

Innovation for industry at European Research Infrastructures and ERICs cases:
European Spallation Source ERIC Accelerator and Detector Technologies –
Progress, Challenges, and Opportunities

4th Webinar: Neutron converters for detectors - How ESS tackled the challenge of He3 shortage by setting up a mass production facility for depositions of thin films of $^{10}\text{B}_4\text{C}$ in Linköping

28 April 2021 at 14:00 (CET)

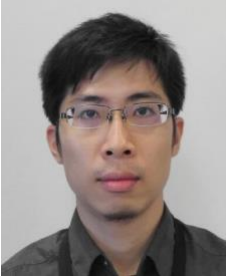
Linda Robinson, Section Leader Neutronic Detectors Coating
Chung-Chuan Lai, Coatings Scientist
European Spallation Source ERIC



Linda started working for ESS in 2014 as a Coatings production Engineer with responsibility for the production of boron carbide thin films and setting up ESS's facility in Linköping. Shortly after she became the Neutronic Detector Coatings Section Leader at the same facility.

With a Master degree in Physics Linda has a background in R&D with several years of experience of coating processes, and has worked in lab and factory environments. She has helped set-up facilities, equipment, sample controls, and procedures for production of thin films at smaller research companies but also as part of a technology transfer to Intel in Oregon, US where she lived for a year.

Linda has many years of experience as a manager and a management consultant where she led projects focusing on business development and continuous process improvement at companies such as Saab and Siemens. She is now also acting Cluster Manager for an advanced material cluster called IMA (Innovative Materials Arena).



Chung-Chuan has a background of material science and thin film physics. He studied for his Bachelor degree in Material Science and Engineering from 2006 at National Tsin-Hua University in Taiwan, and moved to Sweden to further study for a Master degree from 2009 at Linköping University. The master study was concluded in 2011 with a thesis with the title "Growth and Phase Stability of Titanium Aluminum Nitride Deposited by High Power Impulse Magnetron Sputtering". After a year of military service in Taiwan, he was accepted as a doctoral student in Thin Film Physics Division in Linköping University, focusing on the experimental studies of thin film depositions. He obtained his PhD degree in 2017 with the thesis entitled "Phase Formation of Nanolaminated Transition Metal Carbide Thin Films". During the doctoral study, he was also involved in another research project on the synthesis and characterization of fullerene-like amorphous carbon thin films.

Chung-Chuan joined the Detector Group of ESS in summer 2017 and worked in Linköping Detector Coatings Workshop as Coatings Engineer to contribute his knowledge in vacuum systems and thin film depositions. He maintained the daily production of the boron carbide coatings, as neutron converting layers for neutron detectors, and assisted in optimization of deposition processes. Since 2019, he has been appointed as Coatings Scientist for the workshop and in charge of scientific research and process development for coatings of boron carbide and other materials used in detectors.