

Quantum to Cosmos: Ideas and Applications

Summer Research School, June 25 – July 4 2019, Gebze, TURKEY

Program

June 26, Wednesday

08:00 – 09:30	<i>Breakfast</i>	
10:00 – 10:50	Viatcheslav Mukhanov	Quantum Universe
11:10 – 12:00	Viatcheslav Mukhanov	Quantum Universe
12:30 – 14:00	<i>Lunch</i>	
14:10 – 15:00	Viatcheslav Mukhanov	Quantum Universe
15:20 – 16:10	Viatcheslav Mukhanov	Quantum Mechanics in the Sky
18:00 – 19:30	<i>Dinner</i>	
20:00 – 21:00	Tansu Daylan	Public Lecture: Detecting and Characterizing Exoplanets with Tess: Nasa's New Exoplanet Hunter

June 27, Thursday

08:00 – 09:30	<i>Breakfast</i>	
10:00 – 10:50	Tansu Daylan	Dark Matter and its Structure in the Universe
11:10 – 12:00	Tansu Daylan	Gravitational Strong Lensing of Light from Distant Galaxies
12:30 – 14:00	<i>Lunch</i>	
14:10 – 15:00	Michael Peskin	What Do We Know about Electroweak Symmetry Breaking?
15:20 – 16:10	Michael Peskin	What Don't We Know about Electroweak Symmetry Breaking?
18:00 – 19:30	<i>Dinner</i>	

June 28, Friday

08:00 – 09:00	<i>Breakfast</i>	
09:00 – 09:15	Hasan Mandal President of TÜBİTAK	Welcome Speech
09:15 – 09:30	Mehmet Fatih KACIR Deputy Minister of Industry and Technology	Welcome Speech
10:00 – 10:50	Michael Peskin	What Do We Know about the Higgs Boson?
11:10 – 12:00	Michael Peskin	What Could We Know about the Higgs Boson?
12:30 – 14:00	<i>Lunch</i>	
14:10 – 15:00	Tansu Daylan	Probabilistic Cataloging
15:20 – 16:10	Tansu Daylan	Inferring the Small-Scale Structure of Dark Matter via Strong Lensing
18:00 – 19:30	<i>Dinner</i>	
20:00 – 21:00	Michael Peskin	Public Lecture: The Clandestine Relationship Between the top Quark and Higgs Boson

June 29, Saturday

08:00 – 09:30	<i>Breakfast</i>	
10:00 – 10:50	Samir Mathur	Resolution of the Information Paradox via the Fuzzball Paradigm
11:10 – 12:00	Samir Mathur	Resolution of the Information Paradox via the Fuzzball Paradigm
12:30 – 14:00	<i>Lunch</i>	
14:10 – 18:00	Free Discussions	
18:00 – 19:30	<i>Dinner</i>	
20:00 – 21:00	Samir Mathur	Public Lecture: Resolution of the Black Hole Information Paradox

June 30, Sunday

No Lectures

July 1, Monday

08:00 – 09:30	<i>Breakfast</i>	
10:00 – 10:50	Andrei Starinets	Holography, Finite-Temperature QFT, and Hydrodynamics
11:10 – 12:00	Andrei Starinets	Holography, Finite-Temperature QFT, and Hydrodynamics
12:30 – 14:00	<i>Lunch</i>	
14:10 – 15:00	Tracy Slatyer	Evidence for Dark Matter
15:20 – 16:10	Tracy Slatyer	Theoretical Models for Dark Matter
16:20 – 17:10	Samir Mathur	Resolution of the Information Paradox via the Fuzzball Paradigm
17:10 – 18:00	Samir Mathur	Resolution of the Information Paradox via the Fuzzball Paradigm
18:00 – 19:30	<i>Dinner</i>	
20:00 – 21:00	Tracy Slatyer	Public Lecture: Light from Darkness? Searching for Dark Matter in the Sky

July 2, Tuesday

08:00 – 09:30	<i>Breakfast</i>	
10:00 – 10:50	Tracy Slatyer	Astrophysical and Cosmological Searches for Dark Matter
11:10 – 12:00	Tracy Slatyer	Terrestrial Searches for Dark Matter
12:30 – 14:00	<i>Lunch</i>	
14:10 – 15:00	Subir Sarkar	The Universe Observed
15:20 – 16:10	Subir Sarkar	Relativistic World Models
18:00 – 19:30	<i>Dinner</i>	
20:00 – 21:00	Andrei Starinets	Public Lecture: String Theory, Black Holes, and Quark-Gluon Plasma

July 3, Wednesday

08:00 – 09:30	<i>Breakfast</i>	
10:00 – 10:50	Subir Sarkar	Reconstructing Our Thermal History
11:10 – 12:00	Subir Sarkar	Big Bang Nucleosynthesis
12:30 – 14:00	<i>Lunch</i>	
14:10 – 15:00	Amanda Cooper-Sarkar	Introduction to QCD and Parton Distribution Functions
15:20 – 16:10	Amanda Cooper-Sarkar	Introduction to QCD and Parton Distribution Functions
18:00 – 19:30	<i>Dinner</i>	
20:00 – 21:00	Subir Sarkar	Public Lecture: Testing the Cosmological Principle

July 4, Thursday

08:00 – 09:30	<i>Breakfast</i>	
10:00 – 10:50	Amanda Cooper-Sarkar	Introduction to QCD and Parton Distribution Functions
11:10 – 12:00	Amanda Cooper-Sarkar	Introduction to QCD and Parton Distribution Functions
12:30 – 14:00	<i>Lunch</i>	
14:10 – 15:00	Andrei Starinets	Holography, Finite-Temperature QFT, and Hydrodynamics
15:20 – 16:10	Andrei Starinets	Holography, Finite-Temperature QFT, and Hydrodynamics
18:00 – 19:30	<i>Dinner</i>	
20:00 – 21:00	Amanda Cooper-Sarkar	Public Lecture: Parton Distribution Functions at the LHC, Improvements at the HL-LHC and Prospects for an LHeC