SSPC, SFI Research Centre for Pharmaceuticals

The SSPC is now recognised internationally as a hub of process innovation and advanced manufacturing for the Pharmaceutical and (bio) Pharmaceutical Sector. The SFI Research Centre has demonstrated capabilities in the design and implementation of flow chemistry, asymmetric synthesis, fundamental and applied aspects of pharmaceutical crystallization, amorphous materials, continuous processing, novel pharmaceutical solid forms and emerging pharmaceutical technologies.

SSPC has created a consortium of international industry and academic partners that is recognised as the most inclusive and collaborative pharmaceutical/academic partnership in the world. The centre facilitates a unique link between scientists and engineers, within academia and industry in Ireland and globally, to address crucial research questions, that face the global pharmaceutical industry.

SSPC produces PhD graduates and post-doctoral researchers with specific disciplinary expertise, coupled with a broad understanding of cognate disciplines across pharmaceutical science and manufacturing. Building on our industry placement programme, the transition rate of SSPC researchers to industry currently stands at 70% in a global context, the highest of any research centre in Ireland.

Research Areas

The research carried out by SSPC crosses the pharmaceutical production chain from molecule to medicine, with the objective of gaining a better understanding of mechanisms, controlling processes, and predicting outcomes for the efficient and environmentally sustainable production of safe medicines. This extends into the manufacturing and modelling space, adding expertise in advanced screening, predictive modelling and drug hybrid conjugates.

These are categorised under five themes: Molecules, Materials, Medicines, Manufacturing and Modelling implemented by leading academic experts.

Research Programmes

SSPC offers some of the biggest pharmaceutical companies in the world a unique research proposition that is helping them redefine the way in which important treatments are manufactured. SSPC has already created a leading consortium that exemplifies the most inclusive industry and academic partnerships in the world.

The Research Programme can support your business with innovative research that aims to:

- Reduce Time to Market in Drug Development
- Advance Manufacturing Process and Technologies
- Improve Efficacy of Drug Products
- Address the Needs of New, More Complex Active Ingredients
Membership and flexible business model

The centre welcomes targeted projects with both members and non-members offering two options, 100% industry funded proprietary projects or co-funded projects.

Fully funded projects provide organisations with the opportunity to initiate strategically important and commercially impactful research projects while retaining all the intellectual property (IP). Co-funded projects offer organisations the opportunity to receive 50% project funding by SSPC.

Industry partners include:

- Abbvie
- Sanofi
- Janssen
- Eli Lilly
- MSD
- BioMarin
- InnoPharma
- Alkermes
- ClaroChem
- Scale-Up
- Pfizer
- APC
- SK Biotech
- Mettler Toledo
- Canty
- Magrotech

Education and Public Engagement (EPE):

The SSPC EPE programme is broad and varied, targeting pupils, teachers, parents, grandparents and the wider public. The centre places particular focus on working with female pupils, those from a disadvantaged socio-economic background, and those living in geographical areas with little access to Science, Technology, Engineering and Mathematics research and activities. Some highlights of our programme are our Teacher Continuous Professional Development Programme, our Transition Year Work Experience Programme, the SSPC Structured PhD and our Innovation in Medicines Project.

Key Contacts

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Professor Zaworotko is a Bernal Chair of Crystal Engineering at the University of Limerick. He is among the world’s top 20 research chemists and secured the first award under the relaunched Science Foundation Ireland (SFI) Research Professor programme. His research interests focus on designing crystal structures that can be used in the pharmaceutical and energy industries.

**Professor Gavin Walker**
Scientific Director
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Professor Gavin Walker is Bernal Chair of Pharmaceutical Powder Engineering and a principal investigator in the SFI Investigators Programme at UL and the SSPC Spokes Project, MOMEMTU. His expertise is in pharmaceutical process engineering and modelling of particulate systems.

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