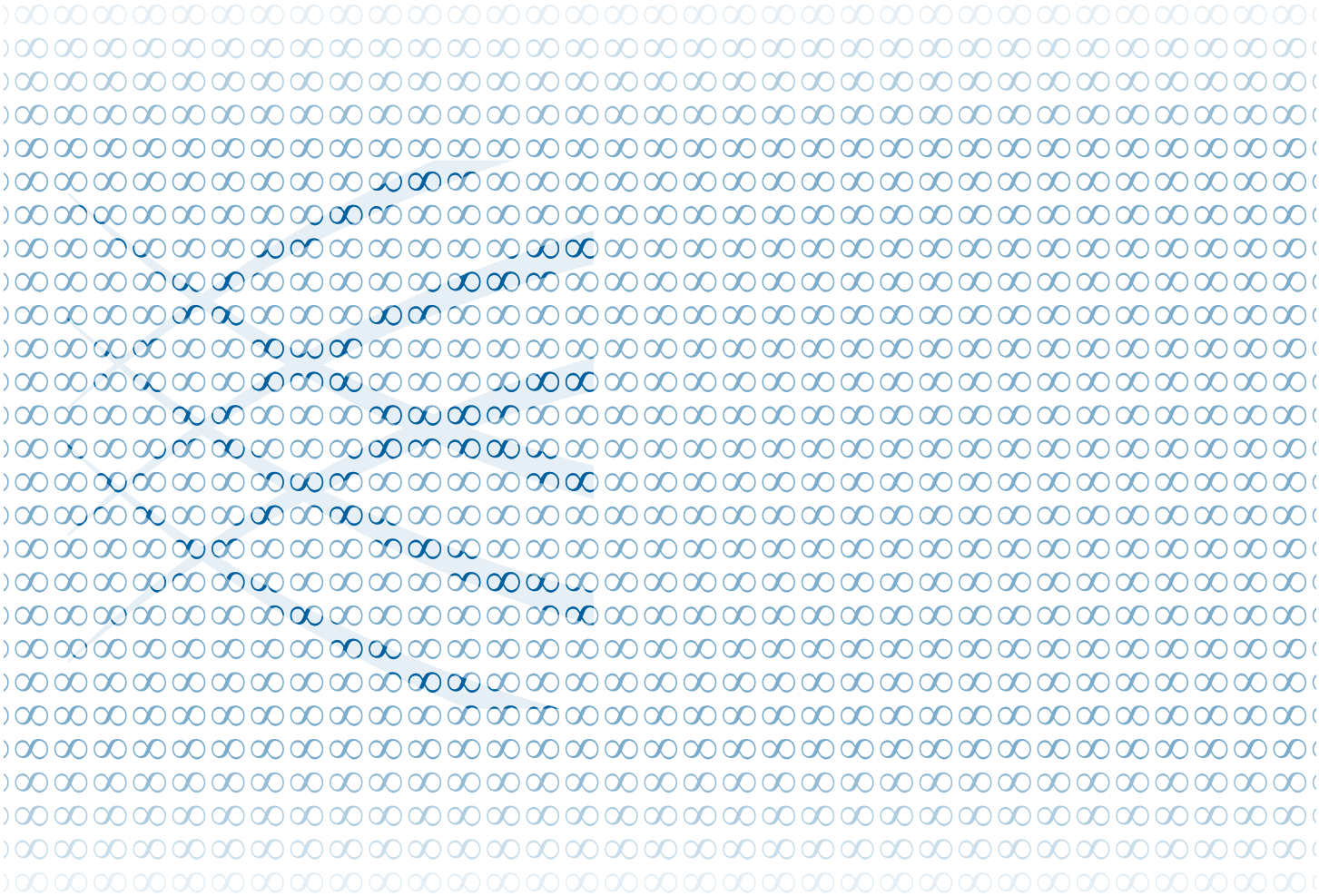


Broad Institute
Eighth Annual Retreat

November 13 – 14 | 2012

Joseph B. Martin
Conference Center

Broad Institute

Eighth Annual Retreat

November 13TH – 14TH | 2012

Joseph B. Martin
Conference Center

BROAD
INSTITUTE

Information

Eighth Annual Retreat

November 13TH & 14TH 2012

Joseph B. Martin Conference Center

Scientific Showcase

This year, various Broad programs, platforms, and groups have informational tables throughout the conference center, showcasing major projects or offerings. Stop by to check out what's new or simply say "Hello!" and connect with the Broadies representing their group.

QR (Quick Response) Code Reader

We are incorporating QR codes at the retreat to allow attendees ready access to information right from a smart phone. You will need to download a QR Code Reader to be able to scan the code and be directed to a website. QRDroid for Android Phones and QR Reader for iPhone are two popular, free reader apps.

Wireless Access

Click on your web browser and agree to the terms of use for Harvard wireless. No username or password is required.

Overflow

The Pechet Room, Room 216, and Room 217 are available for overflow during both days of the retreat. The Bray Room is available for overflow on the first day of the retreat only (see map for locations).

Mother's Room

A Mother's Room is located within the first floor women's restroom, just outside the Pechet Room (see map). Room 214 on the second floor may also be used as a Mother's Room. Both rooms are available on a first-come, first-served basis.

Free Limited Shuttle Service

Limited continuous shuttle bus service to the conference center will run from 320 Charles Street and 7 Cambridge Center on both days of the retreat. Buses will run in approximately 10–15 minute intervals, depending on traffic.

8:15 a.m. – 10:15 a.m. on November 13 and 14
The last pick up bound for the conference center will be at 10:15 a.m.

4:30 p.m. – 6:30 p.m. on November 13 and 14
The last pick up bound for either Broad location will be at 6:30 p.m.

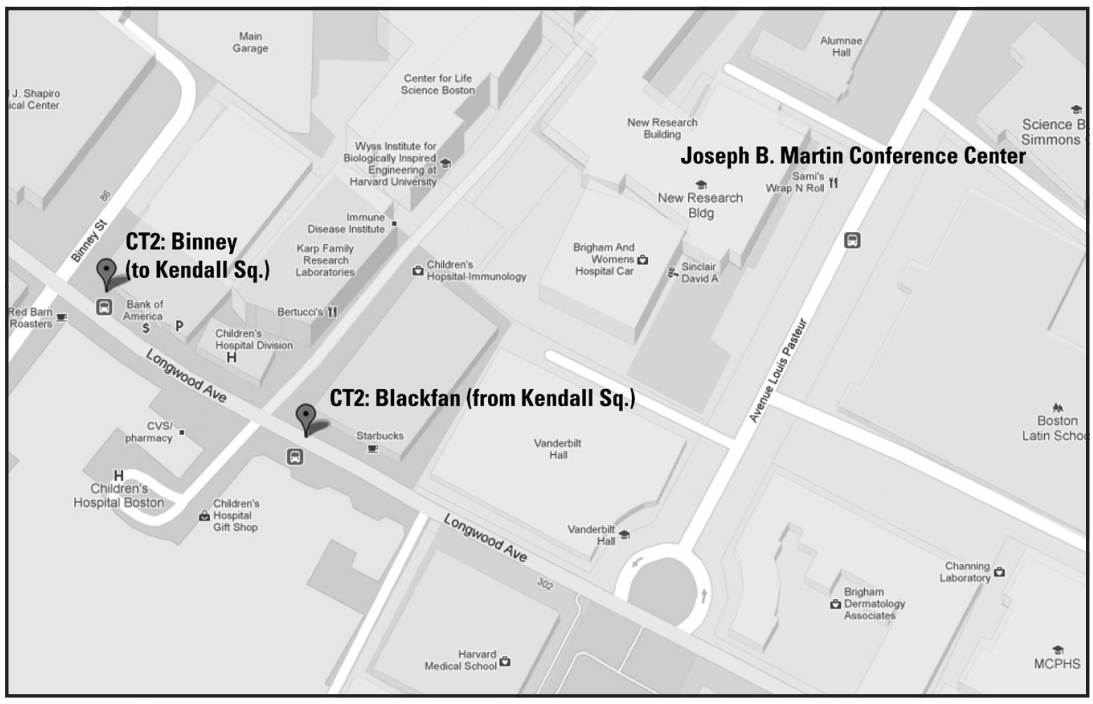
Public Transportation

Use Nextbus.com or download the Catch the Bus app
(for Android and iPhone) to track MBTA buses via GPS

