

Teacher professional development: upskilling and promoting science nationally



Science teachers and educators from across Ireland attended the 10th SSPC Annual Chemistry Demonstration Workshop to acquire further knowledge about engaging science! The residential workshop, hosted at Synthesis and Solid State Pharmaceutical Centre (SSPC) headquarters at the University of Limerick (UL), is designed to upskill and promote science among science teachers and educators in Ireland. It provides Irish science teachers and educators with the skills to promote problem and inquiry-based learning within the classroom, and to conduct over 40 engaging interactive science demonstrations, which are linked to real world science applications. Science discovery is full of natural curiosity and this workshop provides a building block for teachers to bring this element to the classroom that makes instruction exciting and one that fosters a better understanding for the student.

Dr Sarah Hayes, SSPC Education and Outreach Officer said:

“Courses like this are essential for teachers' continuous professional development. The focus of the course is to utilise demonstrations and ‘mysteries’ to promote pupil engagement, problem solving and inquiry skills. The residential element offers teachers to fully immerse themselves in their own professional development, and develop a repertoire of

demonstrations linked to the physical sciences and all aspects of the Junior and Leaving Certificate curriculum. Supporting teachers' development is vital for the enhancement of the Irish education system".

The 10th SSPC Annual Chemistry Demonstration Workshop is an important element of Science Foundation Ireland's (SFI) public engagement remit and SSPC's education and outreach programme. It aims to support teachers in their ability to make pathways to navigate better engagement and bring novel science ideas into the classroom.

Jon O'Halloran SSPC General Manager said:

"SSPC plays a critical role in supporting STEM education in Ireland. The SSPC's education and outreach programme aims to inspire young minds as to the possibilities and application of science in our everyday lives, and develop Ireland as a country with a scientifically literate population. This year the workshop was linked with the European Union funded TEMI project, which placed a significant emphasis on inquiry-based skills, explicitly linking the course to the upcoming Junior and Senior curricula. This approach combined provides teachers with the time and space in which to develop new and exciting content for their lessons that will excite and stimulate students' interest in science and scientific careers".

Teachers participating in the course believed that "the change of approach to chemistry, the emphasis on getting the pupils to participate and guess the answers and using questioning to lead them to understanding" was incredibly beneficial.

Furthermore, other found "the workshop to be very supportive of teaching practice in the area of science, especially with regards to engaging students and also making a class session more effective. There are so many advantages to collaborative learning and by making laboratory practice a bit more fun only adds to an active learning experience for science. It is important to engage students and give them the opportunity to experience a different thought processes. But it's also offers an opportunity for teachers to upskill, be involved in life-long learning and improve on teaching methods that enhance effective teaching".

The 10th SSPC Annual Chemistry Demonstration Workshop was supported by the Synthesis and Solid State Pharmaceutical Centre (SSPC), the Department of Chemical and Environmental Sciences (CES), University of Limerick, Pharmaceutical Ireland, the Professional Development Service for Teachers (PDST), The Institute of Physics Ireland, and the Royal Society of Chemistry. Additional support and funding was provided by EU Project.

The workshop has been developed upon the foundations of Student Active Learning in Science (SALiS), an international project, which utilises best-practice teaching methods within science education, funded by EU-TEMPUS. On-going research is continuing through the EU FP7 funded project TEMI (contact peter.childs@ul.ie/sarah.hayes@ul.ie). For further information contact SSPC Education & Outreach Officer, Dr Sarah Hayes, email: sarah.hayes@ul.ie.

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To find out more information go to www.sspc.ie or contact SSPC Education and Outreach Officer Dr Sarah Hayes: sarah.hayes@ul.ie

Notes to the Editor:

The Synthesis and Solid State Pharmaceutical Centre (SSPC), a Global Hub of Pharmaceutical Process Innovation and Advanced Manufacturing, funded by Science Foundation Ireland (SFI) and industry, is a unique collaboration between 22 industry partners, 9 research performing organisations and 12 international academic collaborators. The SSPC leads the way for next generation drug manufacture and spans the entire pharmaceutical production chain from synthesis of the molecule, to the isolation of the material, and the formulation of the medicine.

[Point of contact for media query –](#)

[Louise O’Neill, SSPC Communications Officer](#)

[Phone +353 \(0\)61 234675 Email: \[louise.oneill@ul.ie\]\(mailto:louise.oneill@ul.ie\)](#)

[Twitter: \[@SSPCentre\]\(#\)](#)

[Instagram: \[@sspccommunications\]\(#\)](#)

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