

Under the Microscope: Interview Series #2

Exploring the benefits of LED microscopy illumination in an academic imaging facility



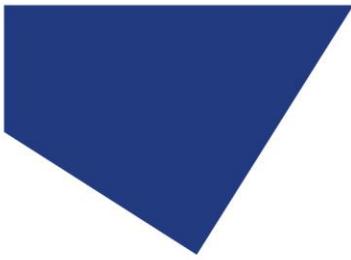
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The Imaging Facility at the [Kennedy Institute of Rheumatology](#), University of Oxford, provides cutting-edge equipment to support world-leading medical research and drive the development of transformative therapies for chronic inflammatory and degenerative disease.

Imaging Facility Manager, Volodymyr Nechyporuk-Zloy, discusses how he made the switch to CoolLED Illumination Systems due to safety concerns over mercury, and how these LED microscope illumination systems also provide benefits in terms of stability and simplicity.





How did you become a facility manager?

My background combines biology and biophysics. I moved to Germany after my Master's degree in biology and my PhD was in Biophysics. I later concentrated on single molecule research, where my postdoctoral project investigated single molecule FRET. This is where my main passion became fluorescence microscopy in molecular biology research.

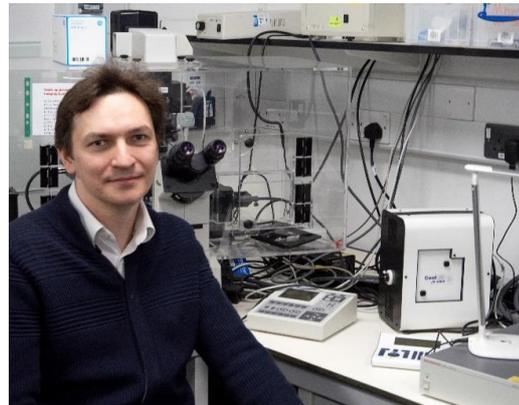
I moved to Glasgow where I was an imaging technologist and started a project combining multiphoton microscopy and STED. After five years I moved to my current role at the University of Oxford, where I am Imaging Facility Manager at the [Kennedy Institute of Rheumatology](#), Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences ([NDORMS](#)).

What is life like as a facility manager?

My role is broader now and combines many types of skills. I provide training on multiple systems. In addition, there is a lot of communication across the Institute and an administration side which involves spreadsheets and financial models. I now also work on social media and have 27000 followers from very different areas of the field. This has helped build the profile of our department. It's given me the chance to be an influencer and attract the attention of companies to our facility and

our institute, fostering good collaboration between research and industry.

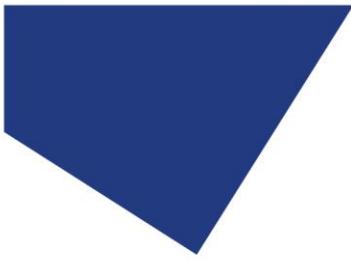
I have my own research, which concentrates on the development of set-theoretical foundations of imaging. I am convinced that the foundation is important for broad application of digital technologies, artificial intelligence, and digital transformation of our field. I'm also involved in exhibitions, demos and promoting technologies in science. In our facility you can work starting from single molecules up to live imaging of animals, and we have a wide range of microscopes.



Dr Nechyporuk-Zloy in the laboratory

Which CoolLED illumination systems do you have in your facility?

In the facility, we have a range of CoolLED systems: the pE-300 Series and pE-4000, attached to Nikon and Olympus epifluorescence microscopes. Moreover, our PerkinElmer spinning disk confocal microscope has a pE-300 Series Illumination System.



Why did you switch from traditional bulbs to LED microscope illumination systems?

There are several factors which led us to switch from lamps to LED Illumination Systems. I came across CoolLED many years ago and had the impression that CoolLED was the best option, and we believe it's the ideal solution.

Lamps are dangerous. I've been working in the industry for 10 years and have had a couple of mercury spills. Everything was safe as we followed instructions, but all in all it's not an overly reliable technology. We also like reliable illumination and light output in order to build semi-quantitative and quantitative microscopy. For this reason, we prefer LED illumination systems. Thirdly, we would like to be environmentally friendly and save energy. Being greener and safer is a driving force for us.

Do LED illumination systems save you time?

For successful management, rational time usage is very crucial. If it's just one single lab, you might waste 30 minutes and that's not a problem. But you have 60 users and many tasks to organise in a day, you want technology which is reliable and simple and saves – like LEDs. The life expectancy of the CoolLED Illumination System is so long that we just turn it on and forget about it.

It's more useful than lamps, it switches on and off quickly, it's very reliable and we don't need to wait half an hour before using it.

CoolLED Illumination Systems also have the control pod where you can select the different wavelength(s) – it is very convenient for users. Quality and simplicity are the key for us.

Find out more about the Kennedy Institute of Rheumatology [here](#).

For more information on how CoolLED Illumination Systems can benefit imaging facilities, see our [range of products](#).