International **W**orkshop on **M**agnetron **S**putter **E**pitaxy

2022

Workshop Program:

Monday, November 28, 2022: Chaired by Dr. Alexander M. Hinz

Session 1	**News from Japan and then some**
08:05 – 08:50	Prof Kenjiro Uesugi, Mie University, Japan **Sputtering epitaxy of AlN on sapphire and high-temperature thermal treatment**
08:50 – 09:25	Prof Hiroshi Fujioka, University of Tokyo, Japan **Basic characteristics and device applications of GaN epitaxial films prepared by pulsed sputtering**
09:25 – 09:45	Prof Naho Itagaki, Kyushu University, Japan **Sputtering Growth of Single-Crystalline ZnO Based Semiconducting Films on Large Lattice-Mismatched Substrates**
09:45 – 10:05	Prof Shinya Yoshida, Shibaura Institute of Technology, Japan **Sputter Deposition of PZT Epitaxial Thin Film for High Performance Piezoelectric Micromachined Ultrasonic Transducer**
10:05 – 10:25	Dr Jürgen Weippert, Fraunhofer IAF, Germany **Achieving homogeneity in the growth of Yttria-Stabilized Zirconia (YSZ) films at high temperatures**
10:25 – 10:40	**Break**
Session 2	**Industry News**
10:40 – 11:00	Dr Jana Ligl, Evatec AG, Switzerland **Growth of epitaxial AlN on Si(111) using volume production equipment**
11:00 – 11:20	Tami Israeli, Polyteknik AS **Flextura PVD as an Epitaxial Growth Platform**

11:20 – 11:40 Joachim Rest, LayTec
Curvature measurement and stress determination by optical coatings deposition

11:40 – 12:00 Dr Alexander M. Hinz, Fraunhofer FEP, Germany
Magnetron Sputter Epitaxy: Challenges towards commercialisation

Tuesday, November 29, 2022: Chaired by Dr. Agnė Žukauskaitė

Session 1 Nitride Materials

13:05 – 13:50 Prof Jens Birch, Linköping University, Sweden
Magnetron Sputter Epitaxy: More than Group III Nitride Epitaxy

13:50 – 14:10 Prof Gregory Abadias, CNRS, University of Poitiers, France
Magnetron sputter epitaxy of transition metal nitride layers and their physical properties

14:10 – 14:30 Jui-Che Chang, Linköping University, Sweden
Metastable Ta3N5 thin film grown on c-plane sapphire substrate by magnetron sputter epitaxy

14:30 – 14:50 Smita Gangaprasad Rao, Linköping University, Sweden
(Magnetron-sputter) Epitaxial growth of Cantor nitrides

14:50 – 15:05 **Break**

Session 2 Group III-nitrides

15:05 – 15:25 Dr Ralf Borgmann, Otto von Guericke University Magdeburg, Germany
Buffer layer growth of AlGaN and GaN on Si(111) by pulsed sputter epitaxy

15:25 – 15:45 Katrin Pingen, Fraunhofer FEP, Germany
Magnetron Sputter Epitaxy of AlN on off-cut Si(111) substrates

15:45 – 16:05 Florian Hörich, Otto von Guericke University Magdeburg, Germany
Reactive sputter epitaxy of ScN and AlScN on Si(111)

16:05 – 16:25 Georg Schönweger, Fraunhofer ISIT, Germany
Structural and ferroelectric properties of AlScN deposited by sputter-epitaxy

16:25 – 16:45 Balasubramanian Sundarapandian, Fraunhofer IAF, Germany
$Al_{0.7}Sc_{0.3}N$ prepared by magnetron sputter epitaxy on AlN/Si(111) and Mo(110)/AlN (0001)/Si(111) seed layers

16:45 – 17:05 Dr. Brooks Tellekamp, National Renewable Energy Laboratory, USA
Sputter deposition of TaC virtual substrates for AlGaN heteroepitaxy