

# CSQCD VII

Advanced Science Research Center  
CUNY, NY

June 11 – 15, 2018

Sponsored by:

CUNY-College of Staten Island

CUNY-CSI Incubator

CUNY-Graduate Center

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# **PROGRAM**

## **Welcome Remarks:**

**9:00 – 9:15 AM** President William Fritz, CUNY/College of Staten Island

**9:15 – 9:30 AM** Dean Joshua C. Brumberg, CUNY-Graduate Center

NOTE: All the presentations will be held in the ASRC Auditorium

<b>Monday, June 11, 2018 Morning Section</b>	<b>EOS &amp; NS Mergers</b>	<b>Chair: Efrain J Ferrer</b>
9:30 – 10:20 AM	David Radice Princeton University, USA	Neutron Star Mergers Simulations
10:20 – 11:10 AM	Ang LI Xiamen University, RP China	Quark star EOSs in the light of SGRBs and GW170817
<b>11:10 – 11:30 AM</b>	<b>BREAK</b>	
11:30 AM– 12:20 PM	Domenico Logoteta INFN, Pisa, Italy	A new EOS for nucleonic and hyperonic matter from ChEFT: application to NS structure and BNS merging
<b>12:30 – 2:10 PM</b>	<b>LUNCH</b>	
<b>Monday, June 11, 2018 Evening Section</b>	<b>NS Physics</b>	<b>Chair: James Lattimer</b>
2:10 – 3:00 PM	Tobias Fischer Inst. of Theoretical Physics, University of Wroclaw, Poland	Explosions of massive blue- supergiant stars triggered by the QCD phase transition
3:00 – 3:30 PM	Enping Zhou Peking University, RP China	Rotational configuration of quark stars and their impact on post- merger behaviors
3:30 – 4:00 PM	Mateusz Cierniak, Joint Institute for Nuclear Research, Russia	Vector-interaction-enhanced bag model
<b>4:00 – 4:30 PM</b>	<b>BREAK</b>	

<b>4:00 – 4:30 PM</b>	<b>BREAK</b>	
<b>Monday, June 11, 2018 Evening Section</b>	<b>NS Physics</b>	<b>Chair: Prashanth Jaikumar</b>
4:30 – 5:00 PM	Michal Marczenko Joint Institute for Nuclear Research, Russia	Chiral symmetry restoration by parity doubling and the structure of neutron stars
5:00 – 5:30 PM	Tianqi Zhao Stony Brook University, NY, USA	Deformability constraints of neutron stars and hybrid quark stars
5:30 – 6:00 PM	Niels-Uwe Bastian Joint Institute for Nuclear Research, Russia	Relativistic density functional approach to dense quark matter and its applications
6:00 – 6:30 PM	Aric A. Hackett CSI-CUNY, USA	EoS of a Magnetized Dense Neutron System

<b>Tuesday, June 12, 2018 Morning Section</b>	<b>Phases of Quark Matter</b>	<b>Chair: Rachid Ouyed</b>
9:30 – 10:20 AM	Armen Sedrakian Goethe University, Germany	Dense matter phases and new equilibria of compact stars
10:20 – 11:10 AM	Robert Pisarski Brookhaven Nat. Lab., USA	The phase diagram of QCD: critical endpoint vs a pseudo-Lifshitz point
<b>11:10 – 11:30 AM</b>	<b>BREAK</b>	
11:30 AM– 12:20 PM	Vivian de la Incera CSI – CUNY, USA	Topological Properties of Dense QCD in a Magnetic Field
<b>12:30 – 2:30 PM</b>	<b>LUNCH</b>	
<b>Tuesday, June 12, 2018 Evening Section</b>	<b>Phases of Quark Matter</b>	<b>Chair: Robert Pisarski</b>
2:30 – 3:20 PM	Massimo Mannarelli Gran Sasso, Italy	Inhomogeneous phases of quark matter by an improved gradient expansion technique.
3:20 – 4:10 PM	Jorge E. Horvath IAG-USP, Sao Paulo, Brazil	Nucleosynthesis and kilonovae from strange star mergers
<b>4:10 – 4:30 PM</b>	<b>BREAK</b>	
4:30 – 5:20 PM	Efrain J. Ferrer CSI – CUNY, USA	Axion Electrodynamics in High-Temperature QCD
5:30 – 7:30 PM	Steering Committee Meeting	ASRC conference room-first floor