CT2 Bus – Kendall Square

To the conference center: Kendall Sq. to Blackfan Street stop
The Blackfan stop is one block away from Avenue Louis Pasteur

From the conference center: Binney Street stop to Kendall Square
The Binney Street stop is two blocks away from Avenue Louis Pasteur

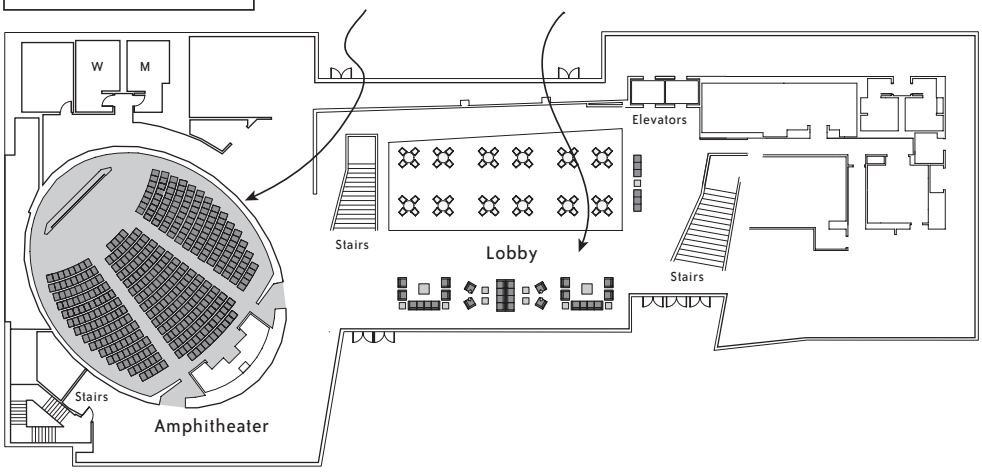


Map

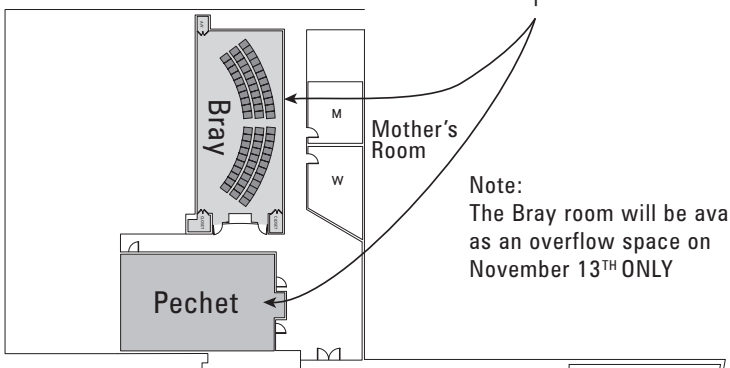
Floor Plans | Joseph B. Martin Conference Center

