



4th IEBW International Electron Beam Welding Conference

March 21 – 22, 2017

RWTH Aachen University, SuperC,
Aachen/Germany

PROGRAM

Co-Organizers:



INTERNATIONAL INSTITUTE OF WELDING
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Organization

DVS – German Welding Society
Technological Exchange and Network
Conference Department
Aachener Str. 172
40223 Düsseldorf/Germany

Conference Location

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SuperC, Hall Ford
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CONTENTS

WELCOME TO AACHEN

Introduction	04
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CONFERENCE

Oral Presentations	06
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GENERAL INFORMATION

Registration	10
Conference Information / Event Documents.....	12
Catering	12
Social Event.....	12
Hotel Information	14
Transportation	14
Tips for Aachen and Germany	15

ACTING EXPERTS

Presenting Authors / Session Chairs.....	16
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PROGRAM COMMITTEE

Technical Chair	18
Representatives.....	18
IIW Commission IV.....	18

Program is subject to change without notice!

WELCOME TO AACHEN

The American Welding Society (AWS), the German Welding Society (DVS) and the International Institute of Welding (IIW) are organizing the 4th International Electron Beam Welding Conference (IEBW) in Aachen, Germany in March 2017.

The event will also receive further support from the Japan Welding Society.

The IEBW Conference will bring together scientists, engineers and technical personnel from around the globe involved in research, development and application of electron beam welding processes.

Also IEBW provides an excellent opportunity for experts not using the electron beam presently but to getting to know the technical capabilities and advantages of the electron beam. Common fields where the electron beam is used are for example aircraft and aerospace, automotive and transportation, shipbuilding and off-shore constructions, rail, nuclear, oil gas and chemical, military and defense, construction and general fabrication, electronics and medical.

The event is truly one that anyone involved in sophisticated joining challenges should plan to attend.

We look forward to meeting you in Aachen, Germany in March 2017!

W. Behr
Technical Chair of
Program Committee

E. Levert
IIW Commission IV



CONFERENCE

Tuesday, March 21, 2017

Hall Ford

Opening Presentations

Chair: U. Reisgen

09:00

Welcome

U. Reisgen, Head of Welding and Joining Institute, RWTH Aachen University

R. Boecking, General Manager DVS

E. Levert, IIW Commission IV

Plenary Lecture:

Electron beam surface treatment – history of development, state of the art and prospects

R. Zenker

10:00

Coffee Break, Foyer Hall Ford

Surface Treatment / Materials

Chair: B. Baufeld

10:30

Dissimilar metal joining for pressure plant and forge tools (Transforge)

C. Punshon*, A. Ferhati, A. Field, M. Dear

10:55

Electron beam welding of cast iron and cast steel

M. Okubo*, T. Hasegawa

11:20

Study formation of the aluminides in Al - Ti - Nb system induced by electron beam surface treatment

P. Petrov, S. Valkov*

11:45

Electron beam profiling and electron beam remelt-bonding for improving the load-bearing capacity of thermal spray coatings

P. Hengst*, R. Zenker, T. Süß, K. Hoffmann

12:10

Lunch Break, Foyer Hall Ford

Tuesday, March 21, 2017

Hall Ford

Applications

Chair: C. Punshon

- 13:15** **Extension of the material and processing spectrum in wind energy plant through consistent component safety certificates and welding process optimization**
A. Senger*, S. Ufer, S. Olschok, U. Reisgen
-
- 13:40** **The diversity of job shop by assistance of the electron beam**
H. Kendziora*
-
- 14:05** **The experimental fusion reactor ITER and the need of EB welding for its construction**
T. Löwer*, D. Fritsche, R. Konya
-
- 14:30** **Advances in micro electron beam welding**
M. Merkel*, C. Otten, M. Escher, M. Paul, T. Flohr, K. Wrobel
-
- 14:55** **Coffee Break, Foyer Hall Ford**

Innovations I

Chair: S. Olschok

- 15:20** **Electron beam welding of additively manufactured parts**
A. Black*, G. LaFlamme
-
- 15:45** **Using scanning electron beam technology for the hard soldering of TWIP-matrix composites**
L. Halbauer*, P. Proksch, A. Buchwalder, R. Zenker, H. Biermann
-
- 16:10** **Effect of beam oscillation pattern on the properties of AZ31 magnesium alloys weld joints properties**
M. Sahul*, M. Sahul, J. Bárta, L. Caplovic
-
- 16:35** **Influence of electron beam process parameters on microstructure and mechanical properties of MarBN steel welds**
C. Sabitzer, S. Ufer, C. Beal*, N. Enzinger
-
- 19:30** **Welcome Reception, Restaurant Eisenbrunnen, see page 12**

