



Apply Now!

“The Largest and The Smallest”

2024 SJTU Physics International Summer School

“The Largest and the Smallest” Physics International Summer School, organized by Zhiyuan College and Tsung Dao Lee Institute (“TDLI”), Shanghai Jiao Tong University (“SJTU”) will be held between July 8th and 18th, 2024. The Summer School mainly aims at providing undergraduate students with strong passion in physics from China and overseas universities with a platform to gain experience with cutting-edge research and build friendships among their peers.



A certificate of completion will be awarded jointly by Zhiyuan College and TDLI of SJTU, plus to a transcript of SJTU. The Summer School now invites applications from home and abroad. Below please find more details and the application webpage at:

<http://crosscultural.mikecrm.com/HbJ7iSH>

Explore the limits of nature, and expand the boundaries of knowledge! Apply now and join with us for an unprecedented experience!

探索自然极限 拓展认知疆域

李政道
二〇二二年十月

Panorama: “Quest for Infinity”

Organizer

Zhiyuan College, founded in 2010, is directly funded by Ministry of Education, China. It is an undergraduate institute within SJTU that provides an elite-education for the top 10% undergraduate students and bear a mission to train them to become future leaders in science and technology.

TDLI was founded in 2016, with Professor Tsung Dao Lee (Nobel Prize Laureate in Physics 1957) as the Honorary Director and Professor Frank Wilczek (Nobel Prize Laureate in Physics 2004) as the Founding Director (and currently Chief Scientist). TDLI supports research in high energy physics, astrophysics and quantum physics, and aims to become a top-notch physics and astronomy research institute in the world. The current Director is Professor Jie Zhang, a prominent physicist, the former President of SJTU and the Founding Dean of Zhiyuan College.

Date

- July 8th to 18th, 2024

Location

- Tsung-Dao Lee Institute
1 Lisuo Road, Pudong New Area, Shanghai

Language

- English

Course Description

“The Largest and The Smallest”

The Largest and the Smallest represent the two extremes of the universe, one being the vast cosmos and the other being the tiny fundamental particles. Although they are vastly different, they are intricately connected to some extent. To understand the essence of this connection, a deep understanding of the fundamental physical laws of the universe is required. This event will revolve around the vast and the minuscule.

The main courses will include quantum field theory and elementary particles, quantum computing and quantum materials, as well as three major themes ranging from exoplanets to black holes. The courses will briefly introduce the basic physical ideas and frameworks of each direction, and then swiftly delve into their applications and developments in cutting-edge research fields.

Instructors



Dong Lai
T. D. Lee Chair Professor
TDLI, SJTU

Dong Lai is a theoretical astrophysicist who has worked on a number of different areas, from compact objects to exoplanets. He has made original contributions on the physical processes that take place in strong magnetic fields of neutron stars, such as the effect of QED on radiative transfer in neutron star atmospheres and x-ray polarization signatures, and the magnetic effect on the property of neutron star surfaces and interiors. His theoretical works have also helped constrain and elucidate the physical mechanisms of supernova kicks.



