



ZEISS Digital Classroom

Swansea University, UK

ZEISS Digital Classroom

Swansea University, UK

Date: March 2017

With an increasing focus on the digitalization of learning and teaching, Swansea University has embraced this trend by transforming its traditional microscopy lab into an impressive Digital Classroom setup. This has allowed the department to change the focus and quality of teaching, which has dramatically increased student and industry engagement.

The Advanced Imaging of Materials (AIM) facility at Swansea University is an integrated scientific imaging centre with a strong focus on correlative microscopy. It aims to provide imaging and analytical capabilities across several length scales; from Angstroms to centimetres. The centre is designed to support industry, teaching and learning and fundamental research.



One of the unique features of AIM is the ZEISS Digital Classroom. This features 30 digital Primotech microscopes which are each connected to an iPad and have the ability to stream onto the multiple screens around the lab. We spoke to Co-Directors of the AIM facility Dr. Cameron Pleydell-Pearce & Dr. Richard Johnston, who together manage the facility on a day-to-day basis and were instrumental in setting up the centre. Both have their own students and research groups who regularly use the ZEISS Digital Classroom.



Improving quality of teaching

“We wanted to invest in a Digital Classroom setup primarily to improve the quality of teaching. In our opinion, microscopy as a discipline has moved on and so we needed to keep up with this and have the capability for digital image capture on every microscope. If you want all of your students to be invested in digital learning, then really you can’t limit their access to that digital capability.

Now that we have the capability to capture images on all of our microscopes, this has allowed us to change the focus

and quality of our teaching. Our vision was to make it easier to use the microscopes and easier to capture the data. This allows more time to focus on interpretation and analysis of what is seen under the microscope.

Overall engagement of students has improved as they are starting to ask more questions about the samples – we never saw that level of engagement before. The new Digital Classroom setup facilitates a much more interactive environment, with students able to approach you with their tablet and simply ask “what is this?”

With the tablets making the student microscope views visible, it is much easier to give real-time feedback to the students – are they looking at the right structure or acquiring the right kinds of images? This is what we find most useful as lecturers, especially when teaching students who have never used a microscope before.”

Industry Engagement

“With our traditional lab setup in the past we would never have been able to engage people to the extent we do now with our new Digital Classroom setup – especially our clients from industry.

In the past I don’t think we would have ever been able to convince a company to bring in 15 people to sit in front of the traditional microscopes. With the new Digital Classroom setup featuring 30 microscopes, iPads and the ability to broadcast each microscope onto the main screens, it has created a much more interactive and vibrant atmosphere for industry.

The digital microscopy facility really helps us to demonstrate added value for our current and potential industry partners – we not only engage with them on research but also have the ability to train their operators.

In the future we are planning to actively promote this as a service for companies, to help us build new partnerships and improve our level of industry engagement overall. New revenue generation is also important for the facility to be sustainable.”



State-of-the-art Facility

“We initially only had the funding for seven digital Primotech microscopes. However when these were delivered, we instantly saw their value and the potential to make our whole microscopy lab digital. We had to convince the Director of Learning & Teaching and other stakeholders to invest in another 23 microscopes.

Our main argument was to demonstrate how the Digital Classroom setup could enhance the learning environment and improve the teaching facilities. We did this by simply showing a traditional microscope setup with a pencil and paper, compared to one of the new digital microscopes with an iPad. We then asked what direction they wanted the University to go in – and from that we got the backing to fund the whole lab!

Although the digital Primotechs are a higher investment than a standard microscope, we were able to secure the funding internally by demonstrating how they would dramatically improve the teaching environment and better fit with our new modern facility.”

Recommendation

“From our perspective, what really stood about ZEISS was the superior quality and the ability to supply all of the systems we are looking for; from optical microscopes and electron microscopes to X-ray microscopes. We would definitely recommend ZEISS because we were able to form a partnership, rather than just be a customer.”



Carl Zeiss Microscopy GmbH
07745 Jena, Germany
microscopy@zeiss.com
www.zeiss.com/digital-classroom



Not for therapeutic, treatment or medical diagnostic evidence. Not all products are available in every country. Contact your local ZEISS representative for more information.

EN_42_013_222 | CZ 06-2018 | Design, scope of delivery and technical progress subject to change without notice. | © Carl Zeiss Microscopy GmbH