dr. Laura Lyman Rodriguez Director, Office of Policy, Communications and Education Acting Chief, Genomic Healthcare Branch, NHGRI		Dr. Teri Manolio Director, Office of Population Genomics, NHGRI
	Dr. Andy Shih Vice President of Scientific Affairs, Autism Speaks		Dr. Gabriel G. Haddad Chair for Department of Pediatrics, UC San Diego Physician-in-Chief and Chief Scientific Officer, Rady Children's Hospital		Dr. Richard W. Michelmore Director and Professor, UC Davis Genome Center
	Dr. Howard-Yana Shapiro Global Director of Plant Science & External Research, Mars Incorporated		Dr. Oliver Ryder Director of Genetics, San Diego Zoo Institute for Conservation Research		Dr. Henry T. Nguyen Director of National Center for Soybean Biotechnology, University of Missouri
	Dr. Joe Gray Director of Spatial Systems Biomedicine Center and Chair of Biomedical Engineering, Oregon Health & Science University		Dr. Donald Seto Professor, George Mason University		Dr. Peter Tolias Research Professor and Director of Bioinnovation Program, Stevens Institute of Technology
	Dr. Vadim N. Gladyshev Professor, Department of Medicine, Harvard Medical School Director of Redox Medicine, Brigham and Women's Hospital		Dr. Gane Ka-Shu Wong Professor and iCORE Chair in Biosystems Informatics, University of Alberta, Canada		Mr. Yingrui Li Director of Department of Science and Technology and Head of Bioinformatics, BGI



Dr. Jonathan A. Coddington

Associate Director for Research and Collections, National Museum of Natural History, Smithsonian Institution



Dr. Ben F. Koop

Professor & Canada Research Chair of Biology/Centre for Biomedical Research, University of Victoria



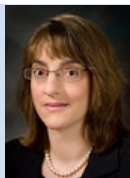
Dr. Tam Sneddon

Lead Biocurator, *GigaDB*, *GigaScience*/BGI-Hong Kong



Dr. Joshua D. Milner

Chief of Allergic Inflammation Unit, National Institute of Allergy and Infectious Diseases



Dr. Funda Meric-Bernstam

Medical Director and Professor, Institute for Personalized Cancer Therapy, University of Texas MD Anderson Cancer Center



Dr. Jonathan Sebat

Associate Professor and Chief of Beyster Center for Molecular Genomics of Neuropsychiatric Diseases, UC San Diego



Dr. Xing Xu

Director of Cloud Computing Products, BGI



Dr. Rui-Ru Ji

Principal Scientist, Bristol-Myers Squibb



Dr. Brendan Keating

Assistant Professor, University of Pennsylvania
Co-Director, BGI@CHOP Joint Genome Center



Dr. Andrey Loboda

Director and Head of Data Analysis in Informatics & Analysis Department, Merck Research Laboratories



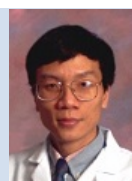
Dr. C. Robin Buell

Professor of Plant Biology, Michigan State University



Dr. Gholson J. Lyon

Assistant Professor, Cold Spring Harbor Laboratory
Research Scientist, Utah Foundation for Biomedical Research



Dr. Ming Qi

Director of Center for Genetic & Genomic Medicine, Zhejiang University
Chief Scientist, Department of Healthcare, BGI



Dr. Tad S. Sonstegard

Research Geneticist, United States Department of Agriculture (USDA)



Dr. Mike Lelivelt

Director of Bioinformatics & Software Products, Ion Torrent, Life Technologies



Dr. Jim Leebens-Mack

Associate Professor, University of Georgia



Dr. Thomas D. Barber

Principal Research Scientist & Genetics Group Leader, Translational Science Department, Eli Lilly and Company



Mr. Tom Schwei

Vice President, CFO and General Manager, DNASTAR, Inc.