GROUND FLOOR

Plenary Session | Registration | Reception & Showcase tables

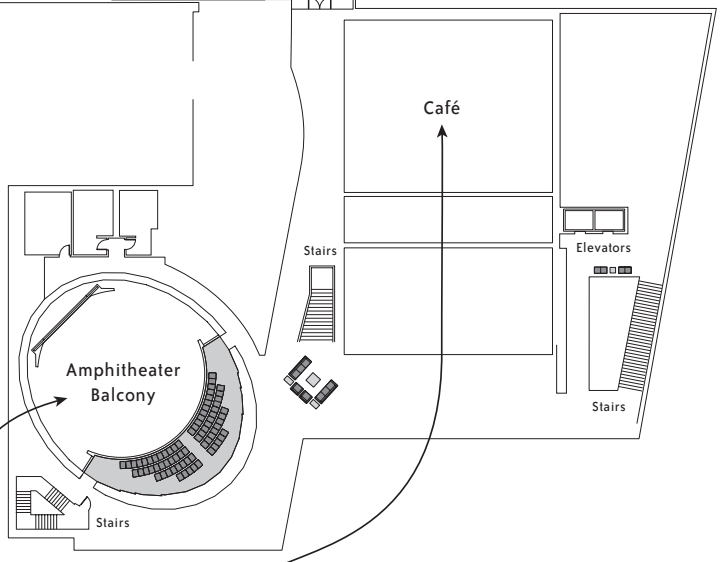


Overflow | Breakout sessions



Note:
The Bray room will be available as an overflow space on November 13TH ONLY

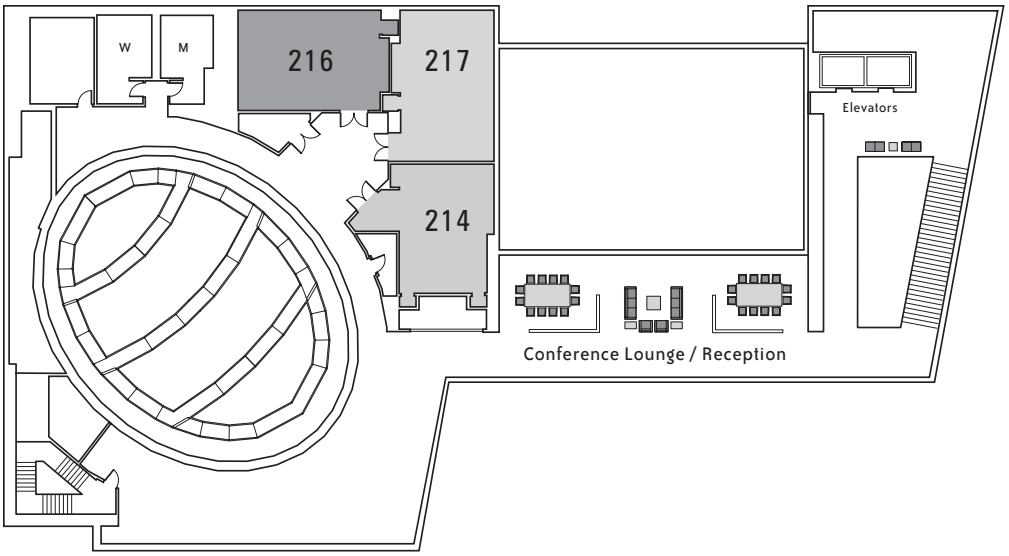
1st FLOOR



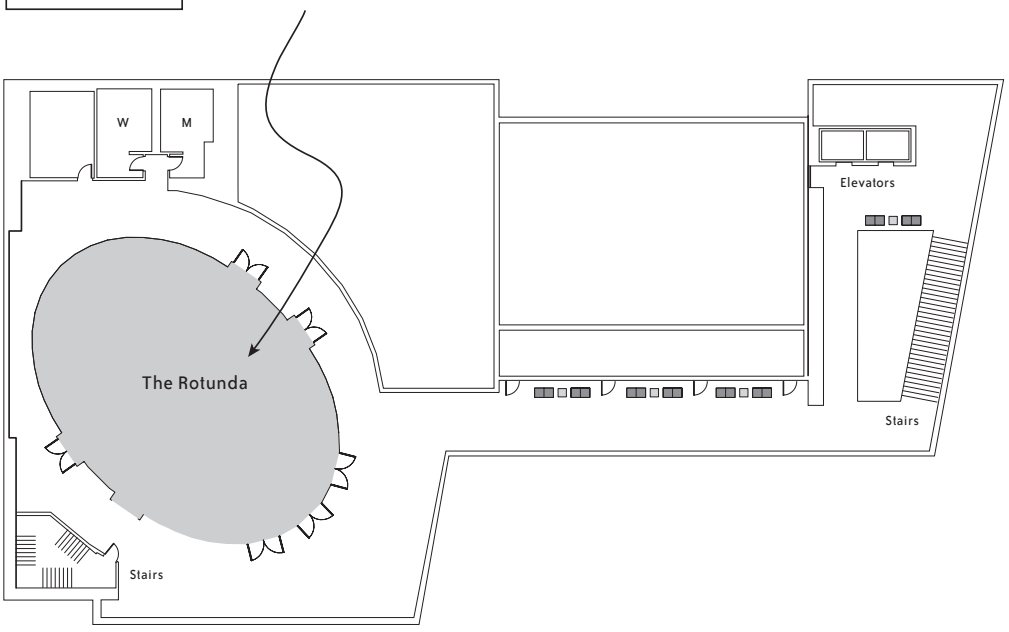
Plenary Session | Reception | Showcase tables

Floor Plans | Joseph B. Martin Conference Center

2nd FLOOR Overflow | Breakout sessions | Showcase tables



3rd FLOOR Poster Sessions | Reception | Showcase tables



Agenda | Tuesday, November 13, 2012

Breakout Sessions

This year, we have added three breakout sessions to the Retreat, running concurrent with the poster sessions. These 90-minute sessions are designed to allow smaller groups of participants the opportunity to connect, share ideas, and explore a topic of broad interest in considerably more depth than is possible during the plenary session.

Each session will consist of three 30-minute blocks that may take the form of a lecture, panel discussion, or group exercise (specific agendas will be displayed outside the auditorium and the session entrance). Participants are welcome to attend any breakout for any or all of its 30-minute blocks.

These breakouts are designed to be suitable for multiple audiences. The emphasis is on providing a range of content to both educate interested non-experts within the Broad community as well as provide a forum for experts to engage, interact, and brainstorm.

Eighth Annual Retreat

November 13TH 2012

Joseph B. Martin Conference Center

Agenda | Tuesday November 13, 2012

8:15 AM – 9:00 AM

Registration and Poster Session Set Up

Breakfast

9:00 AM – 9:05 AM

Welcome
Todd Golub

9:05 AM – 9:35 AM

Keynote
Stuart Schreiber
Human biology, chemical biology, and the science of therapeutics

9:35 AM – 11:05 AM

First Plenary Session
Biology to Therapeutics

9:35 Alykhan Shamji
Targeting cancer's genetic dependencies with small molecules

9:50 Channing Yu
Multiplex phenotypic profiling of cancer cell lines using PRISM

10:05 Bridget Wagner
Targeting HDAC3 as a treatment for diabetes

10:20 Benjamin Ebert
Identification of the direct protein target of lenalidomide

10:35 Jeremy Duvall
Next-generation synthesis for anti-infective drug discovery

10:50 Michelle Palmer
Discovery of small molecules linking Trib1 expression and LDL regulation in hepatic cells

11:05 AM – 11:25 AM

Break

11:25 AM – 12:30 PM

Second Plenary Session
How the Genome Works

11:25 Bradley Bernstein
The ENCODE project at Broad and beyond

11:40 Cole Trapnell
LincRNAs and cellular differentiation

11:55 Steven McCarroll
Mapping allelic perturbation within human cells and human brains

12:10 Nir Yosef
Reconstructing the Th17 differentiation network: From profiles to drug targets

12:25 Daniel MacArthur
Big Idea: Humans are the best model organisms

12:30 PM – 2:30 PM

Lunch and Poster Session I: Odd numbered posters (1–93)

12:50 PM – 2:20 PM

Breakout Session, Room 217, Second Floor

Mitchell Guttman and Tarjei Mikkelson
Dark matter of the genome

This session will highlight various tools and databases that Broad researchers are developing to help track down functional elements and disease variants in non-coding regions. First, we will hear short introductory-level talks on chromatin state maps, long non-coding RNA, chromosome conformation, massively parallel reporter assays, and genome editing, with an emphasis on practical experiences and tips from graduate students and postdocs who are working with these tools on a daily basis. We will then have an open discussion of current questions and challenges in mapping and understanding the non-coding genome. Our target audience is researchers who are seeking to learn more about the applicability of these techniques to their own projects.

Eighth Annual Retreat

November 13TH 2012

Joseph B. Martin Conference Center

2:30 PM – 4:05 PM

Third Plenary Session
Clinical Sequencing

2:30 Catherine Wu
Developing a personalized neoantigen cancer vaccine

2:45 Sarah Calvo
Toward clinical sequencing in mitochondrial disease

3:00 Nikhil Wagle
Clinical cancer genomics at the Broad Institute

3:15 Kristian Andersen
Genomic evolution of Lassa virus

3:30 Andrew Dauber
Next-generation sequencing in the clinic: A model for translational medicine

3:45 Stacey Gabriel
The Broad's Genomics Platform: Capabilities and new directions

4:00 David Altshuler
Big Idea: Potential for data aggregation

4:05 PM – 6:05 PM

Reception and Poster Session II: Odd numbered posters (95–153)

4:30 PM – 6:00 PM

Breakout Session, Pechet Room, First Floor

Kasper Lage and Jesse Boehm
Disease genes to cellular pathways

Genome sequencing studies have identified thousands of candidate alleles linked to disease etiology. Our community is increasingly focusing on elucidating the biological consequences of these putative disease alleles so as to guide therapeutic development. To be maximally successful, robust and systematic computational and experimental approaches should be deployed in a streamlined, integrated fashion. But how to do this?

This breakout session will describe computational resources and emerging projects at the Broad Institute, aiming to systematically map genetic variants to known and de novo pathways. This session is open to experts in this area or members of the community who are simply interested in this topic.