Michael Ramsey-Musolf
T. D. Lee Chair Professor
TDLI, SJTU

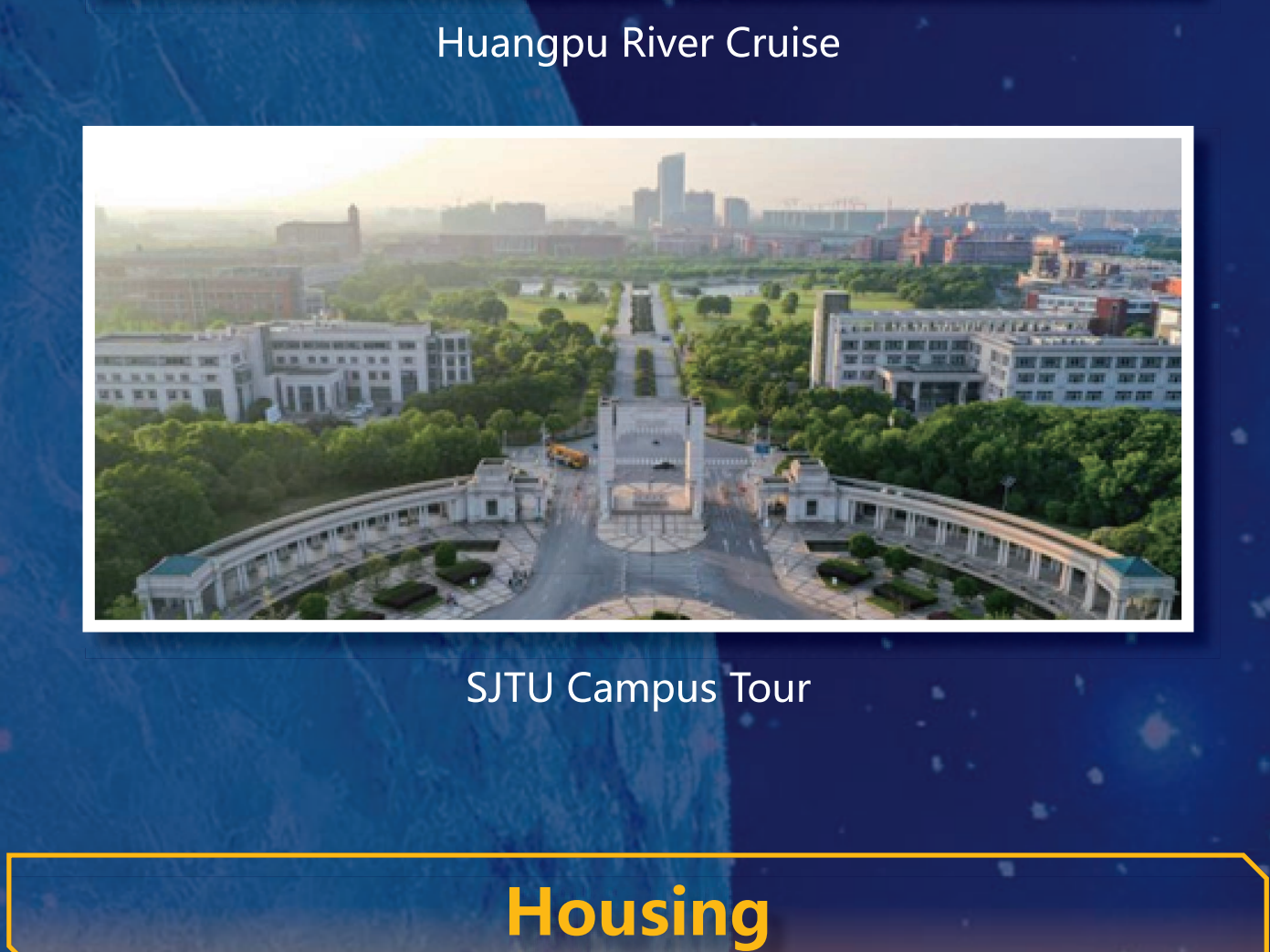
Michael Ramsey-Musolf has been recognized with the American Physical Society’s prestigious Herman Feshbach Prize in Theoretical Nuclear Physics. The award recognizes “outstanding research in theoretical nuclear physics,” and is considered one of the profession’s most prestigious awards. He has co-authored over 200 scientific articles, focuses on the intersection of nuclear and particle physics with cosmology. “Where does matter come from, and how does nature put it together,” he asks. “And why does the universe have more matter in it than anti-matter?” The answers to these questions address a fundamental question about the universe: how did we get here?