Dr. Zhenglong Gu

Assistant Professor, Cornell University



Ms. Fuman Jiang

Head of Bioinformatics & Technical Development Director, Fetal Medical Genomics, BGI



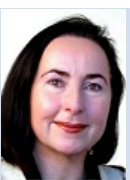
Dr. Eric Brown

Director, Division of Microbiology, FDA/CFSA



Mr. Sean Humphray

Associate Director, Illumina



Dr. Margret Hoehe

Genome Research Group Leader, Max Planck Institute for Molecular Genetics



Dr. Howard J. Jacob

Director of Human and Molecular Genetics Center, Medical College of Wisconsin
Vice Chair of Research, Children's Hospital of Wisconsin

Program

Thursday, September 27

The Children's Hospital of Philadelphia

07:30-08:30	Registration / Light Breakfast
Morning Plenary Session – The State of the Genomics Industry Today	
Location: Stokes Auditorium, Main Hospital, CHOP	
<i>Chair: Joyce Peng, Ph.D., Marketing Director, BGI Americas</i>	
08:30-08:35	Welcome Remarks from CHOP Steven M. Altschuler, M.D., Chief Executive Officer, The Children's Hospital of Philadelphia
08:35-09:00	On the Same Boat, In the Same Direction Huanming Yang, Ph.D., Chairman and Professor, BGI
09:00-09:25	The Future of Genomic Medicine in Patient Care Hakon Hakonarson, M.D., Ph.D., Director of Center for Applied Genomics, The Children's Hospital of Philadelphia
09:25-9:50	Keynote: Entering the Era of Genomic Medicine: Opportunities and Challenges Eric D. Green, M.D., Ph.D., Director, National Human Genome Research Institute (NHGRI)
9:50-10:15	Keynote: Technology & Open Access Genomes Environments & Trait Data George M. Church, Ph.D., Professor and Director of the Center for Computational Genetics, Harvard Medical School
10:15-10:35	Break
10:35-11:00	Sequencing, Sequencing, and Sequencing: M&M&M Projects Jun Wang, Ph.D., Executive Director, BGI
11:00-11:25	The Role of Pharmacogenomics in Drug Discovery and Development Rupert Vessey, MRCP, D.Phil., Senior Vice President of Respiratory & Immunology Franchise, Merck; Head, Merck Research Laboratories
11:25-11:50	Setting the Pace of Change Maneesh Jain, Ph.D., Vice President of Marketing and Business Development, Ion Torrent, Life Technologies
11:50-12:15	Lessons Learned From Our Clinical Sequencing Program Howard J. Jacob, Ph.D., Director of Human and Molecular Genetics Center, Medical College of Wisconsin; Vice Chair of Research, Children's Hospital of Wisconsin
12:15-12:40	Next Generation Genomics: the Mitochondrion and the Epigenome Douglas C. Wallace, Ph.D., Director of Center for Mitochondrial and Epigenomic Medicine, The Children's Hospital of Philadelphia; Professor, University of Pennsylvania
12:40-13:40	Networking Lunch & Exhibit Viewing

Day 1: Afternoon Parallel Track A	
Cancer Genomics, Epigenomics, and Pharmacogenomics	
Location: Room 1200A/1200B, Colket Translational Research Building, CHOP	
Chair: <i>James Watters, Ph.D., Head of Applied Genomics, Sanofi Oncology</i>	
13:40-14:05	Impact of Next Generation Sequencing on Oncology Drug Discovery and Early Clinical Development James Watters, Ph.D., Head of Applied Genomics, Sanofi Oncology
14:05-14:30	Somatic Mutation Analysis for Biomarker Discovery and Personalized Cancer Therapy Funda Meric-Bernstam, M.D., Medical Director and Professor, Institute for Personalized Cancer Therapy, University of Texas MD Anderson Cancer Center
14:30-14:55	The Genomic Landscapes of Hepatocellular Carcinoma Mao Mao, Ph.D., Research Fellow, Pfizer; President, Asian Cancer Research Group, Inc., jointly established by Eli Lilly, Merck and Pfizer
14:55-15:20	Integrated Analysis of Molecular Profiles in Tumour Cohorts and Pre-clinical Models Reveals Molecular Determinants of Response to Therapy, Tumor Progression and Suggests Patient Selection Criteria Andrey Loboda, Ph.D., Director and Head of Data Analysis, Informatics & Analysis Department, Merck Research Laboratories
15:20-15:45	Genomic Approaches to Predicting Responses to Breast Cancer Treatment Joe Gray, Ph.D., Director of Spatial Systems Biomedicine Center and Chair of Biomedical Engineering, Oregon Health & Science University
15:45-16:10	Understanding the Clinical Activity and Adverse Events of Ipilimumab Using Genomic Approaches Rui-Ru Ji, Ph.D., Principal Scientist, Bristol-Myers Squibb
16:10-16:20	<i>Break and Exhibit Viewing</i>
16:20-18:30	<i>Poster Session / Lab Tours / Discussions on Special Topics</i>
18:30-19:00	<i>Free Time</i>
19:00-22:00	<i>Full-Service Dinner with Live Entertainment at the Penn Museum</i>