Posters: Day 1
Sessions I & II

Posters | Day 1

Odds: 1-93
Rotunda, 3rd Floor

Session I
12:30PM – 2:30PM

Poster Session I November 13TH 2012

Session I

1: *Michael Reich, Ted Liefeld, Marco Ocana, Dongkeun Jang, Jon Bistline, James Robinson, Peter Carr, Barbara Hill, Judith McLaughlin, Nathalie Pochet, Diego Borges-Rivera, Thorin Tabor, Helga Thorvaldsdóttir, Aviv Regev, Jill Mesirov*

3: *Scott Donovan, Melissa Parkin, Michelle Cipicchio, Brad Taylor, Prapti Pokharel, Supriya Gupta, Wendy Winckler, Lili Wang, Catherine Wu, Kenneth Livak, Andrew Crenshaw*

5: *Daniel Lieber, Sarah Calvo, Kristy Shanahan, Nancy Slate, Shangtao Liu, Steve Hershman, Nina Gold, Brad Chapman, David Thorburn, Gerard Berry, Jeremy Schmahmann, Mark Borowsky, David Mueller, Katherine Sims, Vamsi Mootha*

7: *Vebjorn Ljosa, Peter Caie, Rob ter Horst, Katherine Sokolnicki, Emma Cooke, Sandeep Daya, Mark Roberts, Thouis Jones, Paul Clemons, Neil Carragher, Anne Carpenter*

9: *Jeremy Zucker, Jonathan Dreyfuss, James Galagan*

11: Cancer germline analysis
Adam Kiezun, Aaron McKenna, Gregory Kryukov, Gad Getz

13: *Melissa Bennion, Patrick Faloon, Warren Weiner, Jacqueline Wusrt, Michel Weiwer, Cathy Hartland, Sivaraman Dandapani, Benito Munoz, Robert Smith, Frank Schoenen, Michelle Palmer, Shailesh Metkar, Rizwan Haq, David Fisher, Jeffery Aube, Stuart Schreiber*

15: *Chandra Sekhar Pedamallu, Aleksandar Kostic, Joonil Jung, Akinyemi Ojesina, Fujiko Duke, Ami Bhatt, Sam Freeman, Gad Getz, Matthew Meyerson*

17: *Michelle Walk, Qihong Xu, Michelle Palmer, Jen Pan, Yan-Ling Zhang*

19: *Qiandong Zeng, Margaret Priest, Jonathan Goldberg, Sharvari Gujja, Lucia Alvarado-Balderrama, Paul Godfrey, Gustavo Cerqueira, Jennifer Wortman, Bruce Birren*

21: *Raj Rajendran, Yan-Ling Zhang, Hisashi Umemori, Michelle Palmer*

23: *Arthur Liberzon, Reid Pinchback, Chet Birger, Helga Thorvaldsdóttir, Aravind Subramanian, Pablo Tamayo, Jill Mesirov*

25: *Josh Ketterman, Frank An, Xiulin Liu, Michelle Walk, Yan-Ling Zhang, Michelle Palmer, Florence Wagner, Ed Holson, Mike Lewis, Jen Pan, Steve Haggarty*

27: *Christopher Ott, Nadja Kopp, Liat Bird, Ronald Paranal, Jun Qi, Teresa Bowman, Scott Rodig, Andrew Kung, David Weinstock, James Bradner*

29: *Jessica Alfoldi, Coelacanth Genome Consortium, Iain MacCallum, Aaron Berlin, Lin Fan, Sante Gnerre, Jeremy Johnson, Marcia Lara, Joshua Levin, Evan Mauceli, Dariusz Przybylski, Filipe Ribeiro, Ted Sharpe, Jason Turner-Maier, Federica Di Palma, Eric Lander, Kerstin Lindblad-Toh*

31: *David Heiman, William Mallard, Lihua Zou, Michael Noble*

33: *Jeremy Johnson, Jessica Alfoldi, Jason Turner-Maier, David Brawand, Ross Swofford, Michele Perloski, Noriko Tonomura, Ruqi Tang, Hyun Ji Noh, Federica Di Palma, Kerstin Lindblad-Toh*

Posters | Day 1

Odds: 1-93
Rotunda, 3rd Floor

Session I
12:30PM – 2:30PM

35: *Rachel Liao, Joonil Jung, Matthew Wilkerson, Andrey Sivachenko, Qingsong Liu, Trevor Pugh, Chandra Sekhar Pedamallu, D. Neil Hayes, Nathanael Gray, Gad Getz, Robert Haddad, Matthew Meyerson, Peter Hammerman*

37: *Casey Gifford, Michael Ziller, Alexander Tsankov, Honcang Gu, Robbyn Issner, Xiaolan Zhang, Michael Coyne, Jennifer Fostel, Laurie Holmes, Jim Meldrim, Charles Epstein, Oliver Kohlbacher, Andreas Gnirke, Bradley Bernstein, Alexander Meissner*

39: *Adrian Heilbut, Robbie Fenster, Eric Kolaczyk, Jill Mesirov, Myriam Heiman*

41: *Lisa Cucolo, Guo Wei, Jacob Jaffe, Jinal Patel, Mukta Bagul, Todd Golub*

43: *James Bradner, Jun Qi, Michael McKeown, Katharin Shaw*

45: *Gregory Kryukov, Nicolas Stransky, Mahmoud Ghandi, Ellen Gelfand, Judit Jane-Valbuena, Jordi Barretina, Giordano Caponigro, Matthew Meyerson, Todd Golub, Michael Morrissey, William Sellers, Robert Schlegel, Levi Garraway*

47: *Yingelong Chang, Elaine Lim, Rany Salem, Benjamin Neale, Mark Daly, Joel Hirschhorn*

49: *Krista Hennig, Surya Reis, Wen-Ning Zhao, Chelsea Groves Kuhnle, Nadine Joseph, Jennifer Gale, Mike Lewis, Kelly Dennehy, F. Al Schroeder, Emily Ricq, Balaram Ghosh, Ralph Mazitschek, Yan-Ling Zhang, Florence Wagner, Edward Holson, Tracey Petryshen, Daniel Fass, Li-Huei Tsai, Stephen Haggarty*

51: *Linda Boettger, Bob Handsaker, Giulio Genovese, Martin Pollak, Sarah Tishkoff, Steven McCarroll*

53: *Ilya Shlyakhter, Pardis Sabeti, Stephen Schaffner*

55: *Allison Griggs, Ilan Wapinski, Brian Haas, Jennifer Wortman*

57: *Abigail McGuire, Jaclyn Strauss, Kyla Cochrane, Logan MacDonald, Justin B. Nice, Allison Griggs, Christopher Desjardins, Gustavo Cerqueira, Paul Godfrey, Brian Haas, Jennifer Wortman, Jeremy Zucker, Thomas Abeel, Matthew Pearson, Qian Zheng, Bruce Birren, Bryan Berger, Emma Allen-Vercoe, Ashlee Earl*

59: *Brian Weiner, Ruchi Newman, Thomas Kuntzen, Andrew Berical, Patrick Charlebois, Carla Kuiken, Donald Murphy, Peter Simmonds, Phil Bennett, Niall Lennon, Bruce Birren, Michael Zody, Todd Allen, Matthew Henn*

61: *Jill Mesirov, William Kim, Willian Hahn, Pablo Tamayo*

63: *Diego Martinez, Zehua Chen, Sean Sykes, Sharvari Gujja, Qian Zeng, Zheng Wang, Christina Cuomo*

65: *Shahrin Pereira, Carl Ernst, Zehra Ordulu, Michael Talkowski, Colby Chiang, Ian Blumenthal, Carrie Hanscom, Amelia Lindgren, Vamsee Pillalamarri, Jill Rosenfeld, Lisa Shaffer, James Gusella, Cynthia Morton*

67: *Gustavo Cerqueira, Brian Haas, Jennifer Wortman*

69: *Alexander Bick, Jason Flannick, David Altshuler, Jonathan Seidman, Christine Seidman*

71: *Thomas Abeel, Bang Wong, Brian Weiner, Damien Tully, Yves Van de Peer, Todd Allen, Mike Zody*

Posters | Day 1

Odds: 1-93
Rotunda, 3rd Floor

Session I
12:30PM – 2:30PM

73: *Ardythe Morrow, Anne Lagomarcino, Kurt Schibler, Diana Taft, Zhuoteng Yu, Bo Wang, Michael Wagner, Georgia Giannoukos, Sean Sykes, Matt Pearson, Susanna Hamilton, Niall Lenon, Dirk Gevers, Doyle Ward, Michael Kennedy, Curtis Huttenhower, David Newburg*