CONFERENCE

Wednesday, March 22, 2017

Hall Ford

Innovations II

Hall Ford

Chair: K. Schulze

09:00 Comparison of electron beam properties of two different electron beam guns

T. Dutilleul*, B. Baufeld

09:25 Design of a plasma cathode electron gun using evolutionary optimization

C. Ribton*, S. del Pozo

09:50 Non-vacuum electron beam technology as a universal tool for material processing

N. Murray*, G. Klimov , A. Beniyash, T. Hassel

10:15 Residual stress reduction by low-transformation-temperature (LTT) filler materials in electron beam welding

S. Gach*, U. Reisgen, S. Olschok

10:40 Coffee Break, Foyer Hall Ford

Process Diagnostics / Simulation

Hall Ford

Chair: C. Ribton

11:10 Influence of fluctuating cathode characteristics on beam quality and welding results in electron beam welding (CathFluctuation)

S. Hellberg*, S. Ufer, S. Böhm, U. Reisgen

11:35 Development of a new electron probing device and analyses method to ensure the weld quality in time

P. Oving*

12:00 Application of EB profile measurement during machine maintenance

C. Liebig*, J. Fath, T. Löwer

12:25 Observing weld pool dynamics of the vapour capillary by using the real-time polarisation intensity quotient goniometry

S. Ufer*, S. Olschok, U. Reisgen, P. Berger, T. Graf

12:50 Lunch Break, Foyer Hall Ford

Wednesday, March 22, 2017

Hall Ford

Additive Manufacturing I

Hall Ford

Chair: W. Behr

14:00 Additive manufacturing using non-vacuum electron beam technology

N. Murray, G. Klimov*, A. Beniyash, T. Hassel

14:25 Improvement of electric charge transportation in metal powders for increased process stability in electron beam melting

S. Janson*, B. Loitlesberger, M. Zäh

14:50 Electron beam additive manufacturing: Deposition strategies and properties

B. Baufeld*, R. Widdison, T. Dutilleul

15:15 Coffee Break, Foyer Hall Ford

Additive Manufacturing II

Hall Ford

Chair: E. Levert

15:30 Electron beam wire-fed additive manufacture and distortion control

N. Bagshaw*, A. Ward, T. Mitchell, V. Jefimovs, M. Nunn

15:55 Additive manufacturing by electron beam melting from powder to component

B. Klöden*, A. Kirchner, T. Weißgärber, B. Kieback, M. Süß, C. Schöne, R. Stelzer

16:20 Closing Remarks

U. Reisgen

GENERAL INFORMATION

CONFERENCE LOCATION

RWTH Aachen University, SuperC, Hall Ford,
Templergraben 57, 52062 Aachen/Germany

REGISTRATION

E-mail or fax

Send your complete registration form to:

DVS – German Welding Society
P.O. Box 10 19 65
40010 Düsseldorf/Germany

P +49. (0)2 11. 15 91-302/-303
F +49. (0)2 11. 15 91-300
tagungen@dvs-hg.de
www.dvs-ev.de/iebw2017

Online

You can also use the online registration:
www.dvs-ev.de/iebw2017

If your registration form has not been received by DVS March 1, 2017, you will pay an additional late registration fee of EUR 80. This applies also to on-site registration. A registration confirmation/invoice will be sent to you within 10 business days of receiving your registration.

Payment

By credit transfer:

DVS – German Welding Society
Deutsche Bank AG, Düsseldorf
IBAN: DE96 3007 0010 0155 6844 00
SWIFT-code: DEUTDEDDXXX



Any banking charges which may be incurred will be borne by the registrants.

Keyword for credit transfer (please do not forget): IEBW 2017, no. of invoice, name of attendee

By credit card:

MasterCard, Visa, American Express (all are accepted)

Cancellations

Cancellations must be in writing to the DVS by March 1, 2017. Cancellations after March 1, 2017 cost EUR 100 for administrative fee. No refunds will be given for cancellations after March 13, 2017.

**On-Site Registration and Check-In
at the Conference Desk**

Registered attendees should check in and collect their conference documents at the conference desk located in the SuperC, Foyer Hall Ford, P +49. (0) 160 90688613.

