

Second Feynman Festival

Friday, 20 August 2004

Friday Morning

- chaired by Howard Brandt and Yanhua Shih
 - 8:00, Registration and opening remarks
 - 8:30, Constantin Brif, "Encoding qubits into multilevel subspaces"
 - 9:00, Lorenza Viola, "Entanglement beyond subsystems"
 - 9:30, Winfried Hensinger, "Trapped ion quantum computation at Michigan"
 - 10:30, Coffee Break
 - 11:00, Marijn Noz, "Coupled oscillators, entangled oscillators, and Feynman's rest of the universe"
 - 11:30, Arun Pati, "Teleportation and remote construction of time-translation machines"
 - 12:00, Louis Sica, "Implication of violation of the Bell inequality"
 - 12:30, Lunch

Friday Afternoon

- chaired by Lawrence Fagg and Aloysius Kracklauer
 - 13:30, Nathan Harshman, "Factorizability, coherence, and the spaces for states and observables in relativistic particle scattering"
 - 14:00, Gordon Fleming, "The logical status of a Raleigh-like criterion for the distinguishability of quantum states"
 - 14:30, Apostolos Vourdas, "Cyclic codes for finite quantum systems"
 - 15:00, Doyeol Ahn, "Quantum entanglement and special relativity"
 - 15:30, Coffee Break
 - 16:00, Yanhua Shih, "Beyond the Heisenberg uncertainty principle"
 - 16:50, Andrei Ludu, "Building Gell-Mann's plectics as a scientific theory through critical rationalism. Evaluation with examples from cell dynamics and BEC"
 - 17:00, Young S. Kim, "Why Feynman after Einstein?"
 - **17:30, Reception**

Saturday, 21 August 2004

Saturday Morning

- chaired by Morton Rubin and John Smolin

- 8:30, Eli Yablonovitch, "A systems analysis of a quantum factorization engine built in Si-Ge technology"
- 9:00, Giacomo D'Ariano, "Informationally complete quantum measurements"
- 9:30, Stephen Bullock, "Matrix decompositions and quantum circuit design"
- 10:00, Roberto Onofrio, "Quantum measurements on nonlinear nanoresonators"
- 10:30 Coffee Break
- 11:00, Frank Wilhelm, "Exploring quantum coherence with small superconducting circuits"
- 11:30, Jeremy Levy, "Oxide-semiconductor materials for quantum computation"
- 12:00, Verne Jacobs, "Reduced-density-matrix descriptions for coherent electromagnetic interactions"
- 12:30 Lunch

Saturday Afternoon

- chaired by Giacomo D'Ariano and Keith Miller
 - 13:30, John Smolin, "The Pangloss universe: What happens in the many worlds where probability breaks down?"
 - 14:00, Morton Rubin, "Wigner functions and maximally unbiased bases"
 - 14:30, Paul Korbel, "On interpretation of special relativity: a complement to the covariant harmonic oscillator picture"
 - 15:00, Coffee Break
 - 15:30, Geoffrey Hunter, "The Nature of Photons, Neutrinos and Electrons"
 - 16:00, Aloysius Kracklauer, "Direct action electrodynamics"
 - 16:30, Daniel Galehouse, "On the Dirac field in quantum-gravitational theory"
 - 17:00 Trip to Georgetown recommended. [Click here for details.](#)

Sunday, 22 August 2004

Sunday Morning

- chaired by Stephen Hellberg and Louis Sica
 - 9:00, Yaakov Weinstein, "Matrix element randomness, entanglement, and quantum chaos"
 - 9:30, Michael Steiner, "Reduction of measurement problem to two-qubit entanglement"
 - 10:00, Raj Mohanty, "Observation of quantum jumps in nanoscale macroscopic mechanical oscillations"
 - 10.30, Coffee Break
 - 10:45, Ronald Rendell, "Contractive entanglement in squeezed state evolution"
 - 11:15, Jihane Mimih, "Distinguishing two-qubit states using local measurements and restricted classical communication"
 - 11:45, Shantilal Goradia, "Do wormholes fix the coupling constants?"

- 12:15, Pizza Lunch

Sunday Afternoon

- 13.00, Sight-seeing tour to Annapolis with bay cruise, Chesapeake Bay Bridge (1600 meters), and dinner at Fisherman's Village, on a business-class bus. [Click here](#) for further information.