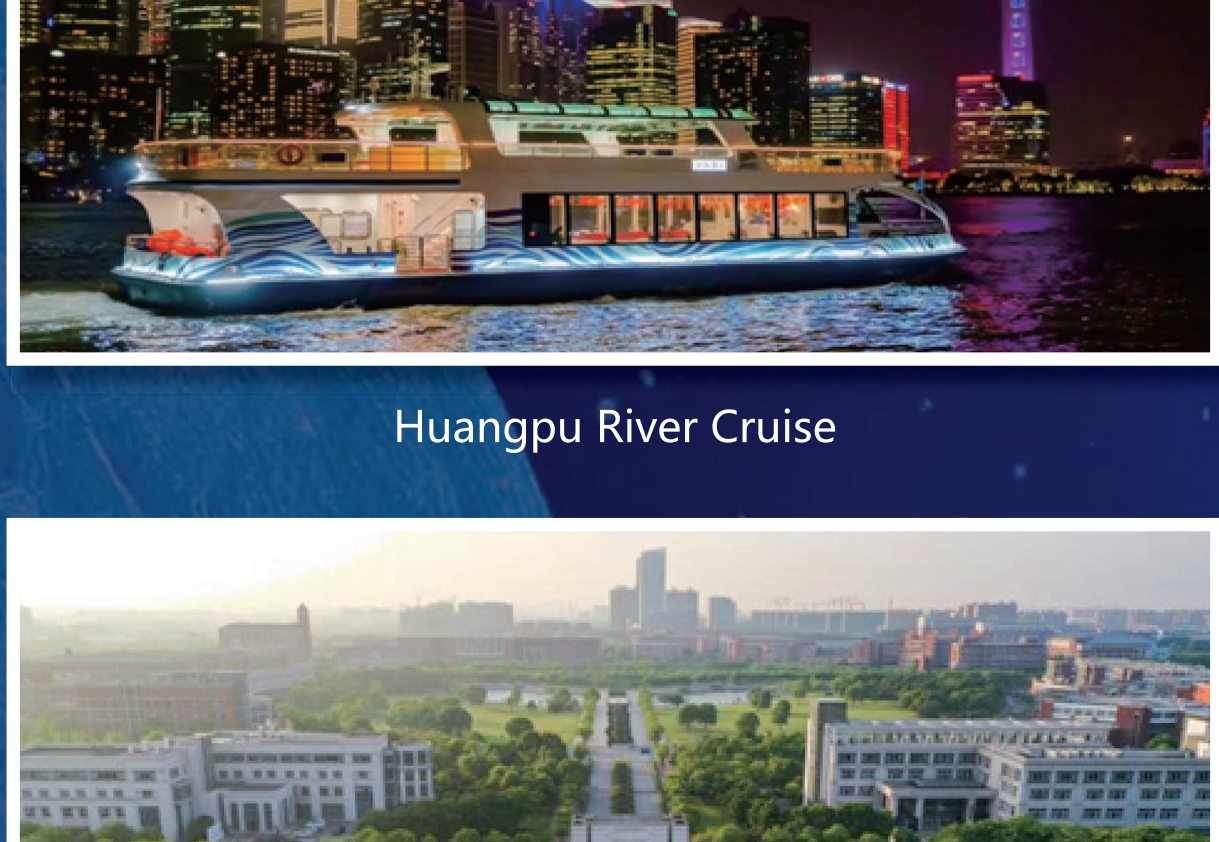
Hong Ding
T. D. Lee Chair Professor
TDLI, SJTU

Hong Ding has made several scientific discoveries, including discovery of pseudogap in cuprate superconductors, observation of s-wave superconducting gap in iron-based superconductors, discovery of Weyl fermions in solids, and discovery of Majorana zero modes in iron-based superconductors. His achievements have been selected as Top Ten Scientific Advancements in China and/or Top Ten News of Science and Technology in China in the years 2015, 2017, and 2018. He has published more than 300 papers with total citations over 20,000. He received Sloan Research Fellowship Award in 1999, was elected as American Physical Society Fellow in 2011, received European Advanced Materials Award in 2018, received Outstanding Science and Technology Achievement Prize (Individual Prize) of Chinese Academy of Sciences in 2020, and was selected as New Cornerstone Investigator in 2022 and CAS Academician in 2023.

Talks:



Extracurricular Activities



Shanghai Astronomy Museum



Huangpu River Cruise



SJTU Campus Tour

Housing



Lodging on Zhangjiang Campus of SJTU will be available and free of charge.

Dining

Dining options are accessible in the building of TDLI.

Health Insurance

For all the participants, proof of effective health insurance must be provided before July 8th 2024.

Travel Grant

A merit-based travel grant is open for application. Applicants will be considered for the grant based on CV and letter of recommendation. Awardees will receive the travel grants upon completion of the Summer School.

Home Institution Location	Amount
Asia (outside the mainland of China)	5,000 RMB
America & Europe	15,000 RMB
Other countries & regions	13,000 RMB

Contact Us

Contact Ms. Li (binglisjtu@sjtu.edu.cn) via email entitled “2024 Physics Summer School”.