

# Program List of QCS2014

(*Quarks and Compact Stars*)

Oct. 20-22, 2014

KIAA, Peking University, Beijing, China

===== Monday, Oct. 20 =====

08:00 -- 08:50 Registration (KIAA Building)

(*Xu, Renxin*)

08:50 -- 09:00 Conference Opening

Welcome speech by Prof. Ho, Luis (the director of KIAA)

## Session 1: Phases in dense matter

*Chair: Maruyama, Toshiki* (30min = 25+5, 20min = 15+5)

09:00 -- 09:30 **Tatsumi, Toshitaka**: *Topological aspects of the inhomogeneous chiral phase and implications on compact star phenomena*

09:30 -- 09:50 **Yoshiike, Ryo**: *Quark-Hadron Phase Transition with Finite-Size Effects in Neutron Stars*

09:50 -- 10:20 **Tachibana, Motoi**: *Dark Matter Capture in Compact Stars*

10:20 -- 11:00 *Taking group photo, Coffee Break*

## Session 2: Chiral phase transition

*Chair: Lee, Chang-Hwan* (30min = 25+5)

11:00 -- 10:30 **Abuki, Hiroaki**: *Inhomogeneous chiral phases in two-flavor quark matter*

11:30 -- 12:00 **Lee, Tong-Gyu**: *Fluctuations in dual chiral density wave*

12:00 -- 12:30 **Shovkovy, Igor**: *Chiral asymmetry in magnetized stellar matter*

\*\*\* Lunch bag \*\*\*

## Session 3: Neutron star binary

*Chair: Shen, Hong* (30min = 25+5)

14:30 -- 15:00 **Lee, Chang-Hwan**: *Supercritical Accretion in the Evolution of Neutron Star Binaries and Its Implications*

15:00 -- 15:30 **Sekiguchi, Yuichiro**: *Exploring physics of dense matter using gravitational waves from binary neutron star merger*

15:30 -- 16:10 *Coffee Break*

## Session 4: High density matter

*Chair: Tachibana, Motoi* (30min = 25+5)

16:10 -- 16:40 **Muto, Takumi**: *Coexistence of kaon condensation and hyperons in hadronic matter and its relevance to quark matter*

16:40 -- 17:10 **Nakano, Eiji**: *Non-Abelian vortex lattice in dense QCD*

17:10 -- 17:30 **Hu, Jinniu**: *Stellar neutrino emission at finite temperature in relativistic mean field theory*

===== Tuesday, Oct. 21 =====

### Session 5: Star phenomena

**Chair: Tong, Hao** (30min = 25+5, 20min=15+5)

08:30 -- 09:00 **Noda, Tsuneo**: *Cooling of Compact Stars with Color Superconducting Quark Matter*

09:00 -- 09:30 **Nakazato, Kenichiro**: *Supernova Explosion and Black Hole Formation with QCD phase transition*

09:30 -- 09:50 **Lin, Mengxiang**: *Oscillation Driven Magnetospheric Activity in Pulsars*

09:50 -- 10:30 *Coffee Break*

### Session 6: Magnetic field

**Chair: Yasutake, Nobutoshi** (30min = 25+5, 20min=15+5)

10:30 -- 11:00 **Tong, Hao**: *Wind braking of magnetars*

11:00 -- 11:20 **Nishiyama, Kazuya**: *Twisted kink crystals in the external magnetic field*

11:20 -- 11:40 **Chu, Pengcheng**: *Quark stars under strong magnetic fields*

\*\*\* Lunch bag \*\*\*

### Session 7: Mixed phase

**Chair: Peng, Guangxiong** (30min = 25+5)

13:30 -- 14:00 **Yasutake, Nobutoshi**: *Quark-Hadron Phase Transition with Finite-Size Effects in Neutron Stars*

14:00 -- 14:30 **Zhou, Xia**: *Novel non-equilibrium phase transition caused by non-linear hadronic-quark phase structure*

14:30 -- 15:00 **Maruyama, Toshiki**: *Structures and properties of nuclear matter at the first-order phase transitions*

15:00 -- 15:40 *Coffee Break*

### Session 8: Nuclear matter

**Chair: Nakazato, Kenichiro** (30min = 25+5, 20min=15+5)

15:40 -- 16:10 **Shen, Hong**: *Nuclear equation of state for supernovae and neutron stars*

16:10 -- 16:40 **Peng, Guangxiong**: *EOS of quark matter and structure of compact stars*

16:40 -- 17:00 **Bao, Shishao**: *Impacts of the nuclear symmetry energy on neutron star crusts*

\*\*\* Banquet at the first floor of KIAA \*\*\*

Starting at 18:00pm

===== Wednesday, Oct. 22 =====

### Session 9: Observations

**Chair: Huang, Yongfeng** (30min = 25+5)

08:30 -- 09:00 **Maruyama, Tomoyuki**: *Asymmetric Neutrino Emissions in Relativistic Mean-Field Approach and Observables: Pulsar Kick and Spin Deceleration of Strongly Magnetized Proto-Neutron Stars*

09:00 -- 09:30 **Sotani, Hajime**: *Constraints on the nuclear saturation parameters via neutron star observations*

09:30 -- 10:00 **Li, Zhaosheng**: *The mass and radius of neutron star in 4U 1746-37*

10:00 -- 10:40 *Coffee Break*

### Session 10: Quark matter

**Chair: Maruyama, Tomoyuki** (30min = 25+5)

10:40 -- 11:10 **Huang, Yongfeng**: *Anti-glitch due to collision of a planetesimal with the magnetar 1E 2259+586*

11:10 -- 11:40 **Tsue, Yasuhiko**: *A possibility of quark spin polarized phase in high density quark matter*

11:40 -- 12:10 **Li, Ang**: *Boiling of primordial quark nuggets in the early universe*

\*\*\* Lunch bag \*\*\*

### Session 11: Quark stars

**Chair: Li, Ang** (30min = 25+5, 20min=15+5)

14:00 -- 14:30 **Lai, Xiaoyu**: *Ferromagnetism of solid quark stars*

14:30 -- 14:50 **Lu, Jiguang**: *Two types of glitches in a solid quark star model*

14:50 -- 15:10 **Zhang, Zhaowen**: *Relativistic equation of state at subnuclear densities in the Thomas-Fermi approximation*

15:10 -- 15:50 *Coffee Break*

### Session 12: Star structure

**Chair: Tatsumi, Toshitaka** (30min = 25+5, 20min=15+5)

15:50 -- 16:20 **Takatsuka, Tatsuyuki**: *Massive Neutron Stars with Hadron-Quark Transient Core phenomenological approach by "3-window model"*

16:20 -- 16:40 **Xia, Chengjun**: *The structure of strange stars with a new quark mass scaling*

16:40 -- 17:10 **Xu, Renxin**: *A strangeness barrier on strange quark-cluster star surface*

Conference Closure