75: *Lili Wang, Emily Dykhuizen*

77: *Gabriela Alexe, Prakash Gupta, David Wolski, Georg Lauer, William Nicholas Haining, Pablo Tamayo, Jill Mesirov*

79: *Angela Brooks, Youzhong Wan, Rui Jing, David DeLuca, Carrie Sougnez, Marcin Imielinski, Juliann Chmielecki, Catherine Wu, Matthew Meyerson*

81: *Alexander Hopkins, David Rodriguez-Fuentes, David Thomas, Todd Golub*

83: *Carrie Mosher, Stephen Johnston*

85: *Ralda Nehme, Ali Hussain, Karlijn Van der Van, Jurgen Del Favero, Rolf Adolfsson, Anneline Nordin, Roy Perlis, Christine Finn, Raju Kucherlapati, Steve Haggarty, Jon Madison*

87: *Paul Godfrey, Rebecca Harris, Lucius Chiaraviglio, Michael Feldgarden, Jennifer Wortman, James Kirby*

89: *Marta Biagioli, Francesco Ferrari, Eric Mendenhall, Eric Minikel, Nicole Solomos, Sonia Vallabh, Fatih Ozsolak, Zhang Yijing, James Gusella, Michael Talkowski, JongMin Lee, Marcy MacDonald, Peter Park, Ihn Sik Seong*

91: *Ranjit Singh, Nga-Chi Lau, Sidhartha Chaudhury, Derek Berezdivin, Christopher Guenard, Mary-Anne Anderson, Jayalakshmi Mysore, Tammy Gillis, James Gusella, Ihn Sik Seong, Marcy MacDonald*

93: *Jacqueline Lane, Phoebe Winn, Quirong Ding, Chad Cowan, Richa Saxena*

Posters | Day 1

Odds: 95-153
Rotunda, 3rd Floor

Session II
4:05PM – 6:05PM

Session II

95: *Jana Qiao, Jinal Patel, Namrata Udeshi, Karl Clauser, DR Mani, Michael Burgess, Michael Gillette, Jacob Jaffe, Philipp Mertins, Steven Carr*

97: *Kaihui Hu He, Anna Russo, Jim Spoonamore, Bridget Wagner*

99: *Christine Malboeuf, James Qu, Xiao Yang, Aaron Berlin, James Brien, Abhishek Prasad, Greg Ebel, Ryan Murphy, Michael Diamond, Hon Ip, John DeVincenzo, Ruchi Newman, Michael Zody, Cheryl Murphy, Chad Nusbaum, Bruce Birren, Andreas Gnirke, Joshua Levin*

101: *Lucienne Ronco, Liz Culyba, David Takeda, Dina Wassaff, Clem Feau, Marius Pop, Todd Golub, William Hahn, Levi Garraway*

103: *Andrea Saltzman, Stacey Donnelly, Emily Lipscomb*

105: *Paula Keskula, Julie Ann, Dojna Shkoza, Scott Mahan, Wendy Winckler, Kristin Ardlie*

107: *Juliann Chmielecki, Marcin Imielinski, Bryan Hernandez, Michael Lawrence, Andrey Sivachenko, Kristian Cibulskis, Douglas Voet, Carrie Sougnez, Stacey Gabriel, Gad Getz, Matthew Meyerson, The TCGA Network*

109: *Julien Vantourout, Eamon Comer, Sivaraman Dandapani, Monica Schenone*

111: *Jennifer DiNieri, Tracey Petryshen*

113: *Mudra Hegde, John Doench, Glenn Cowley, David Root, Barbara Weir*

115: *Dongkeun Jang, Michael Reich, Jill Mesirov*

117: *Michael Feldgarden, Sinéad Chapman, Michael Fitzgerald, Shailu Gargeya, Paul Godfrey, David Gordon, Brian Haas, James Johnson, Cheryl Murphy, Sakina Saif, Narmada Shenoy, Sarah Young, Qiandong Zeng, Bruce Birren, Genomics Platform*

119: *Karl Clauser, Alexandra Naba, Sebastian Hoersch, Richard Hynes, Steven Carr*

121: *Carl Ly, John Athanasopoulos, Stephen Johnston*

123: *Pankaj Arora, Connie Wu, Abigail May Khan, Donald Bloch, Brandi Davis-Dusenbery, Anahita Ghorbani, Ester Spagnolli, Andrew Martinez, Allicia Ryan, Laurel Tainsh, Samuel Kim, Karen Miller, Akiko Hata, Federica del Monte, Tara Holmes Minaker, Emmanuel Buys, Kenneth Bloch, Thomas Wang, Christopher Newton-Cheh*

125: *Jason Burke, Corey Flynn, Aravind Subramanian*

127: *Bo Li, Ry Forseth, Matthew Traxler, Roberto Kolter, Frank Schroeder, Christopher Walsh*

129: *Melissa Kemp, Žarko Bošković, Amedeo Vetere, Samuel Figueroa Lazú, Stuart Schreiber, Angela Koehler*

Posters | Day 1

Odds: 95-153
Rotunda, 3rd Floor

Session II
4:05PM – 6:05PM

131: *Yaara Zwang, Deepak Nijhawan, Hiu Wing Cheung, Francisca Vazques, The Broad Chemical Biology Platform, William Hahn*

133: *Sydney Weill, Roy Perlis, Isaac Kohane, Shawn Murphy, Susanne Churchill, Victor Castro, Alison Hoffnagle, Jordan Smoller*

135: *Nikolai Eroshenko, George Church*

137: *Qihong Xu, Yan-Ling Zhang, Patrick Faloon, Jose Perez, Michel Weiwer, Ed Holson, Michelle Palmer*

139: *Eric Solis, Guillaume Basse, Edoardo Airoldi, Mike Springer*

141: *Yukinori Okada, Namrata Gupta, Daniel Mirel, Stacey Gabriel, Thurayya Arayssi, Faten Mouassess, Walid Achkar, Layla Kazkaz, Robert Plenge*

143: *Gabriel Musso, Eva Plovie, Chris D'Amato, Amy Kelly, Anne Karin Arndt, Guri Giaever, Corey Nislow, Calum MacRae*

145: *Congyi Lu, Zhanyan Fu, Jen Pan, Guoping Feng*

147: *Andreas Werdich, Daniela Panakova, M. Khaled Sabeh, Calum MacRae*

149: *Gustavo Cerqueira, Brian Haas, Marcus Chibucos, Christopher Sibthorp, Mark Caddick, Kazuhiro Iwashita, Martha Arnaud, Gavin Sherlock, Jennifer Wortman*

151: *John Davis, David Peck, Aravind Subramanian, Melanie Donahue, Xiaohua Wu, Xiaodong Lu, Roger Cornell, Christopher Haffenreffer, Joshua Gould, Corey Flynn, Rajiv Narayan, David Wadden, Todd Golub*

153: *Gyan Srivastava, Matthew Eaton, Cristin McCabe, Brendan Keenan, Lori Chibnik, Abhishek Kumar, Julie Schneider, Manolis Kellis, David Bennett, Philip De Jager*

