

## 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 KENNETH RUSSELL LECTURERS

2023 • *C. Williams*

2022 • *K. Wooley*

2021 • *L. Jiang*

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  
2024 Kenneth Russell  
Lecturer:

Raffaella Buonsanti  
Laboratory of Nanochemistry  
for Energy (LNCE)



"Colloidal nanocrystals to  
advance catalysis and energy  
technologies"

Friday, May 24, 2024

11:30 AM

Room 117, Chernoff Hall

## DR. RAFFAELLA BUONSANTI



Raffaella Buonsanti  
Laboratory of Nanochemistry for Energy (LNCE)  
Institute of Chemical Sciences and Engineering  
École Polytechnique Fédérale de Lausanne

**Professor Raffaella Buonsanti** is a tenured Associate Professor in the Department of Chemistry and Chemical Engineering at École Polytechnique Fédérale de Lausanne (EPFL), where she leads the Laboratory of Nanochemistry for Energy. Dr. Buonsanti's multidisciplinary research program spans nanoscience, materials chemistry, electrocatalysis and energy.

In 2016, she received an ERC Starting Grant and an ERC Consolidator Grant in 2022. She has won numerous awards, including the Swiss Chemical Society Werner Price in 2021, the European Chemical Society Lecture Award and the Royal Chemical Society ChemComm Emerging Investigator Lectureship in 2019, and the ACS Inorganic Nanoscience Award in 2024. She received the Endowed Chair of the Sandoz Family Foundation in 2018.

Dr. Buonsanti is currently Associate Editor of ACS Catalysis. She has served as a member of the Early Career Advisory Board for ACS Materials Letters, the Scientific Advisory Board for Chemistry of Materials and for Scientific Reports. She holds memberships in the Swiss Chemical Society, the Royal Society of Chemistry and the Materials Research Society.

Dr. Buonsanti's work focuses on the development of synthetic strategies in nanocrystal chemistry and the use of well-defined nanomaterials as electrocatalysts for small molecule conversion, specifically the conversion of CO<sub>2</sub>. Her work has been instrumental in understanding the relationship between materials structure and activity for reactions of significant importance in catalysis and energy.

## SELECTED HONOURS & AWARDS

- ERC Consolidator Grant, 2022
- Swiss Chemical Society Werner Price, 2021
- Thieme Chemistry Journal Award, 2019
- European Chemical Society Lecture Award, 2019
- Royal Chemical Society ChemComm Emerging Investigator Lectureship, 2019
- Endowed chair from the Sandoz Family Foundation, 2018
- ERC Starting Grant, 2016
- SNSF Assistant Professor Energy Grant, 2016
- R&D 100 Award for Universal Smart Window Coating, 2013
- Outstanding Mentors Award from the Center for Science and Engineering Education at Lawrence Berkeley National Laboratory, 2011