

CENTER FOR RESEARCH IN SOFT MATTER & POLYMERS

RESEARCH SEMINAR AND EQUITY DISCUSSION

FRIDAY, NOV. 6, 2020

RESEARCH SEMINAR – 10–11 A.M.

EQUITY DISCUSSION – 11 A.M.–12 P.M.



RESEARCH SEMINAR

“Chiral materials and their application in electronic devices”

From wearable sensors to personalised medicines and solar panels, nanostructures made from functional organic molecules are already enhancing our lives. Nonetheless, science is still playing catchup as nature has been nailing these structures for hundreds of millions of years. In fact, the most miraculous molecular structures of all exist as non-superimposable mirror image pairs; where the left and right-handed forms can have remarkably different interactions with electric and magnetic fields. Ultra-thin layers of these chiral molecular structures can be used to generate circularly polarised light for efficient display technologies, filter electron spins for high performance spintronic devices and to create encrypted patterns for security tags. In this talk, we will explore the mechanisms by which these strong chiral-optical (chiroptical) effects manifest in organic thin films and how to optimise the magnitude of the chiroptical response for application in high performance devices.

EQUITY DISCUSSION

“Why we need to keep speaking about equity in science”

In 2018, a data scientist found we were still [258 years away from equal representation](#) of men and women in physics publications. In 2019, [the Royal Society of Chemistry](#) reported that an inflexible and unsupportive academic culture was driving talented chemists elsewhere. As scientific researchers, we know that in order to try and solve problems, we first need to understand them. In this talk we'll look at why certain groups are underrepresented in academia and discuss what we can do to build a more equitable scientific community.

DR. JESSICA WADE

Imperial College Research Fellow

Department of Materials

IMPERIAL COLLEGE LONDON

Dr. Wade is an Imperial College Research Fellow working in the Department of Materials at Imperial College London. Her research considers new materials for optoelectronic devices, with a focus on chiral organic semiconductors. She previously worked as a postdoctoral researcher in the Fuchter group at Imperial College London, where she optimised these chiral systems such that can absorb/emit circularly polarised light as well as transport spin-polarised electrons. For her PhD Jess concentrated on new materials for photovoltaics and the development of advanced characterisation techniques to better understand their molecular packing.

Outside of the lab, Jess is involved with several science communication and outreach initiatives. She is committed to improving diversity in science, both online and offline.

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