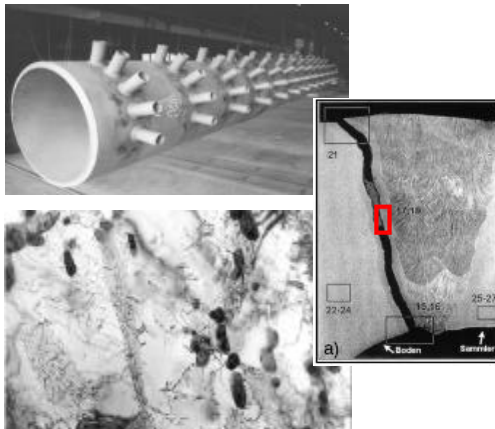


Announcement

International Workshop on:

**Performance and
Requirements of Structural
Materials for modern high
efficient fired Power Plants**



**September 6-9, 2005
Institute for Materials Technology
at the Darmstadt University of
Technology Institut für Werkstoffkunde**

Organised by:



The **National Institute for Metalworking Skills (NIMS)** is committed to the development of a globally competitive American workforce.

NIMS assists the metalworking industry through:

- The development and maintenance of skill standards
- The certification of individual skills
- The accreditation of training programs
- The implementation of the standards and certifications with companies, and training and educational institutions

The aim of the **Materials Testing Institute University of Stuttgart** is to carry out the following tasks:

- Research and development work in the areas of:
 - Materials and component testing,
 - Materials development/optimisation,
 - Safety of components and design
- Cooperation with industries, particularly in the area of small and Medium Company in the fields of technology transfer, such as damage prevention, modern computational methods, materials selection, and production methods
- Conformity tests of existing codes and regulations, certification of products
- Cooperation in standard and expert committees, maintenance of German Calibration Service (DKD)
- Cooperation with Teaching

The **State Materials Testing Institute Darmstadt** (Staatliche Materialprüfungsanstalt Darmstadt, **MPA**) and the **Chair and Institute for Materials Technology**

(Fachgebiet und Institut für Werkstoffkunde, **IfW**) at the Darmstadt University of Technology represent a highly efficient technological-scientific center of research, teaching, development, testing and consulting. While in the case of **Materials Testing** and **Monitoring** special emphasis is placed on the determination of technological, physical and chemical properties of materials, semifinished products and components, the sector **Research** is predominantly concerned with the integral evaluation of component characteristics in the light of the interrelation between materials.

INTRODUCTION TO THE WORKSHOP

The increasing demand for energy all over the world together with the need to save fossil resources and reduce greenhouse gases lead to the necessity of high efficient fired power plants. In order to build such high efficient Power plants new materials that are able to bear higher temperatures have to be developed. In the case of steam power plants the research is focused on 9-12% Cr-steels and nickel-based superalloys. The Japanese National Institute for Metalworking Skills (**NIMS**), the German State Materials Testing Institute Stuttgart (**MPA Stuttgart**) and the German Institute for Materials Technology at the Darmstadt University of Technology (**IfW Darmstadt**) agreed to organize this workshop to exchange experiences in developing new materials for high efficient power plants and to discuss the actual questions of material behavior in highly loaded components of power plants.

Programm

Tuesday 6th September 2005

9:00	Reception
9:30	Opening of workshop, Prof. Berger / Prof. Roos, Prof. Wörner: President of Darmstadt University of Technology
Session A: Development, optimization and characterization of new materials Chairman: Prof. C. Berger (A1 to A4)	
9:50 A1	D. Goldschmidt (Siemens PG): COORETEC Initiative – Material Development for High Efficient Power Plants
10:20 A2	F. Masuyama (Kyushu Inst.): Future development of materials for high efficient power plants in Japan
10:50 A3	F. Abe (NIMS): Actual status of materials development of 9-12% Cr-Steels in Japan
11:20 A4	T.-U. Kern (Siemens P.G.): Material development in the frame of COST 536
11:50	Awarding
12:10-13:10	Lunch
13:10-13:40	Laboratory visit
Chairman: Dr. F. Abe (A5 to A8)	
13:40 A5	J. Hald (ELSAM): Microstructure of 9-12% Cr Steels

