



Workshop on Recent Developments in Chiral Matter and Topology

December 6 ~ 9, 2018
National Taiwan University, Taipei, Taiwan

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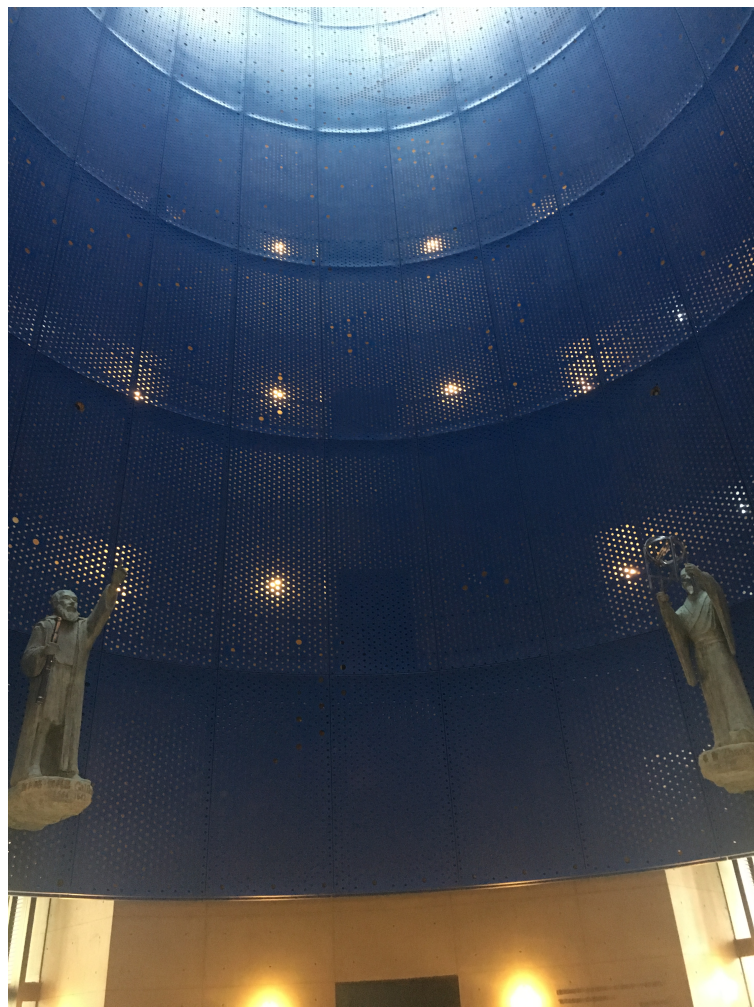
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Yu-tin Huang:
Golden-Jade Award



and new weak-weak duality between gravity and Yang-Mills theory. These led to new understandings of the ultra-violet behavior of quantum gravity, and new results for higher order loop computations, among a series of surprising, revolutionary developments.
More recently, Yu-tin has been working on the generalizations of unitarity and symmetries on physical processes. This led to a new viewpoint of quantum gravity. He also works on low-energy effective field theories for discrete systems.



Two Chair Professor Positions in Theoretical Physics

Applications are invited for two chair professor positions in Theoretical Physics, one in General and High Energy Physics, and one in Quantum Field Theory. The positions are open to international applicants. Applications are accepted on a rolling basis. For research areas and general conditions of appointment, please refer to the website: <http://www.nyu.edu/~physstat/physics/positions/>. Applications should be sent to: Chair Professor Search Committee, National Tsing Hua University, 101 Sec. 2, Kuang-Fu Rd., Hsinchu, Taiwan 300, Republic of China. For inquiries, please contact Mr. Hong: hsong@physstat.nyu.edu.tw.

Address of web page: <http://www.nyu.edu/~physstat/physics/positions/>
Application forms and the official announcements will be provided on-line.

