



DIVISION OF POLYMERIC MATERIALS: SCIENCE & ENGINEERING

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## Roy W. Tess Award

### 2020 Award Winner

Dr. Qinghuang Lin  
Formerly IBM



Dr. Qinghuang Lin, a recognized engineer of polymers and electronic materials, has been named the winner of the Roy W. Tess Award in Coatings for 2020. For more than twenty (20) years, Dr. Lin has made important and impactful contributions to the field of advanced photoresist coatings for modern electronics. His seminal contributions are related to polymer coatings, a class of photosensitive polymeric electronic materials, called photoresists, used to “print” modern integrated circuits or microchips. The announcement was made by the Officers and the Award Committee of the Division of Polymeric Materials: Science and Engineering (PMSE) of the American Chemical Society (ACS).

Dr. Qinghuang Lin has spent most of his professional career at IBM. Most recently he was a Senior Manager and a Research Staff Member at the IBM Thomas J. Watson Research Center in Yorktown Heights, New York. He received his B.E. degree and his M.S. degree from Tsinghua University, Beijing, China and his Ph.D. degree from the University of Michigan at Ann Arbor. He was a post-doctoral fellow at the University of Texas at Austin prior to joining IBM. His research interests center on electronic materials for nanofabrication and integration of devices and systems as well as the applications of these devices and systems in computing, bioelectronics, life sciences, healthcare, etc.

Dr. Qinghuang Lin is a Fellow of the American Chemical Society (ACS Fellow), a Fellow of the American Chemical Society Division of Polymeric Materials Science and Engineering (PMSE Fellow), a Fellow of the American Chemical Society Division of Polymer Chemistry (POLY Fellow) and a Fellow of the International Society for Optical and Photonics Engineering (SPIE Fellow).

Throughout his industrial career at IBM, Dr. Lin and his teams focused on solving some of the most important problems in the semiconductor industry, i.e. to manufacture ever smaller, better, cheaper and more power-efficient microchips for modern electronics. An IBM Master Inventor, Dr. Lin holds over 100 granted US patents and has authored/co-authored more than 100 publications. He is a recipient of 28 IBM Invention Plateau Achievement Awards. His inventions have been adopted in the mass production of advanced microchips for high-performance supercomputers and some of the most popular electronic devices today. Dr. Lin is a co-recipient of several IBM Research Division Awards. He is a winner of the 2017 Mahboob Khan Outstanding Industry Liaison Award from Semiconductor Research Corporation (SRC). In 2018, he received the Industrial Polymer Scientist Award from the American Chemical Society Polymer Chemistry Division for “outstanding industrial innovation and creativity in the



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application of Polymer Science.” A 248 nm bilayer photoresist technology Dr. Lin co-developed was part of the 40 years of innovations in semiconductor technology that won IBM the 2004 US National Medal of Technology.

A frequent organizer and speaker of scientific conferences at ACS, MRS, SPIE and SEMI, Dr. Lin is the editor or co-editor of 19 books or proceedings volumes and 3 journal special issues. He has given over 75 keynote or invited lectures worldwide.

In addition, Dr. Qinghuang Lin has been deeply committed to serving the scientific communities. He has tirelessly served technical communities for twenty (20) years. These technical communities include the American Chemical Society (ACS) and the ACS Division of Polymeric Materials Science and Engineering (PMSE), lithography community of the semiconductor industry, Semiconductor Research Consortium (SRC) and STEM outreach to the general public. In 2016, he served as the Chair of the American Chemical Society Division of Polymeric Materials Science and Engineering (PMSE). He has been an Associate Editor of Journal of Micro/Nanolithography, MEMS, and MOEMS since 2011. Currently Dr. Lin also serves on the Editorial Advisory Board of ACS journal Chemistry of Materials.

Dr. Lin has also played leadership roles on setting national research agenda for the semiconductor and other related industries. Recently he served as Chair, Technical Advisory Board of the Semiconductor Synthetic Biology (SemiSynBio) program at Semiconductor Research Corporation (SRC) – a semiconductor industry research consortium. Working closely with stakeholders in industry, academia, government and national labs, the SRC SemiSynBio Committee has produced and published two technology roadmaps, Semiconductor Synthetic Biology Roadmap and BioElectronic Medicine Roadmap, in 2018.

Dr. Qinghuang Lin will receive the Tess Award from Dr. Eva Harth, Chair of the PMSE Division, in August 2020 during the 260th National Meeting of the American Chemical Society in San Francisco, CA. An evening reception in honor of the Tess award recipient and other PMSE and POLY award winners also will be held at the ACS meeting.

The Tess Award is presented annually by the Division of Polymeric Materials: Science and Engineering in recognition of outstanding contributions to coatings science, engineering and technology. It is funded by a grant to the Division from Dr. and Mrs. Roy W. Tess. The purpose of the award is to encourage interest and progress in coatings science technology and engineering and to recognize significant contributions to the field. The Award consists of a plaque and a \$3000 cash prize, and coverage of travel expenses (up to a maximum of \$1500).