Frontier of wide bandgap semiconductor materials, devices and applications

Time: ***10:15 to 11:50 on 2019-01-18***

Location: ***Electrum Sal B, Kista, Stockholm, Sweden***

This workshop is jointly organized by RISE/KTH/EU-CAMART2/IEEE-KTH chapter, which aims to promote and facilitate information exchange on wide bandgap semiconductor technologies for power electronics, microwave, sensors and other emerging applications. Three experts in the related fields will provide an overview of the current status of wide bandgap semiconductor materials, component and potential commercialization.

10:15, Welcome speech by the workshop chair, ***Prof. Carl-Mikael Zetterling, KTH***
10:20 to 10:50, Review of Ga_2O_3 processing and device technology, ***Prof. Anders Hallen, KTH***
10:50 to 11:20, ZnO and peroxide thin film deposition by magnetron sputtering at cryogenic substrate temperatures, ***Prof. Juris Purans, ISSP***
10:20 to 11:50, Wide bandgap semiconductor R&D activities and spin-offs at RISE, ***Dr. Qin Wang, RISE***
11:50, End

Biography of speakers

Prof. Anders Hallén received his PhD in ion physics 1990 from Uppsala University, Sweden, with a thesis titled "Lifetime Control in Silicon by Fast Ion Irradiation". He started at The Royal Institute of Technology, KTH, in 1996 and since 2006 he is a professor at KTH, focusing on the development of SiC power devices. He has also been involved in research on other wide bandgap semiconductors, such as GaN and ZnO, often using ion beams for analysis and modification. He has authored or co-authored over 250 articles in international journals and supervised 14 PhD students.

Juris Purans received his PhD from the University of Latvia (UL) in 1980 and his habilitation from the ISSP UL in 1993. He has 30-years of experience in the R&D of electrochromic, transparent conducting oxides, thin films, HIPIMS and characterization of various materials including SR Facilities for XAS. Since 1993, he is a head of the EXAFS laboratory at the ISSP UL (www.dragon.lv/exafs), and has worked at the synchrotron radiation facilities ADONE/DAFNA (ITALY), LURE-SOLEIL (France) as a beam-line scientist, as well as invited professor - Universities of France, Italy and Switzerland. He is the author of 270 papers and 2 review articles on synchrotron radiation EXAFS studies, as well as RAMAN, EPR and XRD. His H-index is 28, with 2300 citations.

Qin, Wang received her Ph.D. degree in solid state physics at Lund University in Sweden, in 1999. Her research fields at Lund focused on electron transport physics in nanoelectronic devices based on quantum dots and quantum wires. Now she is a senior expert at RISE Acreo AB and working on high performance optoelectronic devices and sensors for imaging, high frequency electronics and optical communication applications. She is currently involved in the device design, fabrication, monolithic or hybridization integration and characterization techniques, including GaInN, GaN and SiC based devices/sensors.

Welcome!

Qin Wang (RISE) and Carl-Mikael Zetterling (KTH)