Agenda | Wednesday, November 14, 2012

Breakout Sessions

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Eighth Annual Retreat

November 14TH 2012

Joseph B. Martin Conference Center

Agenda | Wednesday November 14, 2012

8:15 AM – 9:00 AM

Registration and Poster Session Set Up

Breakfast

9:00 AM – 9:05 AM

Opening remarks
David Altshuler

9:05 AM – 10:35 AM

Fourth Plenary Session
Disease Biology I

9:05 Mark Daly
Identification of mutations in MUC1 as cause of MCKD1

9:20 Rameen Beroukhim
Targeting genes that undergo loss in cancer

9:35 Michal Rabani
Uncovering principles of RNA production, processing, and degradation dynamics in mammalian cells

9:50 Curtis Huttenhower
A meta-omic microscope: Detailing the human microbiome

10:05 Jason Flannick
Loss of function mutations in SLC30A8 protect against risk of type 2 diabetes

10:20 Michael Gilmore
Evolution of multidrug resistant hospital pathogens in the antibiotic era: Lessons from comparative genomics

10:35 AM – 10:55 AM

Break

10:55 AM – 12:27 PM

Fifth Plenary Session
Disease Biology II

10:55 Levi Garraway
Lessons from cancer genome sequencing

11:10 Birgit Knoechel
An epigenetic mechanism of therapeutic resistance in leukemia

11:25 Amy Williams
A Neandertal haplotype carrying four missense SNPs in the solute carrier SLC16A11 is a common risk factor for type 2 diabetes in Mexico

11:40 Zhifang Cao
Functional characterization of CARD9 in the context of IBD

11:55 Robert Gerzsten
Towards the genetic architecture of the human metabolome: Findings from the Framingham Heart Study

12:10 Mark Lee
An integrative approach identifies critical regulators of the innate immune response to cytosolic DNA and retroviral infection

12:25 Robert Plenge
Big Idea: Patients provide the best samples!

12:30 PM – 2:30 PM

Lunch and Poster Session III: Even numbered posters (2–94)

12:50 PM – 2:20 PM

Breakout Session, Room 217, Second Floor

Deborah Hung and Cory Johannessen

Emerging ideas in drug resistance

This session will focus on the various experimental and clinical approaches that Broad researchers are using to identify mechanisms of drug resistance. This session will be a joint endeavor between the Cancer Program and the Infectious Disease Program, providing a unique opportunity to highlight important and novel emerging themes in resistance research across disciplines and diseases. We will kick-start this session with a pair of talks describing the current state of drug resistance research within the Cancer and ID community. Our second session will focus on provocative, paradigm-breaking preliminary data that has the potential to completely re-shape our concept of rational drug combinations and therapeutic intervention. Finally, we will close with a session that outlines the potential of clinical sequencing to identify resistance mechanisms and inform subsequent treatment strategies. This session is intended for all members of the research community with an interest in understanding drug sensitivity and resistance: students, trainees and seasoned researchers within the resistance community will all be satisfied!

2:30 PM – 4:30 PM

Sixth Plenary Session
Technology Breakthroughs

2:30 Alex Shalek
Single-cell transcriptomics reveals widespread heterogeneity in genes

2:45 Jacob Jaffe
Global epigenetic signatures of human cancers

3:00 Maura Costello
Discovering and dissecting artifacts in genome sequencing data

3:15 Paul Blainey
Single molecules on the genome

3:30 Benjamin Neale
Design and application of the exome chip to complex traits

3:45 Sabah Kadri
End RNA-Seq: A cost efficient approach for digital gene expression (DGE) and annotation

4:00 Michelle Chan
Regulation and RNA processing in stimulated immune cells

4:15 Robert Nicol
Big Idea: Track everything in droplets!

4:20 PM – 4:35 PM

Closing remarks
Eric Lander

4:35 PM – 6:35 PM

Reception and Poster Session IV: Even numbered posters (96–152)

Posters | Day 2

Evens: 2-94
Rotunda, 3rd Floor

Session III
12:30PM – 2:30PM

Poster Session II November 14TH 2012

Session III

2: *Sean Burns, Amedeo Vetere, Deepika Walpita, Vlado Dancik, Bridget Wagner, David Altshuler*

4: *Prapti Pokharel, Supriya Gupta, Scott Donovan, Teni Dowdell, Melissa Parkin, Andrew Crenshaw, Sheila Fisher, Stacey Gabriel*

6: *Catherine Luce, Thomas Nieland, David Logan, Anne Carpenter, Edward Scolnick, Stephen Haggarty, Jon Madison*

8: *Phil Lee, Stephan Ripke, Psychiatric Genetics Consortium Cross Disorder Workgroup, Jordan Smoller*

10: *Xian Adiconis, Diego Borges-Rivera, Rahul Satija, Lin Fan, David DeLuca, Aaron Berlin, Andrey Sivachenko, Dawn Thompson, Alec Wysoker, Timothy Fennell, Andreas Gnirke, Nathalie Pochet, Aviv Regev, Joshua Levin*

12: *Sophie Wang, Daniel Mirel, Andrew Dauber, Joel Hirschhorn*

14: *Nicole Spardy, Andrew Giacomelli, William Hahn*

16: *Noriko Tonomura, Evan Mauceli, Katherine Megquier, Elinor Karlsson, Snaevar Sigurdsson, Emma Ivansson, Malin Melin, Maja Arendt, Jessica Alföldi, Hyun Ji Noh, Michele Perloski, Ross Swofford, Axel Ericsson, Kristian Cibulskis, Andrey Sivachenko, Jeremy Johnson, Lauren Ambrogio, Rachael Thomas, Aaron Sarver, Aric Frantz, Chieko Azuma, Lisa Barber, Kristine Burgess, Barbara Davis, Gad Getz, Federica Di Palma, Eric Lander, Jaime Modiano, Matthew Breen, Kerstin Lindblad-Toh*

18: *Patrick Faloon, William Youngsaye, Melissa Bennion, Wai-Leung Ng, Bonnie Bassler, Michelle Palmer*

20: *Georgia Giannoukos, Dawn Ciulla, James Bochicchio, Sheila Fisher, Brian Haas, Ryan Johnson, Bruce Birren, Chad Nusbaum, Andreas Gnirke*

22: *Samantha Beik, Patrick Boyle, Timothy Durham, Jing Gao, Alon Goren, Hongcang Gu, Robbyn Issner, Holly Whitton, Jeffrey Xing, Noam Shoresh, Charles Epstein, Andi Gnirke, Alex Meissner, Bradley Bernstein*

24: *Yikai Wang, Cheng Zhong, Patrick Sheehan, Kayla Berry, Conor O'Herin, Evan Liang, David Jaramillo, Rita Santos, Stuart Schreiber, Damian Young*

26: *Scott Steelman, Robert Lintner, Matt Hancock, Hu Gang, Brian Hurhula, Chad Nusbaum, Rob Nicol*

28: *Patrick Boyle, Kendell Clement, Hongcang Gu, Zachary Smith, Michael Ziller, Jennifer Fostel, Laurie Holmes, Jim Meldrim, Fontina Kelley, Andreas Gnirke, Alexander Meissner*

30: *Joonil Jung, Ami Bhatt, Akinyemi Ojesina, Chandra Sekhar Pedamallu, Fujiko Duke, Samuel Freeman, Aleksander Kostic, Steve Kamiza, Kevin Golden, Michele Hayward, Neil Hayes, Danny Milner, Matthew Meyerson*

32: *Katie Larkin, Cherylyn Smith, Anthony Rachupka, Veronika Osherov, Liuda Ziaugra, Jason Carey, George Grant, Andrew Crenshaw*