Monday, 23 August 2004

Monday Morning

- chaired by Shmuel Gurvitz and Vladimir Korepin
 - 8:00, Ashok Muthukrishnan, "Deterministic, fast quantum searching using a quantum Fourier transform"
 - 8:30, Lu Sham, "Quantum information from semiconductor nano-dot-cavity quantum electrodynamics"
 - 9:00, Suhail Zubairy, "From correlated emission laser to entanglement amplifier"
 - 9:30, Howard Brandt, "Unitary entangling cryptographic probe"
 - 10:00, Coffee Break
 - 10:30, Janos Bergou, "Discrimination of quantum states: a quantum paradigm"
 - 11:00, Paolo Perinotti, "Programmable quantum measuring device"
 - 11:30, Fred Wellstood, "Microwave spectroscopy of two coupled macroscopic superconducting qubits."
 - 12:00, Dmitry Khaveshchenko, "Many-body effects in multi-qubit arrays"
 - 12:30, Lunch

Monday Afternoon

- chaired by Janos Bergou and Suhail Zubairy
 - 13:30, Gregor Weihs, "Optical quantum information processing"
 - 14:00, Selim Shariar, "Integrated quantum communication and computing with neutral atoms: ensembles vs. individuals"
 - 14:30, Joshua Bienfang, "Quantum key distribution with 1.25 Gbps clock synchronization"
 - 15:00, Vladimir Korepin, "Entanglement and strongly correlated electrons"
 - 15:30, Coffee Break
 - 16:00, Bertrand Georgeot, "Quantum computation of chaotic systems"
 - 16:30 Mohsen Emami-Razavi "Relativistic three and four particle wave equations in scalar QFT"
 - 17:00, Stephen Low, "Canonically relativistic quantum mechanics: field equations"
 - **19:00, Banquet** at the Best-Western Maryland Inn

Tuesday, 24 August 2004

Tuesday Morning

- chaired by Bei-Lok Hu and Chris Mosley
 - 8:00, Prem Kumar, "Long-distance distribution of fiber-generated entanglement"
 - 8:30, Kazutomu Shiokawa, "Quantum decoherence in non-markovian processes"
 - 9:00, Ramesh Mani, "Radiation-induced zero-resistance states in the high mobility 2DES"
 - 9:30, Shmuel Gurvitz, "Ideal measurements and decoherence in mesoscopic detectors"
 - 10:00, Coffee Break
 - 10:30, Vladimir Privman, "Modeling of decoherence in quantum computing"
 - 11:00, Louis Kauffman, "Spin networks, topology, and quantum information"
 - 11:30, Anocha Yimisiriwattana, "Distributed quantum computing"
 - 12:00, Stephen Hellberg, "Quantum gate circuits"
 - 12:30, Lunch

Tuesday Afternoon

- chaired by Vladimir Privman and Apostolos Vourdas
 - 13:30, Thomas Bahder, "Quantum enhanced clock synchronization"
 - 14:00, Hanhee Paik, "A cooper pair box as a tunable circuit element"
 - 14:30, Chris Moseley, "Differential geometric control of quantum spin systems"
 - 15:00, Sultan Catto, "Exceptional projective geometries and internal symmetries"
 - 15:30, Coffee Break
 - 16:00, Chung-In Um and Kyu-Hwang Yeon, "Quantum correspondence for systems connected by a linear canonical transformation"
 - 16:30, Somshubhro Bandyopadhyay, "Robustness of multiqubit quantum states under sufficiently general noise model"
 - 17:00, Alex Granik, "Transition from quantum to classical information in a superfluid"

Wednesday, 25 August 2004

Wednesday Morning

- chaired by James Anderson and Prem Kumar
 - 8:00, Charles Bennett, "Inequalities and incompatibilities among capacities of quantum channels"
 - 8:30, Lov Grover, "Simple statements should have simple proofs"

- 9:00, Gerard Milburn, "Simulating quantum phase transitions on an ion trap quantum computer"
- 9:30, James Franson, "Quantum computing using single photons and the Zeno effect"
- 10:00, Coffee Break
- 10:30, Theodore Jacobson, "Propagating spinors on a tetrahedron spacetime lattice"
- 11:00, Louis Kauffman, "Checkerboard and non-commutative worlds"
- 11:30, Garnet Ord, "Chessboard phase through space-time geometry"
- 12:00, Lunch (wait until farewell party)

Wednesday Afternoon

- chaired by James Franson and Gerard Milburn
 - 12:30, Phillip Johnson, "Grid simulation of superconducting phase qubits with noise, dissipation, and quantum tunneling"
 - 13:00, Alan Migdall, "Progress on a single-photon-on-demand source by multiplexed parametric downconversion"
 - 13:30, Keith Schwab, "Approaching uncertainty principle with nanomechanics"
 - 14:00, Ulrich Jentschura, "Multi-instantons and exact results"
 - 14:30, Sibel Baskal, "The language of Einstein spoken by optical devices"
- **Farewell Party:** Chinese food will be served.