



# Physics

Newsletter

April | 2019

## Message from the Head

Dear Alumni, Friends, Students and Colleagues,

It is my pleasure to present this very first issue of the Physics department newsletter, a place to highlight some of our activities, introduce new members and, in general, share our passion towards physics. We plan to publish twice a year, and articles and news pieces are all welcome. It is a forum of communication both ways.

The Physics department at HKU is at a fast-developing stage. It is expanding with new members joining and new areas of research created. We have also undergone a curriculum review and reform with the aim of better educating and preparing our students for the future and better serving the community at large. In all of these, we shall need your continuous support to build the department as one strong and big family. Thank you.

Prof. M.H. Xie

## Message from the Chief Editor

After being appointed as the chief editor of the newsletter, my first reaction was that I do not have much experience in editing. However, thanks to Prof. Parker and Dr. Jenny Lee agreeing to be co-editors, I think the job will be much easier. We would like to start the newsletter small and let it grow naturally and steadily. Please give us your opinions, or even better, contribute an article. We hope to hear from you soon.

Dr. Kai-Ming Lee

### Editors:

Dr. Kai-Ming Lee  
Prof. Quentin A. Parker  
Dr. Jenny Hiu Ching Lee

### Student news:

**18th Elected Executive Committee,  
Physics Society:**

Chairperson: Chan Hei Yung  
Internal Vice Chairperson: So Kwun Ching  
External Vice Chairperson: Chan Ying Wai  
General Secretary: Ngan Tsz Chun



<https://www.physics.hku.hk/>

# The HKU Physics department through the interdisciplinary Laboratory for Space Research (LSR) are reaching for the Moon, Mars and the Stars.

With the establishment of the new Laboratory for Space Research at the HKU-ZIRI site near Hangzhou, Zhejiang province a new chapter in Space and Planetary Sciences was started. To celebrate this important event we held our inaugural workshop at HKU-ZIRI with 40 participants from 10 universities and institutes including from Italy. At the start an MoU with Zhejiang University microsatellites Research group was established with preliminary agreement for a co-funding of a postdoctoral fellow, a joint cubesat mission and studentships. We also signed an important agreement with BISME (Beijing Institute of Space Mechanics and Electricity) a company that employs over 2000 engineers and is responsible for more than 80% of all remote sensing satellites launched by China. They are keen to branch out into science missions and are working with us on the Nanjing-HKU No.1 satellite that we hope will be launched in late 2019 or early 2020. An exciting future awaits.

**Prof. Q.A.Parker, Director (acting) Laboratory for Space Research**  
<https://www.lsr.hku.hk/>

*Attendees at the HKU-ZIRI LSR workshop Dec 1st 2018*



## New Members of the Department

### Dr. Dong-Keun Ki

Assistant Professor  
B.Sc., Ph.D. POSTECH

I am sure that the “Flatlands” will be the last image that you may think of HKU, due to its many stairs and lifts. In the field of atomically “flat” materials, however, the university—especially the physics department—has been well-known as one of the active research institutes/departments that make important contributions. I am therefore pleased to join this wonderful department after spending 8 years in Geneva, Switzerland as a senior researcher (received PhD in POSTECH, Korea). Using my expertise in quantum nano-electronics, I will fertilize new research directions in the department and make important breakthroughs and innovations. Stay tuned!



### Dr. Chenjie Wang

Assistant Professor  
B.Sc. USTC; Ph.D. Brown

I am very glad to join the family of the Department of Physics. Graduated from University of Science and Technology of China, I moved to Brown University in the U.S. for graduate study and obtained my PhD there. My research interests lie in various aspects of theoretical physics, including topological phases of matter, topological quantum computing, quantum transport phenomena in mesoscopic systems, non-equilibrium statistical mechanics, and numerical techniques for many-body systems, etc. In the last five years or so, my research focused on studying the deep connections between symmetry, topology and entanglement in quantum many-body systems.



### Dr. Gang Chen

Associate Professor  
B.Sc. USTC; Ph.D. UCSB

Dr. Gang Chen is a condensed matter theorist. He received his bachelor's degree from USTC and graduated with honours. He completed his PhD degree at the UC Santa Barbara. He works broadly in various topics of modern condensed matter physics, including quantum magnetism, quantum spin liquid, non-Fermi liquid, topological phases of matter, ultra-cold atoms and molecules, etc. He is one of the leading theorists in the field of quantum magnetism. In addition to his research work, he is also devoted to advising students and postdocs. He was recently awarded the Qiushi outstanding young scientist award and Daniel Tsui Fellowship.