Fundamental concepts across the energy scale

QCD

Condensed Matter

Chiral symmetry breaking

BCS superconductivity

Renormalization group
& asymptotic freedom

Renormalization group
& Kondo problem

Lattice gauge theory
& confinement

Quantum Monte Carlo
simulations

Chiral anomaly & topology

Topological matter

Baryonic Skyrmions

Magnetic Skyrmions

Color superconductivity

High T_c superconductors

Hadron-quark crossover

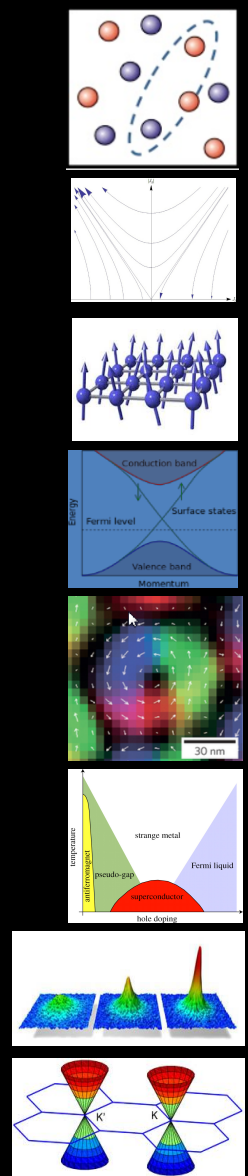
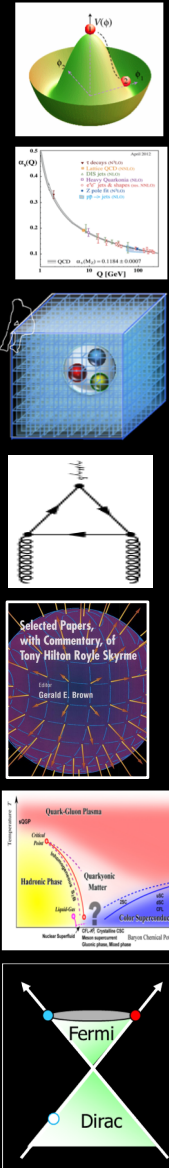
BEC-BCS crossover

Massless quarks

Weyl & Majorana fermions

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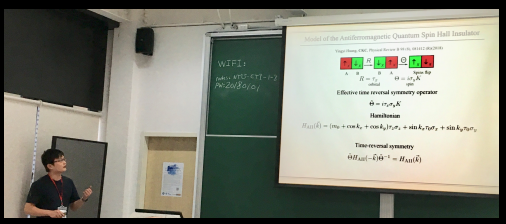


Day 1 (Dec.6)

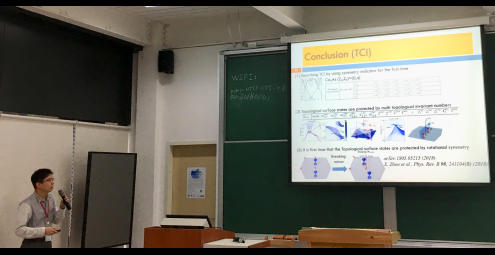
Chiral collective modes (Dai)



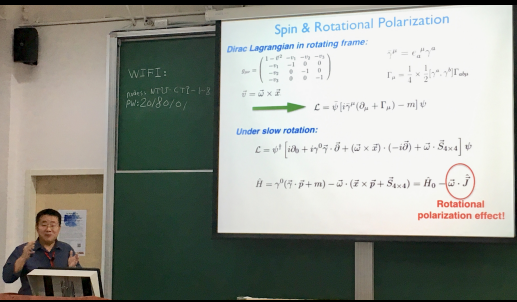
Realization of Helical Majorana mode (Chiu)



Topological crystalline Insulator (Chang)

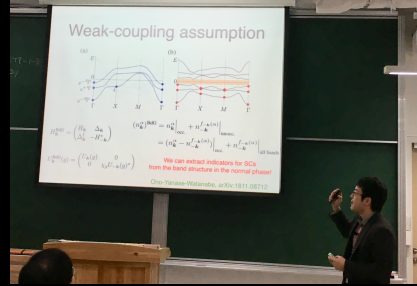
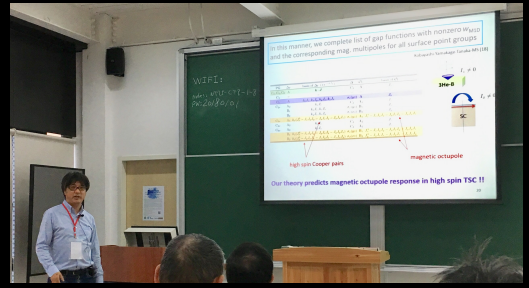


Vorticity and Weyl nodes (Huang)

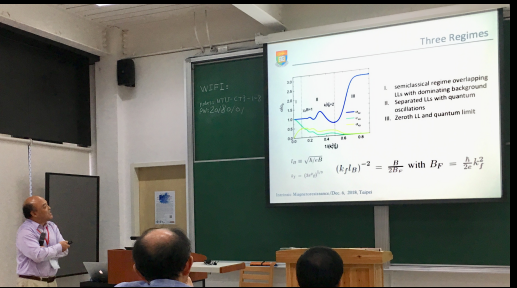


Chiral matter In QCD (Liao)