34: *Lukas Karlsson*

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Session III
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36: *Marcin Imielinski, Alice Berger, Peter Hammerman, Bryan Hernandez, Trevor Pugh, Eran Hodis, Jeonghee Cho, James Suh, Marzia Capelletti, Andrey Sivachenko, Carrie Sougnez, Daniel Auclair, Michael Lawrence, Petar Stojanov, Kristian Cibulskis, Kyusam Choi, Luc de Waal, Tanaz Sharifnia, Angela Brooks, Heidi Greulich, Shantanu Banerji, Thomas Zander, Danila Seidel, Frauke Leenders, Sascha Ansén, Corinna Ludwig, Walburga Engel-Riedel, Erich Stoelben, Jürgen Wolf, Chandra Goparju, Kristin Thompson, Wendy Winckler, David Kwiatkowski, Bruce Johnson, Pasi Jänne, Vincent Miller, William Pao, William Travis, Harvey Pass, Stacey Gabriel, Eric Lander, Roman Thomas, Levi Garraway, Gad Getz, Matthew Meyerson*

38: *Michael S. Noble, Daniel DiCara, Hailei Zhang, Nils Gehlenborg, Juok Cho, Will Mallard, Rui Jing, David Heiman, Gordon Saksena, Gad Getz*

40: *Kaitlin Samocha, Benjamin Neale, Stephan Sanders, Karola Rehnström, Christine Stevens, Aarno Palotie, Matthew State, Eric Boerwinkle, Joseph Buxbaum, Edwin Cook, Bernie Devlin, Richard Gibbs, Kathryn Roeder, Gerard Schellenberg, James Sutcliffe, Mark Daly*

42: *Aaron Brandes, Christophe Berger, Philip DeJager, Galit Alter*

44: *Le Cong, Neville Sanjana, Patrick Hsu, Lukasz Swiech, Feng Zhang*

46: *Roger Schilling, John Dominy, Marc Hickey, Christian Soule, Partha Nag, Yoonjin Lee, Pere Puigserver, Joshua Bittker, Michelle Palmer, Stuart Schreiber*

48: *Colm O'Dushlaine, Stephan Ripke, Jennifer Moran, Kimberly Chambert, Pamela Sklar, Shaun Purcell, Christina Hultman, Steven McCarroll, Patrick Sullivan*

50: *Jon Madison, Fen Zhou, Aparna Nigam, Ali Hussian, Ralda Nehme, Morgan Fleishman, Jenny Hsu, Karlijn van der Ven, Pavlina Wolf, Frank Lau, Tim Ahfeldt, Kraig Theriault, Steven Sheridan, Laurence Daheron, Pamela Sklar, Stephen Haggarty*

52: *Peter Cruz-Gordillo, Jens Lohr, Viktor Adalsteinsson, Narmin Tahirova, Brendan Blumenstiel, Kristian Cibulskis, Daniel Auclair, Carrie Sougnez, Joshua Francis, Joonil Jung, David Peck, Tzu-Hsiu Chen, Atish Choudhury, Thomas Clancy, Priscilla Brastianos, Ian Dunn, Mari Nakabayashi, Mary-Ellen Taplin, J. Christopher Love, Jesse Boehm, Gad Getz, William Hahn, Matthew Meyerson, Todd Golub*

54: *Marek Nagiec, Adam Skepner, Eamon Comer, Joseph Negri, Kiran Musunuru, Jeremy Duvall, Michael Foley, Jose Perez, Michelle Palmer*

56: *Marc-Danie Nazaire, Peter Carr, Thorin Tabor, Michael Reich, Ted Liefeld, Helga Thorvaldsdottir, Barbara Hill, Judy McLaughlin, Jon Bistline, Heidi Kuehn, Jared Nedzel, Jim Robinson, Pablo Tamayo, Jill Mesirov*

58: *Jared Nedzel, Ted Liefeld, Reid Pinchback, Dongkeun Jang, Michael Reich, Jill Mesirov*

60: *Sharadha Sakthikumar, Aaron Berlin, Yuan Chen, Sharvari Gujja, Daniel Henk, Matthew Hirakawa, Terrance Shea, Jennifer Wortman, Sarah Young, Qian Zeng, Matthew Fisher, Ana Litvintseva, Richard Bennett, Christina Cuomo*

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62: *Christopher Desjardins, Gustavo Cerqueira, Jonathan Goldberg, Julie Dunning Hotopp, Brian Haas, Jeremy Zucker, Jose Ribeiro, Sakina Saif, Joshua Levin, Lin Fan, Qiandong Zeng, Carsten Russ, Jennifer Wortman, Doran Fink, Bruce Birren, Thomas Nutman*

64: *Sharvari Gujja, Brian Haas, Maia Hansen, Jonathan Goldberg, Margaret Priest, Lucia Alvarado-Balderrama, Qiandong Zeng, Jennifer Wortman, Bruce Birren*

66: *Jordan Taylor, Lola Fagbami, Namrata Udeshi, Steve Carr, Jacob Jaffe*

68: *Luc de Waal, Tim Lewis, Mark Hickey, Patrick Falloon, Lara Gechijian, Nicky Tolliday, Angela Koehler, Jim Spoonamore, Alykhan Shamji, Ben Munoz, Stuart Schreiber, Heidi Greulich, Matthew Meyerson*

70: *Christian Matranga, Kristian Andersen, Eleina Zaitsev, Stephen Gire, Aaron Berlin, Barbara Tazon-Vega, Joshua Levin, Pardis Sabeti*

72: *Alice Berger, Marcin Imielinski, Bryan Hernandez, Trevor Pugh, Peter Hammerman, Eran Hodis, Matthew Meyerson*

74: *Benjamin Currall, Nahid Robertson, Amelia Lindgren, Michael Talkowski, Cynthia Morton*

76: *William Kim, Guillaume Adelmant, Jarrod Marto, William Hahn*

78: *Tune Pers, Juha Karjalainen, Sailaja Vedantam, Tonu Esko, Felix Day, Sonja Berndt, Stefan Gustafsson, Adam Locke, Andrew Wood, Bratati Kahali, Damien Croteau-Chonka, Corey Powell, Piotr Dworzynski, Ann Justice, Jacqui Beckmann, Karen Mohlke, Erik Ingelsson, Ruth Loos, Elizabeth Speliotes, Tim Frayling, The Genetic Investigation of Anthropometric Traits (GIANT) Consortium, Joel Hirschhorn, Lude Franke*

80: *Jeff Larimer, Janet Gainer-Dewar, David Neiman, Andrew Roberts, Clint Howarth, Maia Hansen, Matthew Pearson, Shailu Gargeya, Jennifer Wortman, Bruce Birren*

82: *Schraga Schwartz, Dan Dominissini, Sharon Moshkovitz, Rotem Sorek, Gideon Rehavi, Aviv Regev, Eric Lander*

84: *Eric Solís, Edoardo Airoldi*

86: *Kejie Li, Mathias Wawer, David Jaramillo, Sigrun Gustafsdottir, Nicole Bodycombe, Melissa Parkin, Joshua Bittker, Rajiv Narayan, Katherine Sokolnicki, Mark-Anthony Bray, Vebjorn Ljosa, David Logan, Shantanu Singh, Elizabeth O'Brien, Elizabeth Rubin, Bradley Taylor, Scott Donovan, Joshua Gilbert, Melissa Kemp, Kate Hartland, Ellen Winchester, Vlado Dancik, Thouis Jones, Tom Hasaka, Supriya Gupta, Yves Boie, Hyman Carrinski, Anthony Wilson, Hanh Le, Howard Rafal, Kathleen Seiler, Andrew Crenshaw, George Grant, Justin Lamb, Edward Holson, Jeremy Duvall, Auguste Genovesio, Aravind Subramanian, Cindy Hon, Todd Golub, Wendy Winckler, Stuart Schreiber, Alykhan Shamji, Anne Carpenter, Paul Clemons*

