

AGENDA (as of August 30, 2013-FINAL)

GeneExpression Systems & Appasani Research Conferences Presents:

Physical Sciences Symposia-2013 on

Crystal & Graphene Science Symposium, Quantum Science Symposium & New Particle Physics Meetings

Venue: Hilton Garden Inn, 420 Totten Pond Road, Waltham, MA USA **Date:** September 4 - 5, 2013

Organizer: Krishnarao Appasani, PhD. GeneExpression Systems, Inc. of USA

SEPTEMBER 4, Wednesday

8:00 AM	REGISTRATION OPEN: Coffee/Tea & Refreshments		
8:45 – 11:00 AM	JOINT INAUGURAL SESSION I: Chair: Krishnarao Appasani, PhD.		
8:45 – 9:00 AM	Welcome Address by Organizer: Krishnarao Appasani, PhD. GeneExpression Systems, Inc. USA		
9:00 – 9:35 AM	INAUGURAL SPEKER: Jerome Friedman, PhD. Massachusetts Institute of Technology, USA Title: Probing the Small and Large Structure of the Universe		
9:35 – 10:10 AM	KEYNOTE SPEKER: Gerald S. Guralnik, PhD. Brown University, USA Title: Heretical Ideas that led to the Search for the Higgs Boson		
10:10 – 10:35 AM	Daniel Prober, PhD. Yale University, USA Title: Ultrasensitive THz Detection with Graphene Nanobolometers		
10:35 – 11:00 AM	Thomas G. Mason, PhD. University of California-Los Angeles, USA Title: Entropomorphism: Symmetry breaking in two-dimensional Brownian crystals of hard lithographic colloids		
11:00 – 11:30 AM	35 min BREAK		
	TWO PARALLEL SESSIONS STARTS FROM NOW		
	CRYSTAL/GRAPHENE SCIENCE		QUANTUM / New Particle Physics
11:30 – 12:45 PM	Session II: Crystal Structures Chair: Michael Wörner, PhD., Germany	11:30 – 12:45PM	Session II: Quantum Coherent & Many Body Systems Chair: Naoto Namekata, PhD. Japan
11:30 – 11:55 AM	Michael Wörner, PhD. Max-Born Institute for Optics, Germany Title: Femtosecond x-ray diffraction on ionic crystals	11:30 – 11:55 AM	Naoto Namekata, PhD. Nihon University, Japan Title: Entanglement distribution and swapping at telecommunication wavelengths using sinusoidally gated InGaAs/InP avalanche photodiodes
11:55 – 12:20 PM	Swastik Kar, PhD. Northeastern University, USA Title: Atomically thin 2D alloys with widely-tunable electronic and optical properties	11:55 – 12:20 PM	Lei Wang, PhD Student Columbia University, USA Title: One dimensional contacts; bridging the two-dimensional and three-dimensional worlds
12:20 – 12:45 PM	Marija Drndic, PhD. University of Pennsylvania, USA Title: Nanoscale structures & Graphene-based nanopore devices for DNA sequencing	12:20 – 12:45 PM	Mikhail Lemeshko, PhD. Harvard University, USA Title: Using dissipation to engineer few- and many-body quantum states in ultra-cold gases
12:45 – 1:45 PM	1 Hour Lunch Break (Provided)		