Helical Majorana fermions (Sato)

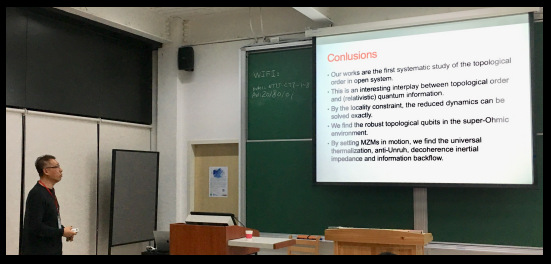


Topology from symmetry (Watanabe)



Intrinsic magneto-resistance (Shen)

Topological qubits (Lin)

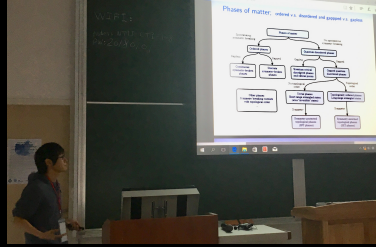


Day21 (Dec.7)

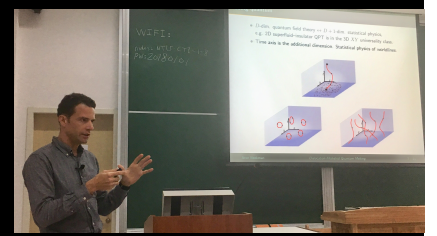


SPT phase (Ryu)

Chiral magnetic plasmon (Shovkovy)

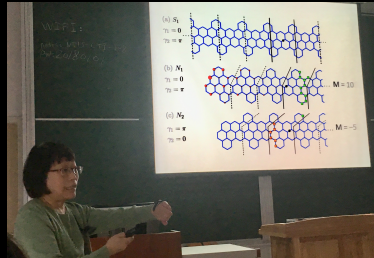


Quantum Dislocation and Disclination (Beckman)

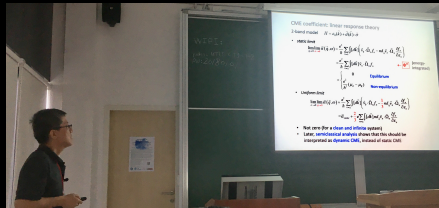


Topological classification (Furusaki)

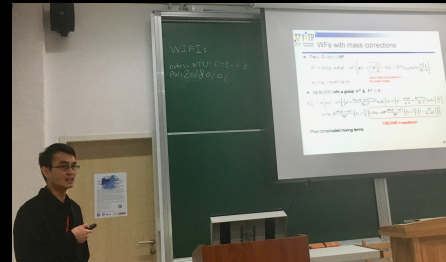
Graphene nanoribbons (Chou)



Chiral Wigner Function (Wang)

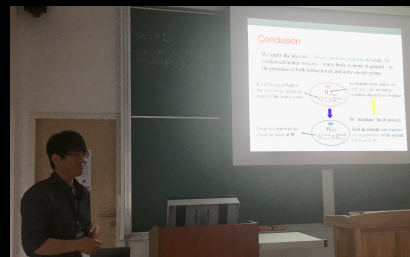


Dynamical chiral magnetic Effect (Chang)

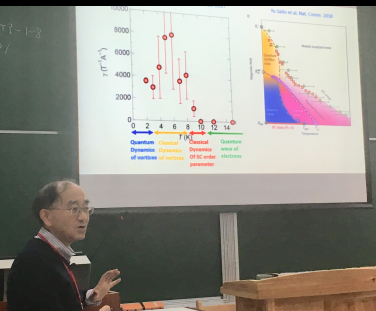
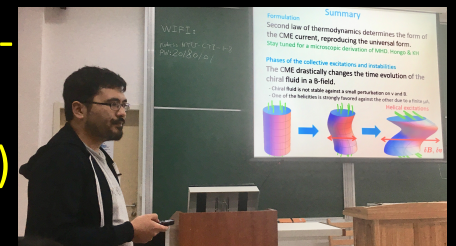


Chiral quantum Transport (Yang)

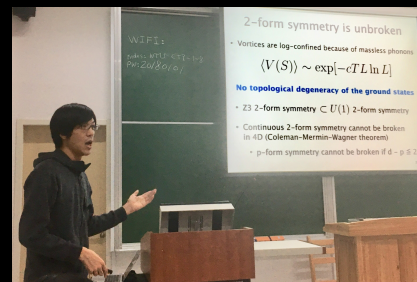
Anomaly Matching (Hsieh)