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Session III
12:30PM – 2:30PM

88: *Klaus Schmitz-Abe, Tim Yu, Sean Hill, Tae Kyung Kim, Eric Morrow, Michael Greenberg, Kyriacos Markianos, Christopher Walsh*

90: *Robert Altshuler, Manolis Kellis*

92: *Mary-Lee Dequéant, Delphine Fagegaltier, Amanda Simcox, Gregory Hannon, Norbert Perrimon*

94: *Maurice Lee, Jason Lowe, Giovanni Muncipinto, Laura Panko, Julien Podair, Jeremy Duvall, Lakshmi Akella, Emeline Davoine, Etienne Donckele, Landon Durak, Baudouin Gerard, Edward Holson, Adrien Joliton, Sarathy Kesavan, Berenice Lemercier, Haibo Liu, Jean-Charles Marie, Carol Mulrooney, Morgan Welzel-O'Shea, Ann Rowley, Byung-Chul Suh, Meryl Thomas, Florence Wagner, Jingqiang Wei, Michael Foley, Lisa Marcaurelle*

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Evens: 96-152
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Session IV
4:35PM – 6:35PM

Session IV

96: *Ami Bhatt, Samuel Freeman, Alex Herrera, Chandra Sekhar Pedamallu, Dirk Gevers, Fujiko Duke, Joonil Jung, Bruce Walker, Sarah Young, Ashlee Earl, Aleksander Kostic, Akinyemi Ojesina, Gabriela Soriano, Joseph Antin, Robert Soiffer, Lindsey Baden, Jason Hornick, Francisco Marty, Matthew Meyerson*

98: *Andres Colubri, David Reshef, Ben Fry, Pardis Sabeti*

100: *Vamsee Pillalamarri, Zehra Ordulu, Ian Blumenthal, Carrie Hanscom, Shahrin Pereira, Matthew Stone, Naveed Hussain, Susan Connolly, Louise Wilkins-Haug, Jonathan Picker, Jill Rosenfeld, Lisa Shaffer, James Gusella, Cynthia Morton, Michael Talkowski*

102: *Virendar Kaushik, Kiran Musunuru, Nadine Elowe, Melissa Bennion, Patrick Faloon, Doug Daniels, Cara Fraley, Michelle Palmer, Jose Perez, Adam Skepnar, Marek Nagiec, Dina Wassaf, Brian Hubbard*

104: *Samuel Freeman, Chandra Pedamallu, Akinyemi Ojesina, Peter Hammerman, Joonil Jung, Ami Bhatt, Fujiko Duke, Aleksander Kostic, Matthew Meyerson*

106: *Roby Bhattacharyya, Jonathan Livny, Carsten Russ, Milesh Patel, Hanwei Hou, Jongyoon Han, Deborah Hung*

108: *Alison Leed, Lili Wang, Linlong Xue, Matt Clifton, Darren Begley, Alex Burgin, Doug Daniels, Virendar Kaushik, Michael Serrano-Wu*

110: *Wouter Meuleman, Manolis Kellis*

112: *Ed Lauzier, Jean Chang, Eric Jones, Raymond Pete, Peter Ragone*

114: *Sathyapriya Rajagopal, Nathalie Pochet, Philip DeJager*

116: *Anindita Basu, Alex Shalek, Assaf Rotem, David Weitz, Aviv Regev*

118: *David Kelley, John Rinn*

120: *Elaine Lim, Karola Rehnstrom, ARRA Autism Sequencing Consortium, SISu Project, Aarno Palotie, Mark Daly*

122: *Mukul Bansal, Yi-Chieh Wu, Eric Alm, Manolis Kellis*

124: *Yan Liu, Lin Zou, Kumar Sarkar, Jordan Shin, Matthew Dai, Wei Chao, Randall Peterson*

126: *Margaret Chia-Ying Wey, Lauren McGrath, Aaron Wolf, Dongmei Yu, Mai Saito, Jeremiah Scharf, Tracey Petryshen*

128: *Lucienne Ronco, Todd Carter, Shomit Sengupta, Leigh Carmody, Jose Perez, Nicola Tolliday, Andrew Kirby, Andreas Gnirke, Daniel Aird, Kathleen Steinmann, Alexandre Melnikov, Anwar Murtaza, Johannes Schlondorff, Seth Alper, Savithri Kota, Stanislav Kmoch, Anthony Bleyer, Aravind Subramanian, Corey Flynn, Eric Kuhn, John Doench, Mike Serrano-Wu, Paul Clemons, Eric Lander, Brian Hubbard, Mark Daly*

130:*Levi Waldron, Shuji Ogino, Yujin Hoshida, Kaori Shima, Amy McCart Reed, Peter Simpson, Yoshifumi Baba, Katsuhiko Nosho, Nicola Segata, Ana Cristina Vargas, Margaret Cummings, Sunil Lakhani, Gregory Kirkner, Edward Giovannucci, John Quackenbush, Todd Golub, Charles Fuchs, Giovanni Parmigiani, Curtis Huttenhower*

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Session IV
4:35PM – 6:35PM

132: *Reina Improgo, Adam Kiezun, Yaoyu Wang, Lillian Werner, Petar Stojanov, Dan Landau, Carrie Sougnez, Bethany Tesar, Stacey Fernandes, Alexander Vartanov, Michael Lawrence, Kristian Cibulskis, Donna Neuberg, Catherine Wu, Gad Getz, Jennifer Brown*

134: *Peter Blattmann, Christian Schuberth, Sekar Kathiresan, Rainer Pepperkok, Heiko Runz*

136: *Nadia Solovieff, Menachem Fromer, Douglas Ruderfer, Jennifer Moran, Kimberly Chambert, Christina Hultman, Patrick Sullivan, Hywel Williams, Elliott Rees, Padraig Gormley, Aarno Palotie, George Kirov, Michael Owen, Michael O'Donovan, Pamela Sklar, Steven McCarroll, Shaun Purcell*

138: *Gosia Trynka, Buhm Han, Cynthia Sandor, Han Xu, Barbara Stranger, X Shirley Liu, Soumya Raychaudhuri*

140: *Eva Plovie Buys, ZhenZhen Liu, Ward Capoen, Angeliki Asimaki, Jason Becker, Edward Adams, Andre Kleber, Jeffrey Saffitz, Calum MacRae*

142: *Alexander Franks, Gabor Csardi*

144: *Anne-Marie Chang, Orfeu Buxton, Charles Czeisler, Jeanne Duffy, Steven Lockley, Frank Scheer, Richa Saxena*

146: Paired-end sequencing of indexed fosmid libraries using Illumina
Louise Williams, Diana Tabbaa, Aaron Berlin, Chad Nusbaum, Andreas Gnirke

148: *Melanie Pellisson, Giovanni Muncipinto, Maurice duPont Lee, Jeremy Duvall, Pär Matsson, Fabrizio Giordanetto, Jan Kihlberg, Richard Svensson, Constanze Hilgendorf, Matthew Perry, Per Artursson, Michael Foley, Tomas Fex, Carol Mulrooney*

150: *Target Accelerator Team*

152: *Samuel Rose, Aswin Sekar, Kimberly Chambert, Giulio Genovese, Jon Madison, Steven McCarroll*