1:45 – 4:10 PM	Session III: Growth, Epitaxial Grapehenes & Carbon nano Tubes - I Chair: Helge Weman, PhD., Norway	1:45 – 4:10 PM	Session III: Quantum Information, Cryptography, Computation & Qubits Chair: Jiri Vala, PhD. Ireland
1:45 – 2:10 PM	Helge Weman, PhD. Norwegian University of Science & Tech., Norway Title: Epitaxial growth of semiconductor nanowires on graphene: Generic model and potential device applications	1:45 – 2:10 PM	Michael R. Geller, PhD. University of Georgia, USA Title: Universal quantum simulation with pre-threshold superconducting qubits: Single-excitation subspace method
2:10 – 2:35 PM	Fumihiko Maeda, PhD. Nippon Telegraph & Telephone Corp. Japan Title: Graphene growth on graphene by molecular beam epitaxy	2:10 – 2:35 PM	Kyou Inoue, DEngg Osaka University, Japan Title: Differential phase shift Quantum Key Distribution
2:35 – 3:00 PM	Sungjin Park, PhD. Inha University, South Korea Title: Chemistry in the production of reduced graphene oxide	2:35 – 3:00 PM	Andrew Hammond MagiQ Technologies, Inc., USA Title: Beyond the Hype: The Theory, Practice, and Real World Applications of Quantum Cryptography
3:00 – 3:15 PM	Ramesh Jasti, PhD. Short Presentation Boston University, USA Title: The bottom-up organic synthesis of carbon nanotubes	3:00 – 3:15 PM	Simon Gustavsson, PhD. Short Presentation Massachusetts Institute of Technology, USA Title: Improving quantum gate fidelities in superconducting qubits
3:15 – 3:30 PM	Branden Kappes, PhD. Short Presentation Colorado School of Mines, USA Title: Orientation-dependent binding energy of graphene on palladium	3:15 – 3:30 PM	Jiri Vala, PhD. National University of Ireland, Ireland Title: Fault-tolerance in topological quantum information processing
3:30 – 3:45 PM	Vidya Madhavan, PhD. Short Presentation Boston College, USA Title: Topological phases measured by scanning tunneling microscopy	3:30 – 3:45 PM	Imad Agha, PhD. Short Presentation University of Dayton in Ohio, USA Title: Shaping single photons: Engineering the spectro-temporal properties of quantum-dot-based photon sources
3:45 – 4:10 PM	Daniel Dougherty, PhD. North Carolina State University, USA Title: Local mapping of doping variations in intercalated epitaxial graphene on SiC(0001)	3:45 – 4:10 PM	Yuzo Ohno, PhD. The University of Tsukuba, Japan Title: Characterization of electrical, optical, and spin properties of semiconductor quantum nanostructures
4:10 – 4:30 PM	20 min. BREAK		
4:30 – 6:40 PM	Session IV: Growth, Epitaxial Grapehenes & CNTs- II Chair: Antonio Tejada, PhD., France	4:30 – 6:10 PM	Session IV: Large Hardon Collider and ATLAS Experiments Chair: Austin Napier, USA
4:30 – 4:55 PM	Enrico Rossi, PhD. College of William and Mary, USA Title: Effects of interactions and disorder in graphene heterostructures	4:30 – 4:55 PM	Meenakshi Narain, PhD. Brown University, USA Title: Higgs Boson, the Universe and Big Data at the Large Hardon Collider
4:55 – 5:20 PM	Satoru Tanaka, PhD. Kyushu University, Japan Title: Growth of graphene nanoribbon arrays on vicinal SiC surfaces by molecular beam epitaxy	4:55 – 5:20 PM	Austin Napier, PhD. Tufts University, USA Title: ATLAS B-Physics group using the Muon Spectrometer
5:20 – 5:45 PM	Antonio Tejada, PhD. Univ.Henri Poincaré & Synchrotron SOLEIL, France	5:20 – 5:45 PM	James R. Bensinger, PhD. Brandeis University, USA

	Title: Metal-semiconductor-metal junction in graphene nanoribbons		Title: ATLAS Muon Spectrometer experiments
5:45 – 6:10 PM	Ming-Hao Liu, PhD. University of Regensburg, Germany Title: Ultraclean graphene electron interferometers	5:45 – 6:10 PM	Kevin Black, PhD. Boston University, USA Title: ATLAS detector and cosmic-ray muons
6:10 – 6:35 PM	Kin Fai Mak, PhD. Cornell University, USA Title: Electrons in two dimensions: graphene and beyond	-----	----- -----
6:40 PM	End of 1st day session	6:10 PM	End of 1st day session