<b>Wednesday, June 13, 2018 Morning Section</b>	<b>EOS &amp; NS Mergers</b>	<b>Chair: Vivian de la Incera</b>
9:30 – 10:20 AM	Bangalore Sathyaprakash Penn State, USA	Measuring neutron star equation of state from gravitational wave observations
10:20 – 11:10 AM	Cole Miller Univ. of Maryland, USA	What Can Neutron Star Mergers Tell Us About Dense Matter?
<b>11:10 – 11:30 AM</b>	<b>BREAK</b>	
11:30 AM – 12:20 PM	James Lattimer Stony Brook University, NY, USA	Neutron Star Mass and Radius Measurements
<b>12:30 – 1:30 PM</b>	<b>LUNCH</b>	
<b>1:30 – 2:30 PM</b>	<b>CUNY Advance Science Research Center Tour</b>	
<b>Wednesday, June 13, 2018 Evening Section</b>	<b>EOS &amp; NS Mergers</b>	<b>Chair: Andrew MacFadyen</b>
2:30 – 3:20 PM	Matthias Hanauske Goethe-Universität, Frankfurt am Main, Germany	Constraining the Equation of State of Neutron Stars from Binary Mergers
3:20 – 4:10 PM	Mark Alford Washington University in St. Louis, USA	Transport and dissipation in neutron star mergers
<b>4:10 – 4:30 PM</b>	<b>BREAK</b>	

<b>4:10 – 4:30 PM</b>	<b>BREAK</b>	
<b>Wednesday, June 13, 2018 Evening Section</b>	<b>EOS &amp; NS Mergers</b>	<b>Chair: Andrew MacFadyen</b>
4:30 – 5:20 PM	Veronica Dexheimer Kent State University, Ohio, USA	EOS effects on NS mergers
5:20 – 6:10 PM	Stephan Stetina Vienna University of Technology, Austria	Transport phenomena in the crust-core boundary of neutron stars

<b>Thursday, June 14, 2018 Morning Section</b>	<b>High-Energy Astrophysics of NS &amp; Transport Properties</b>	<b>Chair: David Blaschke</b>
9:30 – 10:20 AM	Hiroki Nagakura TAPIR, California Institute of Technology, USA	On the requirements for first- principles modeling of core- collapse supernovae
10:20 – 11:10 AM	Gabriel Wlazlowski Warsaw University of Technology, Poland	Towards accurate description of non-equilibrium dynamics in superfluid neutron matter
<b>11:10 – 11:30 AM</b>	<b>BREAK</b>	
11:30 AM – 12:20 PM	Rachid Ouyed University of Calgary, Canada	The non-linear dynamics of the Hadron-to-Quark-Matter combustion (HQMC) and its implications to high-energy astrophysics
<b>12:30 – 2:30 PM</b>	<b>LUNCH</b>	
<b>Thursday, June 14, 2018 Evening Section</b>		
2:30 – 4:30 PM	<b>Open Forum</b>	<b>Facilitator: Cole Miller</b>
<b>6:30 PM</b>	<b>Conference Dinner</b>	<b>Harvard Club</b> (Business casual attire required)

<b>Friday, June 15, 2018 Morning Section</b>	<b>High-Energy Astrophysics of NS &amp; Transport Properties</b>	<b>Chair: Rachel A. Rosen</b>
9:30 – 10:20 AM	Prashanth Jaikumar California State Univ. Long Beach, USA	Effects of strange quark matter on non-radial oscillations of compact stars
10:20 – 11:10 AM	Weiwei Zhu Nat. Ast. Observ. Chinese Academy of Sciences, RP China	Prospects of pulsar timing and discoveries using the FAST telescope equation of state of a Magnetized Neutron System
<b>11:10 – 11:30 AM</b>	<b>BREAK</b>	
11:30 AM – 12:20 PM	Fridolin Weber San Diego State Univ., USA	Neutrino Emissivity in the Quark-Hadron Mixed Phase of Neutron Stars
<b>12:30 – 2:10 PM</b>	<b>LUNCH</b>	
<b>Friday, June 15, 2018 Evening Section</b>	<b>High-Energy Astrophysics of NS &amp; NS Merger</b>	<b>Chair: Jorge E. Horvath</b>
2:10 – 3:00 PM	Omar Zubairi Wentworth Inst. of Tech., Boston, USA	The Role of Deformation on the Stellar Structure of Non-Rotating Neutron Stars
3:00 – 3:50 PM	David Blaschke JINR, Russia & University of Wroclaw, Poland	Was GW170817 indeed a neutron star merger?
3:50 – 4:40 PM	Stefan Schramm FIAS	Hybrid stars and star mergers
4:40 – 5:10 PM	Alexander Ayriyan Joint Institute for Nuclear Research, Russia	Bayesian analysis for extracting properties of the nuclear equation of state from observational data
5:10 – 5:30 PM	<b>Conf. closing remarks</b>	<b>Vivian de la Incera</b>