

SCHEDULE

Names in **bold**: 40 minutes

Names in *italic*: 20 minutes

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

Session:

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

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

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

Johanna Rosen TiB₂ synthesis from optimized arc and sputtering methods

Marton Benke Application of TiB₂ for soldering applications

Feng Huang Enhancing deformability of TiB₂-based hard coatings via proper metal addition

Guided tour “A historical odyssey”.

Dinner

TUESDAY

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

Helmut Riedl Synthesis of W_{1-x}M_xB₂ based ternary diborides: Challenges and Possibilities

José Martinez Trinidad In-vitro cytotoxicity of iron boride layers

Coffee break

Mojmir Jilek Junior Wear-resistant, nanostructured boron containing PVD coatings for industrial use

Grzegorz Greczynski (Preliminary title:) Plasma characterization and thin film synthesis - HfB₂

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

Lunch and networking

- Ai-Ying Wang* Superhard yet tough CrB₂ coating with superior corrosion resistance deposited by DC magnetron sputtering
- Vladimir Vishnyakov* Boron quantification, a comparison between different analysis techniques
- Igor Zhirkov* Characterization of plasma generated in magnetron sputtering from metal boride targets
- 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

Coffee break

Discussion

Poster session

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
- Per Persson* Advanced electron microscopy of borides

Coffee break

- Michael Widom** Mixed and partial site occupancy in boron and its carbides and nitrides
- Carina Höglund** ¹⁰B₄C thin films for neutron detection

Lunch and networking

- Naureen Ghafoor** Impact of B₄C co-sputtering on structure and optical performance of multilayer X-ray mirrors
- Christina Wüstefeld* Microstructure of Ti-B-C-N nanocomposites deposited from Ti and B₄C 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

Coffee break

- Hans Högberg* Thin film synthesis and characterization of ZrB₂

Special Lecture

- Joe Greene** The 14-billion Year History of the Universe Leading to Modern Materials Science

Aperitif

Dinner

Guided night tour “Night patrol at Vadstena Castle”

THURSDAY

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

Summary and Outlook