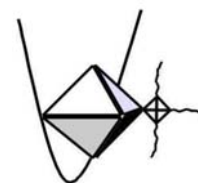

**5th International Workshop
Spinel Nitrides and Related Materials**
29th August to 3rd September 2010
Rüdesheim / Rhine, Germany

www.hotmaterials.de



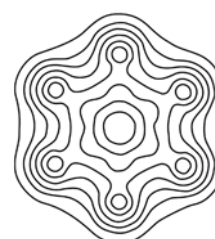
Workshop Programme



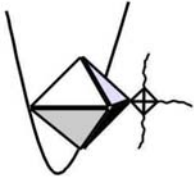
Hotel Jagdschloss Niederwald

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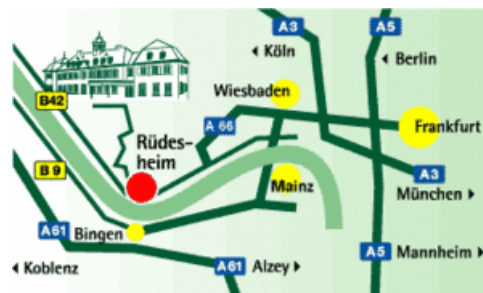


Workshop Location

Hotel Jagdschloss Niederwald

Jagdschloss Niederwald 1
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Germany

Tel: +49 (0) 6722 - 7106 0
Fax: +49 (0) 6722 - 7106 666
jagdschloss@niederwald.de
www.niederwald.de




How to get to the workshop

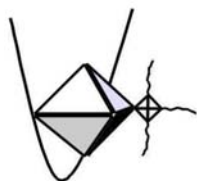
By taxi or car from Frankfurt (45 min.)

Autobahn A66 to Wiesbaden, then change to the national highway B 42 to Rüdesheim

By train from Frankfurt Airport (1.5h)

From Frankfurt Airport go to terminal 1/ level 1 and take the commuter train S8 or S9 towards Wiesbaden Hauptbahnhof. At the airport follow the signs for “Regio” or  Change trains in Wiesbaden and take the connecting train to Rüdesheim (Rhein) Bahnhof.

From the train station in Rüdesheim it is a 5 min. taxi ride to the hotel.



TECHNISCHE
UNIVERSITÄT
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Workshop Schedule

Sunday, 29th August
7⁰⁰pm

**Welcome reception
& workshop dinner**

Monday, 30th August

09⁰⁰am – 12¹⁰pm
12¹⁰pm – 02⁰⁰pm
02⁰⁰pm – 05³⁰pm
07⁰⁰pm

Binary Nitrides
Lunch
Binary (cont.) Synthesis & Properties
Dinner

Tuesday, 31st August

09⁰⁰am – 12⁰⁰pm
12⁰⁰pm – 02⁰⁰pm
02⁰⁰pm – 06³⁰pm
07⁰⁰pm

Oxynitrides
Lunch
Social programme
Dinner

Wednesday, 1st September

09⁰⁰am – 12⁰⁰pm
12⁰⁰pm – 02⁰⁰pm
02⁰⁰pm – 06⁰⁰pm
07⁰⁰pm

Related Materials I
Lunch
Social programme
Dinner

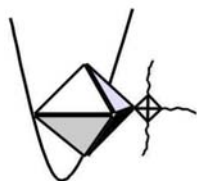
Thursday, 2nd September

09⁰⁰am – 12³⁰pm
12³⁰pm – 02³⁰pm
02³⁰pm – 05³⁰pm
05³⁰pm – 06¹⁵pm
07⁰⁰pm

Ternary Nitrides
Lunch
Related Materials II
Outlook / final discussion
Farewell dinner

Friday, 3rd September

Departure



Monday, 30th August (morning session)

Binary Nitrides

Session Chair: Toshimori Sekine

9⁰⁰am-9¹⁰am

Ralf Riedel

Introduction

T:9¹⁰am-9³⁰am
D:9³⁰am-9⁴⁰am

Richard Dronskowski
(Finite-Temperature) Theory and Synthesis of
Transition-Metal Nitrides, Pernitrides and Oxynitrides

T:9⁴⁰am-10⁰⁰am
D:10⁰⁰am-10¹⁰am

Vladimir Solozhenko
B-BN System at High Pressures and Temperatures:
Synthesis of Novel Boron Subnitrides

