

**The 4th International Seminar on
Advances in Resistance Welding
14-16 November 2006, Wels, Austria**

ANNOUNCEMENT

Organisers:

[SWANTEC Software and Engineering ApS](#), Denmark
[FRONIUS International GmbH](#), Austria

Background:

New inventions and innovative developments in recent years have revitalized the technology of resistance welding and enabled new possibilities for joining challenging materials such as aluminium and advanced high strength steels. These have drawn greater attention of manufacturing industry towards applications of resistance welding techniques. With extensive research and development by material suppliers, welding equipment manufacturers and industrial end users, it is obvious to see that resistance welding still remains one of the most productive and competitive joining technologies in automotive and other metal processing industries.

There have been great demands from industry to follow up the recent advances and update the technology information in the field of resistance welding. In order to meet the demands of industry, a series of international seminars on Advances in Resistance Welding have been initiated by SWANTEC since 2000 and now organised as a biennial even of the Innovative Resistance Welding Network – [INNOWELD.NET](#). The first seminar was held in October 2000 in Copenhagen, Denmark; the second was held in November 2002 in Aachen, Germany; and the third was held in November 2004 in Berlin, Germany. All lectures at the seminars were given by well-known experts specially invited from leading companies and institutes in the field of resistance welding with a full coverage of all important topics on materials, welding equipment, innovations and the latest industrial applications. The seminars have been well received from industry with increasing participants, among them more than 80% from companies.

Following the success of the first three seminars, the 4th seminar is now organised by SWANTEC and FRONIUS on 14-16 November 2006 in Wels, Austria. Eleven invited lectures will be given by well-known experts in the field of resistance welding from all over the world covering the latest inventions and developments in resistance welding with special emphasis on new techniques and applications for materials which are difficult to weld *e.g.* advanced high strength steels and aluminium etc.

Objectives:

- To bring up the latest innovations and developments on industrial applications of resistance welding.
- To provide an opportunity for industrialists and specialists in resistance welding to share their expertise and experiences at an international level.

Topics:

- Challenges to resistance welding for applications of new materials and complex joints.
- Innovations and advances in resistance welding machines/guns and control technologies.
- Applications and optimisations of resistance welding with support of computer technology.

Proceedings:

Proceedings of all lectures will be written in English and distributed to participants at the seminar. Presentations shall be written in English but may be presented in English or German.

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PROGRAMME

Tuesday, 14 November 2006 – Workshop and Reception:

- 12:00 – 13:00 Lunch
13:00 – 14:30 **Workshop on SORPAS® - simulation and optimization of resistance welding processes**
14:30 – 15:00 Coffee Break
15:00 – 17:00 **Demonstration of the new DeltaSpot welding gun and Guided Tour at FRONIUS**

17:30 – 19:30 Registration and Buffet Reception

Wednesday, 15 November 2006 – Seminar:

- 08:00 – 09:00 Registration
09:00 – 09:15 Introduction of FRONIUS
09:15 – 10:00 **Development and optimisation of resistance welding processes using process-simulation**
- *Mr. Matthias Graul, Volkswagen AG, Wolfsburg, Germany*
10:00 – 10:45 **State of the art of resistance spot welding for high tensile strength steel sheets in Japan**
- *Dr. Kiyoyuki Fukui, Sumitomo Metals Industries, Ltd., Japan*
10:45 – 11:00 Coffee Break
11:00 – 11:30 **Advanced High Strength Steels for Light-Weight-Body Construction in Automotive Industry – a Challenge for Resistance Spot Welding**
- *Robert Sierlinger, Sabine Ritsche, and Johann Szinyur, voestalpine Stahl GmbH, Austria*
11:30 – 12:00 **Resistance Spot Welding of Advanced High Strength Steels for the Automotive Industry**
- *Sullian Smith and Nick den Uijl, CORUS, The Netherlands*
12:00 – 12:30 **Resistance Spot Welding - Daily challenges at Magna Steyr**
- *Haris Pasic, Magna Steyr Fahrzeugtechnik AG & Co KG, Austria*
12:30 – 13:30 Lunch
13:30 – 14:00 **Influence of the mechanical characteristics of a pedestal spot welding machine**
- *Dr. Thomas Dupuy, Arcelor research, France*
14:00 – 14:30 **"Deltaspot" Experience with aluminum and steel applications**
- *Walter Stieglbauer, Fronius International GmbH, Austria*
14:30 – 15:00 **Servo Gun Controls for Spot Welding of Advanced High Strength Steels**
- *Dr. Karl Pöll and Dr. Udo Marek, Matuschek, Alsdorf, German*
15:00 – 15:15 Coffee Break
15:15 – 15:45 **New developments and challenges in simulation and optimization of resistance welding**
- *Dr. Wenqi Zhang, SWANTEC Software and Engineering ApS, Denmark*
15:45 – 16:15 **The PARACAP™ - Longer Electrode Life from a New Geometry, an Innovative Multilayer Coating, and Internal Cooling Fins**
- *Nigel Scotchmer¹, Kevin Chan², ¹Huys Industries Ltd, ²Huys Welding Strategies Ltd., Canada*
16:15 – 16:45 **Effects on the human body and assessment methods of exposure to Electro-Magnetic-Fields caused by spot welding**
- *Peter Mair, Fronius International GmbH, Austria*
16:45 – 17:00 Closure Discussions
19:00 – Conference Dinner

