THE KENNETH RUSSELL ENDOWED LECTURE

Kenneth Russell joined Queen's University in 1954, bringing extensive research experience in polymer chemistry from Cambridge and Princeton, thermodynamics of rocket fuels from Penn State, and kinetics of atom recombination from Manchester. He became well known for his pioneering work in polymer chemistry and engaging first-year and polymer lectures, which he delivered from 1956 until his official retirement in 1990.

His interest in polymer chemistry stemmed from wartime research on butyl rubber, leading to a Ph.D. thesis on isobutene polymerization using Friedel–Crafts catalysts. His kinetic studies on the effects of various co-initiators provided foundational insights into polymerization mechanisms. At Queen's, his research further elucidated the dual role of a wide range of co-initiators, advancing the understanding of their influence on polymerization processes.

While at Princeton, his work on free radical kinetics led to the determination of transfer constants for transfer agents and retarders, data that remains a reference in the *Polymer Handbook*. Additionally, inspired by concurrent developments at DuPont, he conducted structural studies of polyethylene and investigated the grafting of vinyl monomers onto polyethylene. These projects continued for 12 years after his retirement, benefiting from close collaborations with colleagues at Queen's.

Dr. Russell's collaboration with Drs. Whitney and Parent played a key role in developing this lecture series and further strengthened Queen's standing in polymer research.

PREVIOUS KENNETH RUSSELL LECTURERS

2025 • J. S. Moore

2024 • R. Buonsanti

2023 • C. Williams

2022 • K. Wooley

2021 • L. Jiang

2019 • S. Yamaguchi

2018 • M. Winnik

2018 • T. Lodge

2017 • S. Holdcroft

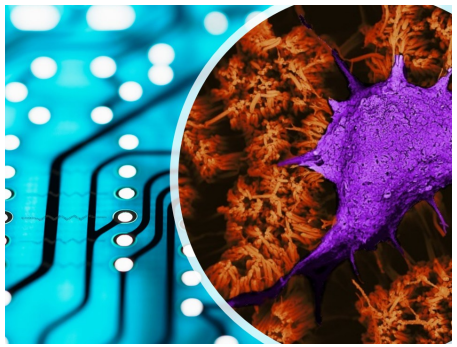
2016 • K. Matyjaszewski

Queen's Chemistry

Department of Chemistry
Queen's University

is honoured to host the 2025 Kenneth Russell Lecturer:

Sohini Kar-Narayan
University of Cambridge



"Functional polymers for energy, sensing and biomedical applications"

Friday, July 18, 2025
11:30 AM
Room 117, Chernoff Hall

DR. SOHINI KAR-NARAYAN

Sohini Kar-Narayan
Professor of Device Materials in the Department of Materials Science
University of Cambridge
https://www.kar-narayan.msm.cam.ac.uk/

Sohini Kar-Narayan is Professor of Device Materials in the Department of Materials Science at the University of Cambridge, where she leads an interdisciplinary research group working on functional nanomaterials and devices for energy, sensing and biomedical applications. She received her PhD in Physics from the Indian Institute of Science, Bangalore, in 2009, and subsequently moved to the University of Cambridge as a postdoctoral researcher. She was awarded a prestigious Royal Society Dorothy Hodgkin Fellowship in 2012 which marked the beginning of her independent research career. She was the recipient of a World Economic Forum Young Scientist Award and a European Research Council (ERC) Starting Grant in 2015, and more recently an ERC Consolidator Grant in 2023. Sohini received the Royal Microscopical Society Atomic Force Microscopy & Scanning Probe Microscopy (AFM & SPM) Award in 2025, and the Royal Society of Chemistry Peter Day Prize in 2023. She was named "Innovator of the Year" at the 2024 Electronics Weekly Women Leaders in Electronics Awards, and was recognized as one of the Top 50 Women in Engineering of 2021 by the Women's Engineering Society. She was awarded the Materials World Medal by Institute of Materials, Minerals & Mining in 2024. Sohini was elected Fellow of the Royal Academy of Engineering in 2024, and Fellow of the Institute of Materials, Minerals & Mining (IoM3) in 2022. She is a Professorial Fellow of Clare Hall College in Cambridge. Her research covers novel energy harvesting nanomaterials and microfluidic biosensors, to the additive manufacturing of next-generation flexible electronics, to sensors and actuators for application in soft robotics. She works with clinicians, surgeons and medical technology companies to engineer smart devices for remote health monitoring and personalised healthcare. Sohini is a founding Director of ArtioSense Ltd., a Cambridge University spin-out that seeks to commercialize microfluidic force sensors for precision orthopaedic surgery, for which she was awarded the Armourers & Brasiers' Venture Prize Award in 2022, and the Institute of Physics Lee Lucas Award in 2023. She was the recipient of the Cambridge University Students' Union Innovation in Teaching Prize in 2022. Sohini currently serves as the Editor-in-Chief of Applied Physics Letters (APL) Electronic Devices.

SELECTED HONOURS & AWARDS

- Royal Microscopical Society AFM & SPM Award 2025
- Fellowship of the Royal Academy of Engineering (FREng) 2024
- Institute of Materials, Minerals & Mining (IOM3) Materials World Medal 2024
- Institute of Physics Lee Lucas Award 2023
- Royal Society of Chemistry Peter Day Prize 2023
- Fellowship of the Institute of Materials, Minerals & Mining (IoM3) 2022
- Armourers & Brasiers' Venture Prize 2022
- Cambridge University Students Union Innovation in Teaching Award 2022
- Women's Engineering Society (WES) Top 50 Women in Engineering 2021