

# Schedule – Session I

**Tuesday, December 12<sup>th</sup>**

**09:00 – 09:20            OPENING CEREMONY & WELCOME ADDRESS**

Dr. Torsten Loschke, City of Leipzig, Head of Office of Science Policy

**Session I:                    Chair André Anders**

**09:20 – 10:00            INV1**

Reactive Sputter Deposition for Functional Thin Films: From Photocatalysis to Bio-inspired Electronic Device

*N. Carstens, J. Dittmann, T. Strunskus, S. K. Sharma, F. Faupel, S. Veziroglu, Alexander Vahl*

**10:00 – 10:20            OR1**

Thickness-dependent structural and electrical properties of epitaxial NbN on MgO (001) and MgO (011) substrates deposited by magnetron sputtering

*A. Farhadizadeh, S. Sengupta, M. Monteverde, M. Odén*

**10:20– 10:50            COFFEE BREAK**

**10:50 – 11:10            OR2**

On the benefits of process control in magnetron sputter epitaxy of III-nitride semiconductors

*A. Hinz, K. Pingen, D. Hecker, H. Bartzsch, J. Neidhardt, E. V. Hauff*

**11:10 – 11:30            OR3**

Epitaxial growth of molybdenum oxides grown by magnetron sputtering

*Faezeh A. F. Lahiji, Biplab Paul, Arnaud le Febvrier, Per Eklund*

**11:30 – 11:50            OR4**

Sputtering onto liquids for the synthesis of nanoparticles suspensions and beyond

*S. Konstantinidis, F.-E. Bol, V. Jauquet, J. Odent, A. Sergievskaya*

**12:00 – 13:00            LUNCH BREAK & POSTER SESSION**

# Schedule – Session II

**Tuesday, December 12<sup>th</sup>**

**Session II: Chair Alexander Vahl**

13:00 – 13:40 **INV2a**

Combinatorial Reactive Sputtering with Auger Parameter Analysis enables Synthesis of Wurtzite Zn<sub>2</sub>TaN<sub>3</sub>

*Siarhei Zhuk, Alexander Wieczorek, Amit Sharma, Jyotish Patidar, Kerstin Thorwarth, Johann Michler, Sebastian Siol*

13:40 – 14:00 **OR5**

Characteristics of the peak current evolution in reactive multi-pulse HiPIMS of vanadium in Ar/O<sub>2</sub>

*Tamaki Hattori, Naoto Saito, Grégory Savorianakis, Zikriya Khan, Daniel Lundin, Stephanos Konstantinidis, Tetsuhide Shimizu*

14:00 – 14:20 **OR6**

On spokes in reactive Ar/N<sub>2</sub> atmosphere using HiPIMS

*Peter Klein, Jaroslav Hnilica, Marta Šlapanská, Michael Kroker, Petr Vašina*

**14:20 – 15:50 COFFEE BREAK & POSTER SESSION**

15:50 – 16:10 **OR7**

In silico optimization of low-E glass by genetic algorithm: from atomic to industrial scale

*Jérôme Müller, Pavel Moskovkin, Stéphane Lucas*

16:10 – 16:30 **OR8**

Investigation of ionized metal flux fraction at industrial conditions

*P. Vašina, J. Hnilica, P. Klein, S. Debnárová, V. Sochora, M. Učík, J. Klusoň, M. Jílek, A. Lümckemann*

**18:00 – 22:00 CONFERENCE DINNER @ RATSKELLER LEIPZIG**

## Schedule – Session III

**Wednesday, December 13<sup>th</sup>**

**Session III: Chair Sebastian Siol**

08:45 – 09:25 **INV3**

Modelling of reactive HiPIMS discharges: parametric, ionization-region and particle-based approaches

Tomáš Kozák, J. Rezek, J. Vlček

09:25 – 09:45 **OR9**

3D erosion simulation of high-power “focused magnetic field” rotary sputter cathodes in reactive and metallic processes

K. Mrózek, P. Zikán, A. Obrusník

09:45 – 10:05 **OR10**

Percolation as probe of thin film nucleation during magnetron sputtering

A. Debrabandere, E. Chason, D. Depla

10:05 – 10:25 **OR11a**

Roll-to-roll deposition of thermochromic vanadium oxide by reactive high power impulse magnetron sputtering

Matthias Fahland, Jolanta Sczelwicka, Cindy Steiner, Jaroslav Vlček, Jiri Rezek

**10:25 – 11:00 COFFEE BREAK**

11:00 – 11:20

**OR12**

No-defect Insulating Coatings by Optimized Reactive Sputtering

*Dieter Wurczinger, Ralf Bandorf, Holger Gerdes, Stefan Körner*

11:20 – 11:40

**OR13**

Understanding the ion and atom fluxes during HiPIMS deposition of NbC from a compound target

*M. Farahani, T. Kozák, A. D. Pajdarová*

11:40 – 12:00

**OR14**

Enhancing Reactive HiPIMS Process Control: A Method for Large Targets and Diverse Parameters