Day 1: Afternoon Parallel Track B	
AgriGenomics and Evolutionary Diversity	
Location: Room 1100B, Colket Translational Research Building, CHOP	
Chair: Oliver A. Ryder, Ph.D., Kleberg Chair, Director of Genetics, San Diego Zoo Institute for Conservation Research	
13:40-14:05	Building, Synthesizing and Exposing the World's Genomic Research Collections: the Role of Museums Jonathan A. Coddington, Ph.D., Associate Director for Research and Collections, National Museum of Natural History, Smithsonian Institution
14:05-14:30	Next Generation Sequencing of Multiple Chicken Lines Reveals a Rich Source of Single Nucleotide Polymorphisms for High Resolution Genetic Studies David W. Burt, Ph.D., Chair of Comparative Genomics, The Roslin Institute, University of Edinburgh, Edinburgh, UK
14:30-14:55	Applied Genomics in Livestock: Getting the Best of Both Worlds Tad S. Sonstegard, Ph.D., Research Geneticist, United States Department of Agriculture (USDA)
14:55-15:20	Consortium for Genomic Research on Atlantic Salmon Project (cGRASP) Ben F. Koop, Ph.D., FRSC, Professor and Canada Research Chair of Biology/Centre for Biomedical Research, University of Victoria
15:20-15:45	1KP: An International Consortium Sequencing the Transcriptomes of 1000 Phylogenetically Diverse Plant Species From Angiosperms to Algae Gane Ka-Shu Wong, Ph.D., Professor and iCORE Chair in Biosystems Informatics, University of Alberta, Canada
15:45-16:10	Genome10K: Facilitating Conservation and Evolutionary Genomics Studies Oliver A. Ryder, Ph.D., Director of Genetics, San Diego Zoo Institute for Conservation Research
16:10-16:20	<i>Break and Exhibit Viewing</i>
16:20-18:30	<i>Poster Session / Lab Tours / Discussions on Special Topics</i>
18:30-19:00	<i>Free Time</i>
19:00-22:00	<i>Full-Service Dinner with Live Entertainment at the Penn Museum</i>

Friday, September 28

The Children's Hospital of Philadelphia

07:30-08:30	Registration / Light Breakfast
Day 2: Morning Parallel Track A	
Disease Genomics: Pediatric, Common, and Rare Diseases	
Location: Room 1200A/1200B, Colket Translational Research Building, The Children's Hospital of Philadelphia	
Chair: Brendan Keating, D.Phil., Assistant Professor, University of Pennsylvania; Co-Director, BGI@CHOP Joint Genome Center	
08:30-08:55	Whole Genome Sequencing: State of the Science and Intended Collaborative Opportunities Andy Shih, Ph.D., Vice President of Scientific Affairs, Autism Speaks
08:55-09:20	Whole Genome Sequencing in Autism Identifies Hotspots for Germline Mutation Jonathan Sebat, Ph.D., Associate Professor and Chief of Beyster Center for Molecular Genomics of Neuropsychiatric Diseases, UC San Diego
09:20-09:45	Insights About Hypoxia Tolerance: From Fly to Man Gabriel G. Haddad, M.D., Chair of Department of Pediatrics, UC San Diego; Physician-in-Chief and Chief Scientific Officer, Rady Children's Hospital, San Diego
09:45-10:10	Examination of Monogenic Diseases of Atopy to Identify New Pathways in Allergy Pathogenesis Joshua D. Milner, M.D., Chief of Allergic Inflammation Unit, National Institute of Allergy and Infectious Diseases
10:10-10:35	Applying Next Generation Sequencing to Organ Transplantation Rejection Brendan Keating, D.Phil., Assistant Professor, University of Pennsylvania; Co-Director, BGI@CHOP Joint Genome Center
10:35-10:55	<i>Break and Exhibit Viewing</i>
Genomic and Personalized Medicine	
Location: Room 1200A/1200B, Colket Translational Research Building, The Children's Hospital of Philadelphia	
Chair: Peter Tolias, Ph.D., Research Professor and Director of Bioinnovation Program, Stevens Institute of Technology	
10:55-11:15	Drug Selection and Assessment Based on Whole Genome Sequencing and Microfluidic 3D Culturing as a New Paradigm for Personalized Therapeutics Peter Tolias, Ph.D., Research Professor and Director of Bioinnovation Program, Stevens Institute of Technology
11:15-11:35	Research and Clinical Testing of Inherited Eye Diseases by Targeted Capture Gene Panel and Exome Sequencing Ming Qi, Ph.D., FACMG, Professor & Director, Center for Genetic &