SEPTEMBER 5, Thursday

8:00 AM	REGISTRATION OPEN: Coffee/Tea & Refreshments		
8:45 – 11:00 AM	JOINT INAUGURAL SESSION V: Chair: Krishnarao Appasani, PhD.		
8:45 – 9:00 AM	Welcome Address by Organizer: Krishnarao Appasani, PhD. GeneExpression Systems, Inc. USA		
9:00 – 9:35 AM	KEYNOTE SPEKER: Mildred S. Dresselhaus, PhD. Massachusetts Institute of Technology, USA Title: Overview and historical perspectives of the Physics and Chemistry of Carbon nanotubes and Graphenes		
9:35 – 10:10 AM	KEYNOTE SPEKER: Melissa Franklin, PhD. Harvard University, USA Title: Discovery of the Higgs: Sweet Dream or Nightmare		
10:10 – 10:35 AM	Kouichi Semba, PhD. National Institute of Informatics & Nippon Telegraph & Telephone Corp. Japan Title: Coherent coupling of two different type macroscopic quantum systems		
10:35 – 11:00 AM	Christos Dimitrakopoulos, PhD. IBM-Thomas J. Watson Research Center & UMass Amherst, USA Title: Wafer-Scale epitaxial graphene synthesis, devices, and nanoribbon arrays		
11:00 – 11:15 AM	15 min BREAK		
	TWO PARALLEL SESSIONS STARTS FROM NOW		
	CRYSTAL/GRAPHENE SCIENCE		QUANTUM / New Particle Physics
11:15 – 12:30 PM	Session VI: Graphene Applications & Devices Chair: Dr. Sung Joo Lee., South Korea	11:30 – 12:30PM	Session VI: Quantum Photonics Chair: Michael Scheibner, PhD. USA
11:15 – 11:40 AM	Zhigang Jiang, PhD. Georgia Institute of Technology, USA Title: Magnetoplasmons and magnetophonons in graphene and graphite	11:15 – 11:40 AM	Michael Scheibner, PhD. University of California at Merced, USA Title: Optics with quantum dot molecule
11:40 – 12:05 PM	Dr. Sung Joo Lee Sungkyunkwan University, South Korea Title: Integration of dielectrics and their effects on graphene electronic devices	11:40 – 12:05 PM	Norikazu Mizuochi, DSc. Osaka University, Japan Title: Single photon, spin and charge manipulation in diamond at room temperature
12:05 – 12:30 PM	Xia Hong, PhD. University of Nebraska-Lincoln, USA Title: Integrating graphene with ferroelectrics	12:05– 12:30 PM	Pete Shadbolt University of Bristol, United Kingdom Title: Integrated quantum photonics
12:30 – 1:45 PM	1 Hour 15 min Lunch Break (ON YOUR OWN)		

1:45 – 4:10 PM	Session VII: Graphene Electronics, Plasmonics & Silicon Technology Chair: Dr. Maki Suemitsu, Japan	1:45 – 4:10 PM	Session VII: Neutrino Physics & Quantum and Nanostructures Chair: Hugo Beauchemin, PhD. USA
1:45 – 2:10 PM	Dr. Maki Suemitsu Tohoku University, Japan Title: Epitaxial graphene formation on Si substrates: its history and current status	1:45 – 2:10 PM	Robert Markiewicz, PhD. Northeastern University, USA Title: LDA calculations and correlations in a GW framework for cuprates, and extending to other correlated materials
2:10 – 2:35 PM	Roland Kawakami, PhD. The Ohio State University, USA Title: Physics and technology of spin-dependent phenomena in graphene	2:10 – 2:35 PM	Ulrich Heintz, PhD. Brown University, USA Title: Is our world natural?
2:35 – 3:00 PM	William Cullen, PhD. University of Maryland, USA Title: Wrinkling instability and delamination of graphene on nanoparticles	2:35 – 3:00 PM	Hugo Beauchemin, PhD. Tufts University, USA Title: Search for dark matter candidates and large extra dimensions in events with a jet and missing transverse momentum using the ATLAS detector
3:00 – 3:25 PM	Claudio Rebbi, PhD. Boston University, USA Title: Hybrid Monte Carlo simulations of graphene	3:00 – 3:25 PM	Kazuhito Tsukagoshi, PhD. Intl. Ctr. for Materials Nanoarchitectonics & National Institute for Materials Science, Japan Title: Atomically thin semiconducting channels for future nano-electronics
3:25 – 3:45 PM	Liang Luo, PhD Student Short Presentation Ames Laboratory & Iowa State University, USA Title: Accessing the dark excitons in Single-Walled Carbon Nanotubes with Terahertz pulses	3:25 – 3:50 PM	Aditya D. Mohite, PhD. Los Alamos National Laboratory, USA Title: Synthesis and optoelectronic properties of atomically thin GaSe & InSe
3:45 – 4:15 PM	30 min. BREAK		
4:15 – 6:20 PM	JOINT SESSION VIII: Quantum/Graphene Transport, Meta-materials & Super/Semiconductors Chair: Evan Reed, PhD., USA		
4:15 – 4:40 PM	Arun Bansil, PhD., USA Northeastern University Title: Electronic structure and spectroscopy of high-Tc superconductors, topological insulators and nanosystems		
4:40 – 5:05 PM	Evan J. Reed, PhD. Stanford University, USA Title: Engineered Electromechanical Coupling in 2D Materials		
5:05 – 5:30 PM	Nicholas X. Fang, PhD. Massachusetts Institute of Technology, USA Title: Flatland photonics with atomic layered metamaterials		
5:30 – 5:55 PM	Wei Han, PhD. IBM Almaden Research Center, USA Title: Spin injection and detection in La and Nb doped SrTiO ₃		
5:55 – 6:20 PM	Xiaobo Yin, PhD. University of California at Berkeley & University of Colorado, USA Title: Optic Spin Hall Effect at Metasurfaces		
6:30 PM	End of The Meeting: Concluding remarks by Organizer		