Program of Virtual QBIC Workshop 2022

October 12, 2022, Wednesday - Main Session (TUS session 1)

10:00 ～ 10:05 *Opening Address* (Tokyo University of Science, Japan)

10:10 ～ 10:55 S. Oryu, Emeritus Professor, Tokyo University of Science, Japan
Transversal Study from Atom-Molecular to Quark-Gluon Systems by the GPT Potential and its Application to the Nuclear Fusion in Nano-Scale Pd-Cage

11:00 ～ 11:45 T. Toyoda, M. Fujita, T. Uchida, K. Yamada, N. Hiraiwa, Tokai University, Japan
Effects of hard-core interaction in BEC thermodynamics

11:45 ～ 13:15 **Lunch Break and Poster Presentatio**

13:15 ～ 14:00 K. Sanaka, Tokyo University of Science, Japan
Scaling entangled photons using passive optical components

14:05 ～ 14:50 S. Iriyama, Tokyo University of Science
Quantum Inspired Algorithm and Its Applications for Information Security

October 12, 2022, Wednesday - Main Session (International session 1)

15:00 ～ 15:10 *Opening Address* (Tokyo University of Science, Japan)

15:15 ～ 16:05 L. Accardi, Roma II University, Italy
The notion of Gaussianity in classical and quantum probability

16:10 ～ 17:00 F. Fagnola, Polytechnic University of Milan, Italy
The decoherence-free subalgebra of Gaussian Quantum Markov Semigroups

17:00 ～ 17:15 **Coffee Break**

17:15 ～ 18:05 F. Mukhamedov, The United Arab Emirates University, U.A.E.
Open Quantum Random Walks and Quantum Markov chains on Trees

18:10 ～ 19:00 R. Quezada, UAM-Iztapalapa Campus, Mexico City, Mexico
Structure of G-Circulant quantum Markov semigroups

19:05 ～ 19:55 M. Regoli, Roma II University, Italy
Quantum Digital Cryptography

October 13, 2022, Thursday - Main Session (TUS session 2)

10:00 ～ 10:45 J.S. Tsai, Tokyo University of Science & RIKEN, Japan
Recent progress in superconducting quantum information

10:50 ～ 11:35 S. Tarucha, RIKEN, Japan
Quantum error correction in silicone

11:35 ～ 12:05 **Lunch Break**

12:05 ～ 12:35 **Poster Presentation (Breakout Room in Zoom)**

12:35 ～ 13:20 N. Watanabe, Tokyo University of Science, Japan
On Transmitted Complexity based on Compound States for Quantum Dynamical Systems

13:25 ～ 14:10 T. Matsuoka, Suwa Tokyo University of Science, Japan
Quantum correlation and it's classical-quantum boundary

14:15 ～ 14:55 T. Kamizawa, Tokyo University of Science, Japan
Matrix Continued Fractions and Approximations of Matrices

15:00 ～ 15:50 K. Sinha, Emeritus Professor of the Indian Statistical Institute & JNCASR, India
Decision Theory in Quantum Statistics and Rao-Blackwell Bound --- Examples

October 13, 2022, Thursday - Main Session (International session 2)

16:00 ～ 16:50 A. Jamiolkowski, Nicolaus Copernicus University, Poland
On quasidiagonal operators in description of open systems

16:55 ～ 17:45 D. Chruscinski, Nicolaus Copernicus University, Poland
Spectra of random channels and random Lindbladians

17:45 ～ 18:00 **Coffee Break**

18:00 ～ 18:50 A. Khrennikov, Linnaeus University, Sweden,
Conditional probability framework for entanglement and its decoupling from tensor product structure

18:55 ～ 19:45 I. Basieva, Linnaeus University, Sweden,
Interplay of multiple conditions in decision making

October 14, 2022, Friday - Main Session (TUS session 3)

10:00 ～ 10:45 M. Asano, Kindai University, Japan
Cluster analysis using state entropy

10:50 ～ 11:35 S. Watabe, Shibaura Institute of Technology, Japan,
Quantum Spatial Search on Complex network

11:35 ～ 13:05 **Lunch Break**

13:05 ～ 13:50 M. Yoshida, Kanagawa University, Japan
Revisit to the foundations of Dirichlet forms and corresponding stochastic quantizations

13:55 ～ 14:40 K. Kuchitsu, Tokyo University of Science, Japan
Rapid long-distance signal propagation in plants: similarities and differences in comparison with the nervous system in aninals

14:45 ～ 15:30 Y. Tanaka, National Collage of Nursing, Japan
An analogy between double-slit experiment and heterogeneity of meta-analysis

15:35 ～ 16:25 D. Wanke, Ludwig-Maximilians-Universität München, Germany
Deciphering the DNA-code - CONTINUED: Update on the local coding and decoding transcriptional regulation of protein coding genes

October 14, 2022, Friday - Main Session (International session 3)

16:40 ～ 17:30 I. Volovich, Steklov Mathematical Institute, Russia
Coarse graining entanglement in classical and quantum mechanics

17:35 ～ 18:25 S. Kozyrev, Steklov Mathematical Institute, Russia
Quantum feedback control in quantum photosynthesis

18:25 ～ 18:40 **Coffee Break**

18:40 ～ 19:30 S. Lakaev, Samarkand State University, Uzbekstan
The extended Fermi-Hubbard model with nearest-neighbor and next nearest-neighbor interactions: New, exactly solvable cases