10¹⁰am-10⁴⁰am

Coffee break

T:10⁴⁰am-11⁰⁰am
D:11⁰⁰am-11¹⁰am

Mikhail Eremets
Nitrogen Materials at Megabar Pressures

T:11¹⁰am-11³⁰am
D:11³⁰am-11⁴⁰am

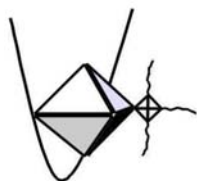
Takashi Taniguchi
Synthesis of Boron Nitride Crystals by Using Metal Solvent System
under High Pressure and Ambient Atmosphere

T:11⁴⁰am-12⁰⁰pm
D:12⁰⁰pm-12¹⁰pm

Krishna Uibel
Applications of Boron Nitride and Boron Nitride Composites

12¹⁰pm-2⁰⁰pm

Lunch



Monday, 30th August (afternoon session)

Binary Nitrides

Synthesis & Properties

Session Chair: Wai-Yim Ching

T:2⁰⁰pm-2²⁰pm
D:2²⁰pm-2³⁰pm

Andreas Zerr

Synthesis and Properties of Novel High-Pressure Nitrides
of Group 4 and 5 Elements

T:2³⁰pm-2⁵⁰pm
D:2⁵⁰pm-3⁰⁰pm

Esther Orisakwe

Ab-initio Study of the Properties of Advanced Metal Nitrides A₂N₃

T:3⁰⁰pm-3²⁰pm
D:3²⁰pm-3³⁰pm

Toshimori Sekine

Anisotropic Effects on Shock-Induced Phase Transitions

3³⁰pm-4⁰⁰pm

Coffee break

T:4⁰⁰pm-4²⁰pm
D:4²⁰pm-4³⁰pm

Alexander Moewes

The Energy Gap of Crystalline Materials Studied with
Soft X-Ray Spectroscopy

T:4³⁰pm-4⁵⁰pm
D:4⁵⁰pm-5⁰⁰pm

Peter Höhn

The Role of Carbon in Nitride Preparation II:
Cyanometalates and Cyanamides

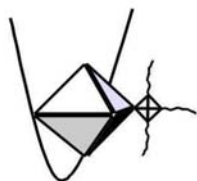
T:5⁰⁰pm-5²⁰pm
D:5²⁰pm-5³⁰pm

Samuel Bernard

Pre-ceramic Route to Si- and B-based Nitride Nanocomposites

7⁰⁰pm

Dinner



Tuesday, 31st August

Oxynitrides

Session Chair: Andreas Zerr

T:9⁰⁰pm-9²⁰am
D:9²⁰pm-9³⁰am

Dmytro Dzivenko

High-pressure Synthesis of Low-Symmetry Zirconium(IV) (Oxy)nitride

T:9³⁰pm-9⁵⁰am
D:9⁵⁰am-10⁰⁰am

Marcus Schwarz

Si-O-N Spinel of Various Length Scales Synthesized by
Dynamic and Static High Pressure

10⁰⁰am-10³⁰am

Coffee break

T:10³⁰am-10⁵⁰am
D:10⁵⁰am-11⁰⁰am

Tomáš Plachký

Polymer Derived O'-SiAlON Composites –
Applications for High Temperatures

T:11⁰⁰pm-11²⁰am
D:11²⁰am-11³⁰am

Franck Tessier

Nitrides, Oxynitrides: Materials for Energy

T:11³⁰am-11⁵⁰am
D:11⁵⁰am-12⁰⁰pm

Cordula Braun

Synthesis, Properties and Investigations of Novel High-Pressure
Phases of Nitrido-, Oxonitridosilicates and Related Binary Nitrides

12⁰⁰pm-2⁰⁰pm

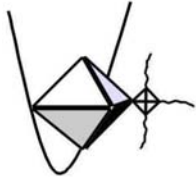
Lunch

2⁰⁰pm

Social programme: Rhine boat trip

7⁰⁰pm

Dinner



Wednesday, 1st September

Related Materials (I)

Session Chair: Jack Sigalas

T:9⁰⁰pm-9²⁰am
D:9²⁰am-9³⁰am

Wai-Yim Ching
Amorphization in Boron Carbide (B₄C) under Uniaxial Compression

T:9³⁰am-9⁵⁰am
D:9⁵⁰am-10⁰⁰am

Masashi Hasegawa
Synthesis and Crystal Growth of Noble Materials in
High Pressure and Temperature

10⁰⁰am-10³⁰am

Coffee break

T:10³⁰am-10⁵⁰am
D:10⁵⁰am-11⁰⁰am

Ted Lowther
Boron Carbon Hard Materials

T:11⁰⁰am-11²⁰am
D:11²⁰am-11³⁰am

Isao Tanaka
Cation Disordering in Spinel Compounds by a
Large Set of First Principles Calculations