14:10 A6	K. Kimura (NIMS): Microstructural stability and degradation behavior of 12Cr ferritic creep resistant steels
14:40 A7	K. Sawada (NIMS): Precipitation behavior of Z phase during aging and creep in 9-12%Cr ferritic heat resistant steels
15:10 A8	H. Semba (NIMS): Effects of Precipitates and their Stability on the Creep Strength of Advanced 9%Cr Heat Resistant Steels Containing High Boron
15:40	Coffee break
Chairman: Dr. T.-U. Kern (A9 to A11)	
16:10 A9	M. Tabuchi (NIMS): Improvement of HAZ microstructures of 9Cr heat resisting steel by boron addition
16:40 A10	M. Yoshino (NIMS): Precipitation behaviour of MX carbonitride in high Cr ferritic steels
17:10 A11	F. Abe (NIMS): Actual status of improving the properties of Nickel-based superalloys for steam turbine applications up to 700°C
17:40	close of first day
19:00	Dinner

Wednesday 7th September 2005

Session B: Design and component behaviour, monitoring Chairman: Dr. K. Kimura (B1 to B5)	
9:00 B1	S. Linn, M. Schwienheer, A. Scholz und C. Berger (IFW): Data Assessment and Creep Modelling
9:30 B2	K. Yagi (NIMS): Risk-based use of advanced structural steels in thermal power plants
10:00 -10:20	Awarding
10:20	Coffee break
10:50 B3	K. Maile, A. Klenk, E. Roos, A. Jovanovic (MPA University of Stuttgart): Monitoring of components of new materials – requirements and solutions
11:20 B4	H. Tschaffon (E. ON): COMTES 700 – on the way to 700 °C Power Plant
11:50 B5	A. Klenk (MPA University of Stuttgart), F. Müller, A. Scholz, T.S. Mao (IFW), J. Ewald (Siemens): Creep crack growth evaluation
12:20-13:20	Lunch

Session C: Failure and long term behaviour of welding, data evaluation Chairman: Prof. E. Roos (C1 to C5)	
13:20 C1	A. Klenk, K. Maile (MPA University of Stuttgart), J. Schubert (Alstom PowerMannheim): Evaluation of weld creep strength
13:50 C2	I. Nonaka (IHI): Full size internal pressure creep test for welded P91 hot reheat piping and elbow
14:20-14:50	Coffee break
14:50 C3	H. Nishida (Chugobu Electric Co.): The development of unified residual life assessment method at the high temperature steam piping welding joints using low Cr alloy for boiler
15:20 C4	A. Helmrich (ALSTOM Power Boiler), J. Heinemann (UTP), R.-U. Husemann (Babcock-Hitachi Europe), K. Maile, A. Klenk (MPA University of Stuttgart): Practical solutions for Ni-based welding consumables for boiler tubes and piping in the temperature range up to 720°C
15:50 C5	A. Scholz, M. Schwienheer (IfW): Testing procedures in high temperature range
16:20	Final discussion
16:40	Close of workshop
17:30	Visit at ESA's Spacecraft Operations Centre ESOC, Darmstadt

Technical Programme

Wednesday 7 th Sept. 17:30	Visit at ESA's Spacecraft Operations Centre ESOC, Darmstadt
Thursday 8 th Sept. 8:00 - 15:00 16:30 19:00	Visit at Saarschmiede/Völkingen Wine Tasting Tour Dinner
Friday 9 th Sept.	Technical Programme Sightseeing Rhine River

Registration Fee

Industry 200€, University 150€,
Postgraduate 100€, Retiree 60€, Students
30€

Members of the Advisory Board, Speakers
and Organizers are free.

Registration and Payment Information

The closing date for registration is the **20th.
of august 2005**. Acceptance after this date
is dependent on the availability of places.
Registration form see enclosure. Payments
should be made by transfer order to:

bank: Sparkasse Darmstadt
bank identification code: 508 501 50
account no. : 704 300
code: workshop IfW

Cancellation

Refund of fee, less 20% administration
charge, may be applied for until 20th. of
august 2005. After this date, fees can no
longer be refunded. Receipt of a
registration form is regarded as a firm
booking and acceptance of the conditions