	Genomic Medicine, Zhejiang University; Chief Scientist, Department of Healthcare, BGI-Shenzhen; Professor, University of Rochester Medical Center
11:35-11:55	On the Threshold: Making Genomic Medicine a Reality Teri Manolio, Ph.D., Director of the Office of Population Genomics, National Human Genome Research Institute (NHGRI)
11:55-12:15	Keeping Up & Making Way: Ethical and Policy Considerations for Genomics Research Laura Lyman Rodriguez, Ph.D., Director of the Office of Policy, Communications and Education and Acting Chief of Genomic Healthcare Branch, National Human Genome Research Institute (NHGRI)
12:15-12:35	Conference Abstract Winner: Haplotype-Resolving Human Genomes: Key to Biology and Personalized Medicine <i>Margret Hoehe, M.D., Ph.D., Genome Research Group Leader, Max Planck Institute for Molecular Genetics</i>
12:35-13:35	Networking Lunch & Exhibit Viewing

Day 2: Afternoon Parallel Track A	
Genomic and Personalized Medicine – Continued	
Location: Room 1200A/1200B, Colket Translational Research Building, CHOP	
Chair: Stephanie Chissoe, Ph.D., Director and Acting Head of Genetics, GlaxoSmithKline	
13:35-13:55	Leveraging Genomic Innovation to Support the Discovery and Development of Medicines Stephanie Chissoe, Ph.D., Director and Acting Head of Genetics, GlaxoSmithKline
13:55-14:15	Bioinformatic Analysis and Clinical Implementation of Chromosomal Abnormalities Detection Based on Massively Parallel Sequencing (MPS) Fuman Jiang, Head of Bioinformatics & Technical Development Director, Fetal Medical Genomics, BGI
14:15-14:35	NGS in Pharma - How Eli Lilly is Applying NGS to Improve Tailored Therapeutics Thomas D. Barber, Ph.D., Principal Research Scientist and Genetics Group Leader of Translational Science Department, Eli Lilly and Company
14:35-14:55	Cellular and Proteomic Studies Supporting the Hypothesis That a Newly Identified X-linked Infantile Lethal Disorder Might be Caused by Decreased Amino-terminal Acetylation of Proteins Gholson J. Lyon, M.D., Ph.D., Assistant Professor in Human Genetics, Cold Spring Harbor Laboratory; Research Scientist, Utah Foundation for Biomedical Research
14:55-15:05	<i>Break</i>
Bioinformatics Panel Discussions	
Location: Room 1200A/1200B, Colket Translational Research Building, CHOP	
Chair: Xing Xu, Ph.D., Director of Cloud Computing Products, BGI	
15:05-15:50	Meet the Experts: Panel Discussions on Bioinformatics and Sequencing Data Analysis Yingrui Li, Director of Department of Science and Technology and Head of Bioinformatics, BGI Andrey Loboda, Ph.D., Director and Head of Data Analysis, Informatics & Analysis Department, Merck Research Laboratories Gane Ka-Shu Wong, Ph.D., Professor and iCORE Chair in Biosystems Informatics, University of Alberta, Canada Donald Seto, Ph.D., Professor, School of Systems Biology, George Mason University Tom Schwei, Vice President, CFO and General Manager, DNASTAR, Inc.
15:50-15:55	Closing