T:11³⁰am-11⁵⁰am
D:11⁵⁰am-12⁰⁰pm

Pavel Zinin
Synthesis of Dense BC₃ Phase under
High-Pressure and High-Temperature

12⁰⁰pm-2⁰⁰pm

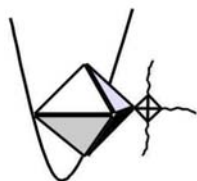
Lunch

2⁰⁰pm-6⁰⁰pm

*Social programme:
Guided tour of Eberbach Abbey & wine tasting*

7⁰⁰pm

Dinner



Thursday, 2nd September (morning session)

Ternary Nitrides

Session Chair: Ted Lowther

T:9⁰⁰pm-9²⁰am
D:9²⁰pm-9³⁰am

Yoshiyuki Sugahara

Conversion Behavior of Amorphous Si-N-C Materials into Cubic Silicon Nitride via High-Pressure Treatment

T:9³⁰pm-9⁵⁰am
D:9⁵⁰am-10⁰⁰am

Miria Andrade

Synthesis, Properties and High-Pressure High-Temperature Behavior of Silicon Dicarboimide, SiC₂N₄

T:10⁰⁰pm-10²⁰am
D:10²⁰am-10³⁰am

Florian Pucher

Phenakite-Type BeP₂N₄ – A Possible Precursor for the First Nitridophosphate Based Spinel-Type Material

10³⁰am-11⁰⁰am

Coffee break

T:11⁰⁰pm-11²⁰am
D:11²⁰pm-11³⁰am

Zoltán Lenčėš

Experimental and DFT Study on Tuning the Band-Gap of LaSi₃N₅; Eu Phosphor

T:11³⁰am-11⁵⁰am
D:11⁵⁰pm-12⁰⁰pm

Teak Boyko

Ternary Spinel Nitrides:
Determining the Band Gap and Local Structure

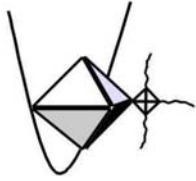
T:12⁰⁰pm-12²⁰pm
D:12²⁰pm-12³⁰pm

Jens Burghaus

Magnetic Properties of GaFe₃N

12³⁰pm-2³⁰pm

Lunch



Thursday, 2nd September (afternoon session)

Related Materials (II)

Session Chair: Isao Tanaka

T:2³⁰pm-2⁵⁰pm
D:2⁵⁰pm-3⁰⁰pm

Atsushi Togo

Transition Pathway of CO₂ Crystals under High Pressures

T:3⁰⁰pm-3²⁰pm
D:3²⁰pm-3³⁰pm

Achim Kleebe

Potentials and Limitations of Transmission Electron Microscopy
in the Study of Polymer-Derived Ceramics

T:3³⁰pm-3⁵⁰pm
D:3⁵⁰pm-4⁰⁰pm

Kiyoshi Itatani

Mechanical Properties of Silicon Carbide Composite with
Surface-Modified Si-Al-C Fibre Addition

4⁰⁰pm-4³⁰pm

Coffee break

T:4³⁰pm-4⁵⁰pm
D:4⁵⁰pm-5⁰⁰pm

Jack Sigalas

Boron Suboxide Composites

5⁰⁰pm-5²⁰pm
5²⁰pm-5³⁰pm

Charlie Montross

Reactive Ceramic Binder System for Cubic Boron Nitride

5³⁰pm-6¹⁵pm

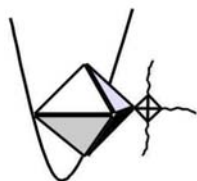
Ralf Riedel

Outlook / final discussion

7⁰⁰pm

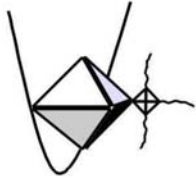
Farewell Dinner at Hotel Jagdschloss

*Friday, 3rd September
Departure*



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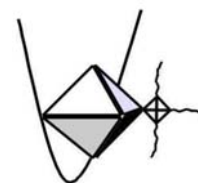


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Workshop Organization

Local Organizing Committee

Technische Universität Darmstadt
Ralf Riedel
Dmytro Dzivenko
Karen Böhling

International Organizing Committee

Isao Tanaka, Japan
Wai-Yim Ching, USA
Toshimori Sekine, Japan
Jack Sigalas, South Africa
Ted Lowther, South Africa
Pavol Šajgalík, Slovak Republic
Bert Hintzen, The Netherlands

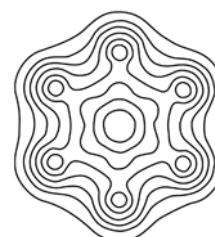
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