Thursday, 16 November 2006 – SORPAS® User Group Meeting:

- 08:30 – 13:00 **Agenda of user presentations described on separate page.**
– free to join by all seminar participants
13:00 – 14:00 **Lunch**
14:00 – 15:00 **Open Discussions and Exchange of Experiences**

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SORPAS USER GROUP MEETING

- 16 November 2006 -

Session 1: Simulation of Complex Welding Problems

08:30–09:00 **Joining Unweldable Materials – How simulation can help to develop an innovative spot welding process**

- Dr. Alexander Eder and Sami Jaber, Fronius International, Austria

09:00–09:30 **Projection Welding of Aluminium Tubing**

- Dr. Patrick Van Rymenant, De Nayer Institute, Belgium

09:30–10:00 **Lowering Costs by Simulating Design of Complex Welds – Design of an indent-free indirect resistance projection hem weld on AHSS**

- Pete Edwards¹ and Kevin Chan²

¹Honda Engineering North America Inc, USA, ²Huys Welding Strategies Ltd., Canada.

10:00–10:15 **Coffee Break**

Session 2: Using SORPAS to Support Weldability Analysis

10:15–10:45 **Using SORPAS to Support Weldability Research at Corus**

- Nick den Uijl, Corus, The Netherlands

10:45–11:15 **Assessing Weldability of Projection Welding Fasteners to AHSS using SORPAS Finite Element Analysis**

- Dr. Michael Kuntz, University of Waterloo, Canada

11:15–11:45 **Effect of Electrode Geometry on Resistance Spot Welding of AHSS.**

- Kevin R. Chan¹, John Bohr², Nigel Scotchmer¹, Ibraheem Khan³, Dr. Michael Kuntz³ and Dr. Norman Zhou³, ¹Huys Welding Strategies Ltd., Canada, ²General Motors, USA,

³University of Waterloo, Canada.

11:45–12:00 **Coffee Break**

Session 3: Weld Properties and Micro Structures after Welding

12:00–12:30 **Monitoring the Effect of Current Pulsing on Weld Properties using SORPAS**

- Ibraheem Khan, Dr. Michael Kuntz and Dr. Norman Zhou, University of Waterloo, Canada

Session 4: Verifications and Improvements of Simulation

12:30–13:00 **Some Experimental Validations of SORPAS Data and Results**

- Dr. Thomas Dupuy, Arcelor Research, France

13:00–14:00 **Lunch**

14:00–15:00 **Open Discussions and Exchange of Experiences**

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GENERAL INFORMATION

Reception, Workshop on 14 Nov, Seminar on 15 Nov and User Group Meeting on 16 Nov:

Customer and Training Center, Seminar Room Mount Everest
Plant 3, FRONIUS International GmbH ([Access map: Magazinstraße](#))
Buxbaumstrasse 2, A-4600 Wels, Austria

Dinner on 15 November 2006:

Gerstl Bräu, Hans Kreuzer, Freieung 9-11, A-4600 Wels, Austria
<http://www.gerstl-braeu.at>

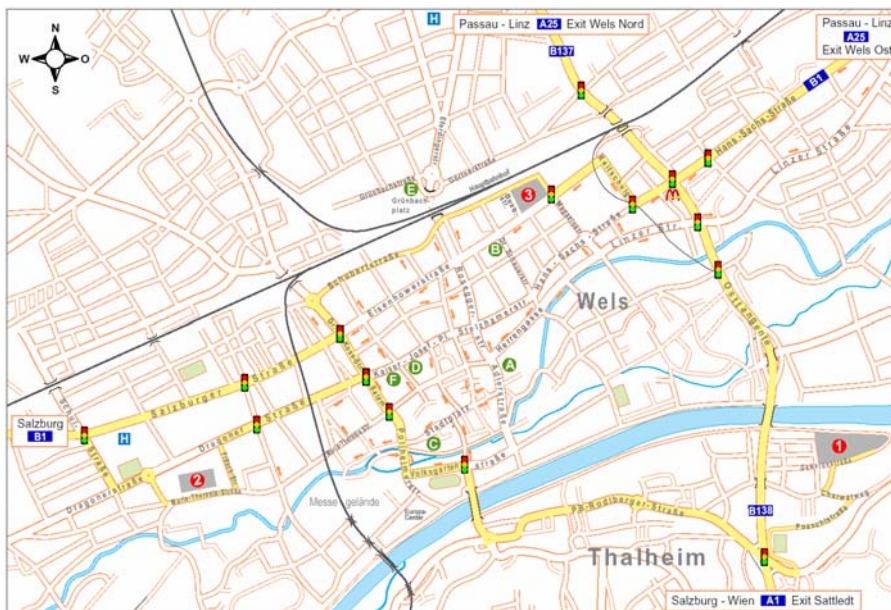
Hotel:

Dormotel Traunpark, Adlerstraße 1, A-4600 Wels, