

## THE KENNETH RUSSELL ENDOWED LECTURE

Kenneth Russell came to Queen's in 1954. He had research experience in polymer chemistry at Cambridge and Princeton, in thermodynamics of rocket fuels at Penn State and in kinetics of atom recombination at Manchester. He was known particularly for his polymer research and first year and polymer lectures (dating back to 1956). He retired officially in 1990.

His interest in polymer chemistry arose through wartime work on butyl rubber. This led to a Ph.D. thesis on isobutene polymerization by Friedel Crafts catalysts, including kinetic studies of the effects of various co-initiators. His research at Queen's led to an understanding of the dual role of a wide range of co-initiators.

Free radical studies at Princeton led to determination of transfer constants for transfer agents and retarders (still quoted in the Polymer Handbook).

His other main research areas, inspired in large measure by parallel work at Du Pont, consisted of structural studies of polyethylene and grafting of vinyl monomers to polyethylene. These carried on for 12 years into his retirement and profited from cooperation with many members of staff. A main factor in the incorporation of this lecture series was Dr. Russell's work with Drs. Whitney and Parent.

## PREVIOUS RUSSELL LECTURERS

2019 • *S. Yamaguchi*

2018 • *M. Winnik*

2018 • *T. Lodge*

2017 • *S. Holdcroft*

2016 • *K. Matyjaszewski*



**Department of Chemistry  
Queen's University**

is honoured to host the  
2021 Russell Lecturer:

Lei Jiang  
Technical Institute of  
Chemistry, Chinese Academy  
of Sciences

"Bioinspired Super-wettability  
System and Beyond  
—Quantum-confined  
Superfluid: Energy Conversion,  
Chemical Reaction and Biological  
Information Transfer"



Friday, April 30, 2021  
11:30 AM  
Virtually on Zoom

## DR. LEI JIANG



Lei Jiang  
Technical Institute of Chemistry  
Chinese Academy of Sciences  
Beijing 100190  
P.R. China  
E-mail: [jianglei@iccas.ac.cn](mailto:jianglei@iccas.ac.cn)

**Prof. Lei Jiang** graduated from the Department of Physics of Jilin University with a bachelor's degree in solid physics in 1987. In 1990, he received a master's degree in physical chemistry from the Department of Chemistry of Jilin University. From 1992 to 1994, he studied in Tokyo University of Japan as a doctoral student jointly trained by China and Japan, and returned to China to obtain his doctoral degree. From 1994 to 1996, he worked as a post-doctoral fellow in Tokyo University. From 1996 to 1999, he was a senior researcher in the Kanagawa Academy of Science and Technology. In 1998, he was selected into the "Hundred Talents Program" of the Chinese Academy of Sciences. From 1999 to 2015, he was a professor at the Institute of Chemistry, Chinese Academy of Sciences. In 2015, he and his group moved to the Technical Institute of Physics and Chemistry, Chinese Academy of Sciences.

He is an academican of the Chinese Academy of Sciences, Academy of Sciences for the Developing World, and National Academy of Engineering, USA. His scientific contribution is learning from nature, discovering and establishing super-wettability system: from fundamental understanding to innovative applications. He has made a series of achievements, continuously leading the development of bioinspired super-wettability field in the world, and won many important international awards. Recent research interest includes introduction of quantum-confined superfluid into super-wettability system, and its applications in energy conversion, chemical reaction and biological information transfer. He is among the most cited researchers in the world with >130,000 total citations and a H index of 160.

## SELECTED HONOURS & AWARDS

- 2011 "TWAS Prize in Chemistry" (The Academy of Sciences for the developing world)
- 2012 The first-class prize of the "Beijing Science and Technology Award"
- 2013 Advanced Science and Technology Award of "THE HO LEUNG HO LEE FUNDATION"
- 2014 The MRS Mid-Career Researcher Award (Materials Research Society, USA, the first awardee in China Mainland)
- 2014 Outstanding Science and Technology Achievement Prize of the Chinese Academy of Sciences
- 2015 "ChinaNANO Award" (The first Chinese awardee)
- 2016 UNESCO Medal "For Contribution to the Development of Nanoscience and Nanotechnologies"
- 2016 Nikkei Asia Prize
- 2017 Humboldt Research Award
- 2018 Qiu Shi Outstanding Scientist Award
- 2018 Nano Research Award
- 2020 ACS Nano Lectureship Award