Chiral magneto-hydrodynamics (Hattori)

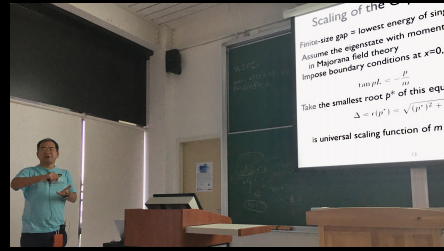


Non-reciprocal Transport (Nagaosa)



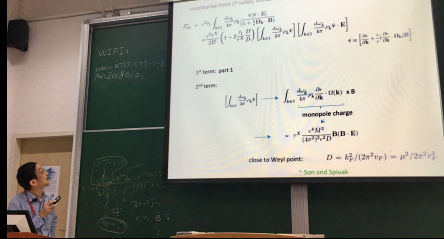
Hadron-quark Continuity (Hirono)

Day 3 (Dec.8)



Finite size Scaling (Oshikawa)

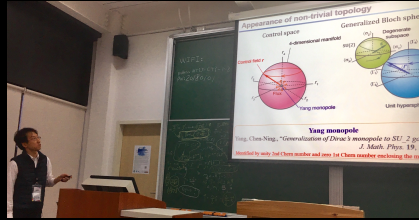
Magneto-resistance and kinetic theory (Yip)



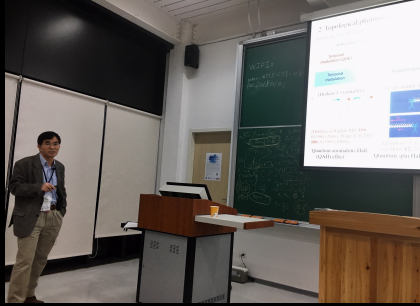
Helical Majorana modes (Chung)



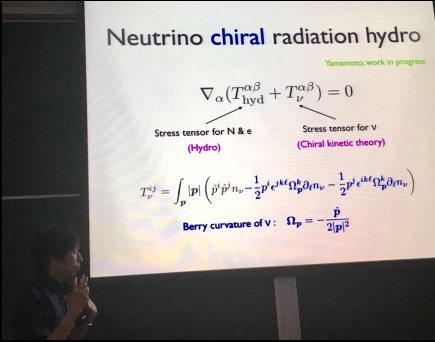
Hidden positivity In Ising (Huang)



Monopole engineering (Sugawa)



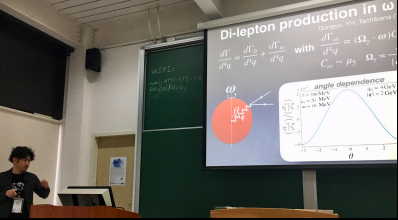
Photonic crystal (Guo)



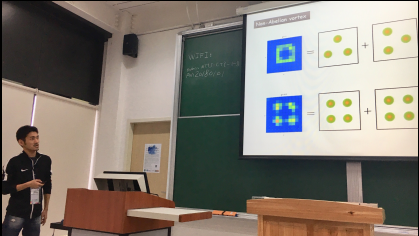
Inverse cascade (N. Yamamoto)



Synthetic dimension (Ozawa)



Particle production (Hidaka)



Non-abelian Vortex (A. Yamamoto)



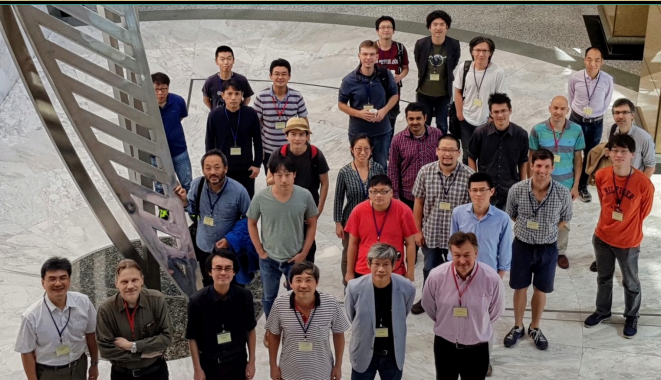
Mathieu-Planck Functional (Hongo)



Workshop of Recent Developments in QCD and Quantum Field Theories

November 9-12, 2017
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SPONSORS:



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