

# 幾何学と力学とその応用

期間: 2019年5月25日(土)・26日(日)

会場: 立命館大学びわこ・くさつキャンパス ウェストウィング6階 談話会室

世話人: 上野 嘉夫 (京都薬科大学)・佐藤 寛之 (京都大学)・多羅間 大輔 (立命館大学)・  
中村 佳正 (京都大学)・吉村 浩明 (早稲田大学)

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2019年5月25日(土)

10:00 – 10:50 上野 嘉夫 (京都薬科大学)

量子統計多様体上の行列平均化 *Hebb* 学習方程式とその *Hamilton* 形式

11:10 – 12:00 郡 敏昭 (早稲田大学)

*Geometry of Atiyah exact sequences and its application to an electro-magnetic aspect on Yang-Mills fields*

13:30 – 14:20 谷村 省吾 (名古屋大学)

磁場中の荷電粒子の対称性と保存量

14:40 – 15:30 藤井 一幸 (横浜市立大学)

癌因子の制御に向けた数理モデルの紹介と発展

15:50 – 16:40 Boris Zhilinskiĭ (Université du Littoral Côte d'Opale)

*Energy band rearrangements for finite-particle quantum systems: Symmetry and topology aspects*

17:00 – 17:50 岩井 敏洋 (京都大学)

*The 2D Dirac oscillator leads to a model for the quantum Hall effect on the two-torus*

19:00 – 懇親会 (岩井敏洋先生の古希をお祝いする会) @ 琵琶湖ホテル

2019年5月26日(日)

10:00 – 10:50 廣田 祐士 (麻布大学)

*The Kostant-Souriau prequantization formula for a twisted Poisson structure*

11:10 – 12:00 後藤 振一郎 (統計数理研究所)

*Hessian-information geometric formulation of Hamiltonian systems and generalized Toda's dual transform*

13:30 – 14:20 千葉 逸人 (東北大学)

*Synchronization of the Kuramoto model on networks*

14:40 – 15:30 柳尾 朋洋 (早稲田大学)

*Transfers via resonant gravity assists and invariant manifolds in the restricted three-body problem*

15:50 – 16:40 佐藤 寛之 (京都大学)

多様体上の幾何学的最適化の進展について



# Geometry, Mechanics, and their Applications

Dates: From 25/May/2019 till 26/May/2019

Venue: Ritsumeikan University, Biwako-Kusatsu Campus, West Wing 6F, Colloquium Room

Organizers: Yoshimasa Nakamura (Kyoto University),

Hiroyuki Sato (Kyoto University),

Daisuke Tarama (Ritsumeikan University),

Yoshio Uwano (Kyoto Pharmaceutical University),

Hiroaki Yoshimura (Waseda University)

Contact: Daisuke Tarama (E-mail: dtarama [at] fc.ritsumei.ac.jp)

Saturday, 25/May/2019

10:00 – 10:50 Yoshio Uwano (Kyoto Pharmaceutical University)

*Matrix averaged Hebbian learning equations on the quantum statistical manifold and their Hamiltonian form*

11:10 – 12:00 Toshiaki Kori (Waseda University)

*Geometry of Atiyah exact sequences and its application to an electro-magnetic aspect on Yang-Mills fields*

13:30 – 14:20 Shogo Tanimura (Nagoya University)

*Symmetry and conservation law of electrically charged particle in magnetic field*

14:40 – 15:30 Kazuyuki Fujii (Yokohama City University)

*Introduction to a mathematical model for the control of cancer factors and some developments*

15:50 – 16:40 Boris Zhilinskiĭ (Université du Littoral Côte d'Opale)

*Energy band rearrangements for finite-particle quantum systems: Symmetry and topology aspects*

17:00 – 17:50 Toshihiro Iwai (Kyoto University)

*The 2D Dirac oscillator leads to a model for the quantum Hall effect on the two-torus*

19:00 – Banquet @ Biwako Hotel

Sunday, 26/May/2019

10:00 – 10:50 Yuji Hirota (Azabu University)

*The Kostant-Souriau prequantization formula for a twisted Poisson structure*

11:10 – 12:00 Shin-itiro Goto (Institute of Statistical Mathematics)

*Hessian-information geometric formulation of Hamiltonian systems and generalized Toda's dual transform*

13:30 – 14:20 Hayato Chiba (Tohoku University)

*Synchronization of the Kuramoto model on networks*

14:40 – 15:30 Tomohiro Yanao (Waseda University)

*Transfers via resonant gravity assists and invariant manifolds in the restricted three-body problem*

15:50 – 16:40 Hiroyuki Sato (Kyoto University)

*Recent developments in geometric optimization on manifolds*