



Case study
2020
Imperial
College
London

“ *The ambitious aims of the Rosalind Franklin Institute can only be achieved through true collaboration between the Institute, the members and industrial partners*

Gearing up a good idea

Imperial College London aims to nurture good ideas wherever it finds them. A national institute that would develop novel ways of looking at life on a molecular level was definitely one such idea and Imperial became a founding member of the Rosalind Franklin Institute.

In 2017, Professor Andrew Livingston, Director of the Barrer Centre within the Chemical Engineering Department at Imperial, was appointed as the co-Interim Academic Lead (with Professor James Naismith) at The Franklin. He oversaw setting up many of the formal and legal structures needed for the institute to take shape. He was also instrumental in building the partnerships needed between industry and academia for the science and technology programs to develop.

Between November 2018 and June 2019, he also served as Interim director until Professor Naismith took up the post and still remains a Franklin trustee and board member.

"It has been immensely satisfying to see it grow from essentially zero to a tangible research institute that is doing some really exciting stuff," says Professor Livingston.

Imperial also has a number of academics playing key roles within the research themes.

Professor Zoltan Takats, who has pioneered research in mass spectrometry at Imperial, and Professor Josephine Bunch, Imperial's Chair of Biomolecular Mass Spectrometry, are co-leads of the Biological Mass Spectrometry theme and have set out a plan to develop completely new modalities using the technique.

Professor Alexandra Porter, from Imperial's Department of Materials, is contributing her expertise in using correlative electron microscopy techniques to the Correlated Imaging theme. She already has considerable experience using this technique to study how nanomaterials and microplastics interact with cells.

Professor David Klug, from the Department of Chemistry, is part of the advisory panel for the Next Generation Chemistry for Medicine theme while Professor Paul Freemont, Chair in Protein Crystallography, is involved in the Structural Biology theme.

In the Imaging with Sound and Light theme, Professor Mengxing Tang, in Imperial's Department of Bioengineering, is contributing his expertise in high resolution, high speed imaging using ultrasound in a range of biological tissue and cell types. His work has largely focused on understanding the molecular and mechanical properties in cancer, cardiovascular and neurological diseases, which he hopes to build upon with The Franklin.

"The Franklin will gear up what Imperial can already do through its researchers," explains Professor Livingston. "In three or four years, as these new platforms come online, their research will be at the cutting edge because of the platforms available through the institute. We are involved in developing these new platforms precisely because our researchers want to use them."

The collaborative effort between engineers, physical scientists and medical researchers has been one of the most attractive reasons to be involved, adds Professor Nick Jennings, Vice-Provost of Research and Enterprise at Imperial and its member representative at The Franklin.

"The ambitious aims of the Rosalind Franklin Institute can only be achieved through true collaboration between the Institute, the members and industrial partners," he says. "As one of these members, Imperial College London is committed to making the discovery and validation of new medicines more efficient and more rapid, as this will lead to direct patient benefit. This is a key strategic priority for the College and the collaborations within the Institute will allow us to go beyond-the-current-frontiers in this area."



Professor Nick Jennings,
Vice-Provost of Research
and Enterprise



The Rosalind
Franklin Institute

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