*Radek Zemlicka, Jörg Patscheider, Joel Fischer, Daniel Lundin, Dominik Jaeger, Edmund Schüngel*

**12:00 – 13:00**

**LUNCH BREAK**

# Schedule – Session IV

**Wednesday, December 13<sup>th</sup>**

**Session IV: Chair Tomáš Kozák**

13:00 – 13:40 **INV4**

High-power pulsed hollow cathode sputtering for high-rate growth of complex nanoparticles and nanostructures

Sebastian Ekeroth

13:40 – 14:00 **OR15a**

Deposition of highly oriented piezoelectric AlScN films using synchronized-HiPIMS – from combinatorial synthesis to piezoelectric devices

Jyotish Patidar, Sebastian Bette, Roland Kessels, Sebastian Siol

14:00 – 14:20 **OR16**

Titanium carbonitride coatings: Deposition by reactive and co-reactive DC magnetron sputtering

J. Kessler

14:20 – 14:40 **OR17**

Formation of Ni nanoparticles by using multi-pulse high-power pulsed hollow cathode sputtering and its catalytic properties

Keiichi Takizawa, Kanta Mori, Kosei Kikuchi, Sebastian Ekeroth, Robert Boyd, Ulf Helmersson, Tetsuhide Simizu

14:40 – 15:00 **OR18**

Reactive Sputter Deposition: A Perspective

André Anders

**15:00 – 15:10 CLOSING CEREMONY**

# Schedule – Posters

## Tuesday, December 12<sup>th</sup>, Afternoon

### PO1

Reactive high-power impulse magnetron sputtering of high-performance thermochromic VO<sub>2</sub>-based coatings for energy-saving smart windows

*M. Kaufman, J. Vlček, S. Farrukh*

### PO2

Linking Feedback Control Measurements and Double Hysteresis in Reactive Magnetron Sputtering

*Josja Van Bever, Koen Strijckmans, Diederik Depla*

### PO3a

Reactive HiPIMS of hydrogenated amorphous carbon using toluene precursor

*Monalisa Ghosh, Kerstin Thorwarth, Götz Thorwarth, Olesya Nakonechna, Arnold Müller, Christof Vockenhuber, Sebastian Siol*

### PO4

Surface biasing effectiveness in r-HiPIMS deposition of non-conductive ZrO<sub>2</sub> films on substrates with different capacitances

*J. Rezek, T. Kozák, M. Farahani, J. Houška*

### PO5

In situ XRD Measurements in Combination with Ion Beam Sputtering to Obtain Depth-Resolved Information in Thin Films

*S. Mändl, J. W. Gerlach, D. Manova*

### PO6

Reactive ion beam sputter deposition of heteroepitaxial Ga<sub>2</sub>O<sub>3</sub> thin films

*Dmitry Kalanov, Yeliz Unutulmazsoy, Jürgen W. Gerlach, Andriy Lotnyk, Jens Bauer, André Anders, Carsten Bundesmann*

**PO7**

In-situ and Ex-situ Plasma Diagnostics for Sputter Deposition Tools

*A. Verma, Tom Gilmore*

**PO8**

Synthesis of highly-textured wurtzite AlN thin films on nitrogen-terminated metal surfaces

*O. V. Pshyk, J. Patidar, S. Zhuk, S. Siol*

**PO9**

Developing a model for industrial HiPIMS processes: Sensitivity analysis of relevant physical phenomena

*K. Tomanková, K. Mrózek, A. Obrusník*

**PO10**

Time and Energy-Resolved Investigation of the HiPIMS Discharge in Ar and Ar/N<sub>2</sub> atmospheres

*J. Hnilica, K. Bernátová, P. Klein, Z. Hubička, M. Čada, P. Vašina*

**PO11**

Magnetron sputtering with controlled primary ion energy

*Hermann Schlemm*

**PO12**

A Versatile Deposition Technique to Deposit High Quality Reactive Thin Films

*H. Brown, J. Dutson, J. Ellingford, M. Thwaites, S. Wakeham*

**PO13**

Flux Composition in Reactive High-Power Impulse Magnetron Sputtering of Ti in an Ar/N<sub>2</sub> atmosphere

*J. Fischer, J. T. Gudmundsson, M. Rudolph, F. Thompson, D. Lundin*

**PO14**

Experimental and DFT study of doped CrN thin films for thermoelectric applications

*Niraj Singh, Victor Hjort, Davide Gambino, Arnaud le Febvrier, Björn Alling, Per Eklund*

**PO15**

Sputter deposition of tungsten (W) thin films: influence of the process parameters on the film texture

F. Ahangarani Farahani, D. Depla

**PO16**

Hyperspectral Imaging for in-line thin film characterization in large area roll to roll processing

P. Schlenz

**PO17**

Multilayer sputtering and reactive sputtering processes

Young Sik Song, Sung Chul Lim, J. R. Kim