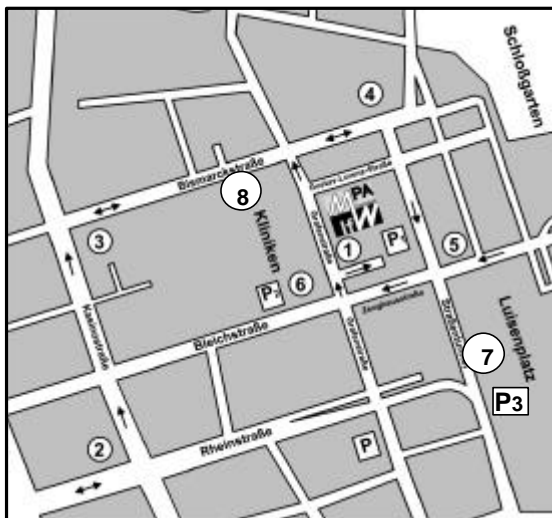
stated above. If for any reason a delegate is unable to attend, payment of fees must still be honoured.

Informations

Conference Location:

IfW Darmstadt, Grafenstraße 2, 64283
Darmstadt
<http://www.mpa-ifw.tu-darmstadt.de>

How to reach IfW Darmstadt



by car:

via motorway intersection Darmstadt

Motorway A 5 or A 67 up to Darmstädter Kreuz (Darmstadt intersection), exit in the direction Darmstadt Innenstadt (town centre), follow the sign „B 26, Stadtmitte“ (town centre). On **Rheinstraße** drive straight on for approx. 3 km in the direction

Stadtmitte. The further route in the town centre area is marked with ??? in the detail map. At the location (2) turn off to the left into **Kasinostraße** (sign „B 3, Frankfurt, Klinikum“), after approx. 300 metres (3) turn off to the right into **Bismarckstraße**, after another 400 metres fork right into the second road (4) via **Mathildenplatz** to the next intersection; there, turn off to the right into **Bleichstraße** (5) and once again turn right into **Grafenstraße** (6). MPA/IfW are housed in the building (1) with the light clinker brick facade on the right side of the road. Please inquire at the reception where you may park your car (**P1, P2, P3,P**).

?from the direction Aschaffenburg / Dieburg

Proceed on the national road B 26 to the town centre of Darmstadt up to the intersection **Bleichstraße** (B 26) and **Grafenstraße** (5) , there, you turn off to the right. MPA/IfW are housed in the building (1) with the light clinker brick facade on the right side of the road. Please inquire at the reception where you may park your car. **P1**: Car park at the rear side of the building, the access is controlled by a barrier . **P2**: The utilisation of the car park is only possible if you buy a car-parking ticket. **P**: public car park.

by aeroplane:

From **Rhein-Main Airport** take the HEAG bus line „Airliner“ (departure from bus lane 14 next to arrival level C at the airport) directly to Darmstadt, bus stop

Hauptbahnhof. Proceed by bus (line D, F or H) to **Luisenplatz (marked as number 7)**, or by Tram No. 3 to **Bismarckstraße (marked as number 8)** from either place, you walk for approx. 5 minutes until you reach the MPA/IfW (1) building in **Grafenstraße 2**.

Or (the less convenient alternative): From Rhine-Main Airport by suburban train to Frankfurt – Hauptbahnhof (Central Station), there you have to change and take a train to Darmstadt – Hauptbahnhof. You continue by bus (line D or F) up to Luisenplatz, from there, you walk for about 5 minutes until you reach the MPA/IfW building (1) in Grafenstraße 2.

by train:

Darmstadt Hauptbahnhof (Central Station), by bus (line D, F or H) to Luisenplatz, from there, you walk for approx. 5 minutes until you reach the MPA/IfW (1) building in Grafenstraße 2.

Accommodation

Attendees will be responsible for making their own hotel reservation at the following hotel(s) with code "**IfW**". To guarantee the special rates, please observe the deadline for reservation:

Maritim Hotel Darmstadt
Rheinstr. 105
64295 Darmstadt
Tel (+49) (0) 6151 303 0
Fax 0049 (0) 6151 303 111

Parkhaushotel
(Best Western Hotel Darmstadt)
Grafenstraße 31
64283 Darmstadt
Tel (+49) (0) 6151-28100
Fax 0049 (0) 6151 293908

Hotel Ibis Darmstadt
Kasinostrasse 6
64293 Darmstadt
Tel (+49) (0) 6151/39700
Fax 0049 (0) 6151 3970 123

(until 15th of August 2005 at the special rates available)

Location of hotels



Information about Darmstadt:

<http://www.darmstadt.de>
<http://www.proregio-darmstadt.de/default.asp>

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