



# CIT Diary

## Research shines light on eye disorders

THE Centre for Advanced Photonics & Process Analysis (CAPPA) at CIT has a number of researchers and modern equipment based in laboratories at the Tyndall National Institute.

As part of the CIT@Tyndall collaboration, they undertake research in the area of photonics, the generation and manipulation of light.

Their work, led by Dr Guillaume Huyet, includes both fundamental research enabling the next generation of photonic devices, as well as collaborations with regional industry to support companies' R&D.

A recent example of the work of the CIT@Tyndall researchers is the ongoing collaboration with Carrigtwohill-based company, Superlum Ireland.

Superlum is a leading manufacturer of superluminescent diode light sources, which find applications in highly specialised areas such as medical imaging.

A new imaging technique called Optical Coherence Tomography (OCT) is being used to produce detailed, three-dimensional images of the retina in the eye, including layers below the sur-

face.

This allows rapid diagnosis of eye disorders such as advanced macular degeneration.

The technique requires a specialised light source with a number of key properties, and Superlum's product is a cost-effective and efficient solution for this.

Currently, a large part of Superlum's R&D takes place in Moscow, Russia. However, the CIT@Tyndall researchers have been investigating their manufacturing process using Tyndall's advanced semiconductor growth facilities, and have identified a number of ways in which the devices could be made more efficient and expand their capabilities.

CIT lead researcher, Dr. Liam Lewis, said; "We are very happy with the progress that has been made in the collaboration with Superlum.

"It's a great example of the benefits local companies can gain from teaming with our researchers, and created the possibility for Superlum to expand their activities in Cork".

● For more details on Photonics research, visit: [www.physics.cit.ie/physics](http://www.physics.cit.ie/physics)