Day 2: Morning Parallel Track B	
Plant Genomics & Applications in Agriculture	
Location: Room 1100B, Colket Translational Research Building, CHOP	
<i>Chair: C. Robin Buell, Ph.D., Professor of Plant Biology, Michigan State University</i>	
08:30-08:55	Using RNA-Seq to Reveal Expression Patterns and Diversity in Maize C. Robin Buell, Ph.D., Professor of Plant Biology, Michigan State University
08:55-09:20	Genomic Tools to Advance Plant Based Nutrition in Africa to Help End Chronic Hunger and Malnutrition Howard-Yana Shapiro, Ph.D., Global Director of Plant Science & External Research, Mars Incorporated
09:20-09:45	Genetics and Genomics of Lettuce-Pathogen Interactions Richard W. Michelmore, Ph.D., Director and Professor, UC Davis Genome Center
09:45-10:10	Phylogenomics Across the Green Plant Tree of Life Jim Leebens-Mack, Ph.D., Associate Professor, University of Georgia
10:10-10:35	Next Generation QTL Mapping Based on Whole Genome Resequencing Henry T. Nguyen, Ph.D., Director of National Center for Soybean Biotechnology, University of Missouri
10:35-10:55	<i>Break and Exhibit Viewing</i>
Latest in NGS Technologies & Data Management	
Location: Room 1100B, Colket Translational Research Building, CHOP	
<i>Chair: Xing Xu, Ph.D., Director of Cloud Computing Products, BGI</i>	
10:55-11:15	Scaling Up Genomics Both in Wet Lab and in Data Management Yingrui Li, Director of Department of Science and Technology and Head of Bioinformatics, BGI
11:15-11:35	Path to the \$1000 Genome Using Ion Semiconductor Sequencing Mike Lelivelt, Ph.D., Director of Bioinformatics & Software Products, Ion Torrent, Life Technologies
11:35-11:55	Ultra-fast Clinical Sequencing and Annotation of Human Genomes on the Illumina HiSeq Platforms Sean Humphray, Associate Director of Scientific Research, Illumina
11:55-12:15	EasyGenomics - Cloud Based Bioinformatics Solution for Your Big Genomics Data Xing Xu, Ph.D., Director of Cloud Computing Products, BGI
12:15-12:35	GigaDB – Revolutionizing Data Dissemination, Organization and Use Tam P. Sneddon, D.Phil., Lead Biocurator, GigaDB, GigaScience/BGI-Hong Kong
12:35-13:35	<i>Networking Lunch & Exhibit Viewing</i>

Day 2: Afternoon Parallel Track B	
Genomics Applications in Public Health and Food Safety	
Location: Room 1100B, Colket Translational Research Building, The Children's Hospital of Philadelphia	
<i>Chair: Donald Seto, Ph.D., Professor, School of Systems Biology, George Mason University</i>	
13:35-13:55	The Role of Next-Generation Sequencing in the Characterization of Foodborne Enteric Pathogens Eric Brown, Ph.D., Director, Division of Microbiology, FDA/CFSAN
13:55-14:15	Genome Studies of Adenoviruses Provide Insights into Their Molecular Evolution and Pathogen Genesis, and Provide a Model to Identifying, Characterizing and Typing Viruses Donald Seto, Ph.D., Professor, School of Systems Biology, George Mason University
14:15-14:35	Understanding Aging Through Genome Analysis Vadim N. Gladyshev, Ph.D., Professor, Department of Medicine, Harvard Medical School; Director of Redox Medicine, Brigham and Women's Hospital
14:35-14:55	Evolution of Gene Regulation during the Emergence of Yeast Aerobic Fermentation, a Culturally, Economically and Medically Important Meta Zhenglong Gu, Ph.D., Assistant Professor, Cornell University
14:55-15:05	<i>Break</i>
Bioinformatics Panel Discussions	
Location: Room 1200A/1200B, Colket Translational Research Building, CHOP	
<i>Chair: Xing Xu, Ph.D., Director of Cloud Computing Products, BGI</i>	
15:05-15:50	Meet the Experts: Panel Discussions on Bioinformatics and Sequencing Data Analysis Yingrui Li, Director of Department of Science and Technology and Head of Bioinformatics, BGI Andrey Loboda, Ph.D., Director and Head of Data Analysis, Informatics & Analysis Department, Merck Research Laboratories Gane Ka-Shu Wong, Ph.D., Professor and iCORE Chair in Biosystems Informatics, University of Alberta, Canada Donald Seto, Ph.D., Professor, School of Systems Biology, George Mason University Tom Schwei, Vice President, CFO and General Manager, DNASTAR, Inc.
15:50-15:55	Closing

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