Opening hours for the Registration Desk are as follow:

Monday,	March 20, 2017	15:00 – 17:00
Tuesday,	March 21, 2017	08:00 – 17:00
Wednesday,	March 22, 2017	08:00 – 16:00

Registration Fees

See registration form or online: www.dvs-ev.de/iebw2017

CONFERENCE INFORMATION / EVENT DOCUMENTS

Conference

The conference will take place as a discussion event. The names of the lecturers are followed by an asterisk. The language of the IEBW is English.

Proceedings

The conference proceedings (with all manuscripts of the IEBW conference) will be produced in advance with illustrations and tables. You will receive them at check-in.

CATERING

Coffee Breaks

During the coffee breaks (not during lunch break) coffee and tea will be served free of charge.

Lunch

During the lunch breaks a lunch will be served free of charge.

SOCIAL EVENT

Welcome Reception

Tuesday, March 21, 2017, 19:30 – 22:00, Restaurant Elisabethbrunnen, Friedrich-Wilhelm-Platz 14, 52062 Aachen/Germany
All registrants are invited by DVS for a buffet and drinks. We will meet directly at the restaurant.

THE INNOVATORS OF THE ELECTRON BEAM

HIGHEST PRECISION
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HOTEL INFORMATION

Hotel reservation can be made online, see:
www.dvs-ev.de/iebw2017

TRANSPORTATION

Train

Good connections between Düsseldorf – Aachen and Cologne – Aachen.

Car

- E 314 Antwerpen – Hasselt – Heerlen – Aachen
- E 40 London – Brüssel – Lüttich – Aachen
- A 4 Olpe – Cologne – Aachen
- A 44/46 Düsseldorf – Neuss – Aachen

Plane

- Maastricht-Aachen Airport (NL), 41 km, www.maa.nl
- Köln/Bonn Airport, 85 km, www.koeln-bonn-airport.de
- Düsseldorf Airport, 90 km, www.duesseldorf-international.de

TIPS FOR AACHEN AND GERMANY

Passports and Visas

All foreign visitors entering Germany must have a valid passport/identification card. For detailed information about visas, please contact your nearest German Embassy or Consulate.

Currency

EURO (EUR) is the currency of Germany. Foreign currencies can be exchanged at the banks and in the major hotels.

Electricity

The voltage in Germany is 230 volts. Travellers are advised to bring a power converter and an adapter.

Time

CET (Central European Time)

If you want more information about Aachen you can contact:
www.aachen.de



Photo: © 123rf – Alberto Lozano

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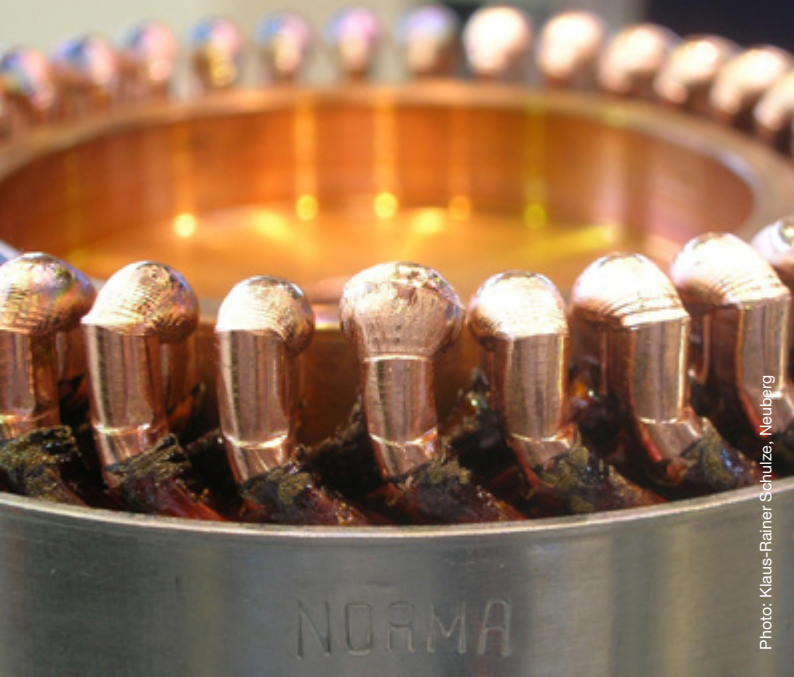


Photo: Klaus-Rainer Schulze, Neuberg

- | | |
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