

Names in **bold**: 40 minutes  
Names in *italic*: 20 minutes

## PRELIMINARY SCHEDULE

### SUNDAY

Arrival, registration from 16.00. Welcome reception at 19.00.

### MONDAY

#### **Plenary speaker:**

**Jan-Erik Sundgren** Advanced Materials and Industrial competitiveness through University-Business Cooperation

#### **Sessions:**

**Weitao Zheng** Exploring the novel B-containing superhard materials in extreme condition

#### **Coffee break**

**Peter Polcik** Boride sputtering targets and arc cathodes – Challenges for manufacturing technologies and target/cathode design

**Paul Mayrhofer** Interface and interphase controlled properties of transition metal borides: The beauty of imperfections

*Ai-Ying Wang* Superhard yet tough CrB<sub>2</sub> coating with superior corrosion resistance deposited by DC magnetron sputtering

#### **Lunch and networking**

**John Abelson** CVD of Transition Metal Diborides Below 300°C: Routes to Conformal, Superconformal, Hard, Low-friction and Oxidation-resistant Coatings

*Georges Chollon* Structure and thermal stability of (Si)-B-C ceramics synthesized by chemical vapor deposition

*Michael Tkadletz* Investigation of microstructure and mechanical properties of CVD-Ti(N,B) coatings with varying B content

*Jyh-Wei Lee* Microstructure and mechanical property evaluation of boron-contained TiZrBN hard coatings

#### **Coffee break**

*Ge Fangfang* Hard and wear resistant VB<sub>2</sub> coatings deposited by pulsed DC magnetron sputtering

*Petr Vasina* Influence of chemical composition on structure and mechanical properties of W-B-C coating deposited in industrial sputtering system

*Johanna Rosen* TiB<sub>2</sub> synthesis from optimized arc and sputtering methods

*Feng Huang* Enhancing deformability of TiB<sub>2</sub>-based hard coatings via proper metal addition

*Marton Benke* Application of TiB<sub>2</sub> for soldering applications

### TUESDAY

**Jochen Schneider** Quantum mechanically guided design of borides or experimentally guided quantum mechanical calculations?

**Helmut Riedl** Synthesis of W<sub>1-x</sub>M<sub>x</sub>B<sub>2</sub> based ternary diborides: Challenges and Possibilities

*Per Persson* Advanced electron microscopy of borides

#### **Coffee break**

**Andreas Luemkemann** Wear-resistant, nanostructured boron containing PVD coatings for industrial use

**Marian Mikula** Structure evolution and mechanical properties of yttrium based ternary diborides

*Grzegorz Greczynski* (Preliminary title:) Plasma characterization and thin film synthesis - HfB<sub>2</sub>

#### **Lunch and networking**

*Pavel Soucek* Novel coatings with high hardness and fracture resistance based on metal-carbon-boron design

*Vincent Moraes* Ab-initio driven design of ternary diboride thin films

*Igor Zhirkov* Characterization of plasma generated in magnetron sputtering from metal boride targets  
*Ignacio Jimenez* Boron-based coatings with hexagonal bonding structure grown by Ion Beam Assisted Deposition: from BN to BCNOMo  
*Hans Högberg* Thin film synthesis and characterization of ZrB<sub>2</sub>

**Coffee break**  
**Excursions**  
**Workshop dinner**

### **WEDNESDAY**

**Ulf Jansson** Ternary nanolaminated borides – aspects of growth and properties  
**Jinn Chu** Boron-containing metallic-glass coating for the first-ever metallic nanotube array  
*Nils Nedfors* Ti-Al-B films from industrial scale HiPIMS synthesis

**Coffee break**

**Michael Widom** Mixed and partial site occupancy in boron and its carbides and nitrides  
**Carina Höglund** <sup>10</sup>B<sub>4</sub>C thin films for neutron detection  
*Naureen Ghafoor* Impact of B<sub>4</sub>C co-sputtering on structure and optical performance of multilayer X-ray mirrors

**Lunch and networking**

*Christina Wüstefeld* Microstructure of Ti-B-C-N nanocomposites deposited from Ti and B<sub>4</sub>C targets  
*Björn Alling* Theoretical investigations of mixing thermodynamics, age-hardening potential, and electronic structure of boride alloys  
*Ivan Campos-Silva* The boriding process to improve the tribocorrosion resistance of metallic biomaterials  
*Vladimir Vishnyakov* Boron quantification, a comparison between different analysis techniques  
*José Martinez Trinidad* In-vitro cytotoxicity of iron boride layers

**Coffee break**

**Panel discussion and Poster session**

**Dinner**

**Guided night tour at the castle**

### **THURSDAY**

**Alexander Grishin** Abrasion Resistant Low Friction Ultra-Hard AlMgB<sub>14</sub> Coatings  
**Jiri Houska** Role of boron in amorphous SiBCN and nanocomposite MSiBCN  
*Martin Magnusson* Structure Properties of Transition Metal Borides Investigated by Xray Spectroscopy

**Coffee break**

*Vjaceslav Sochora* Me-BN coatings simultaneously deposited by cathodic arc and magnetron sputtering

**Outlook**

**Lunch**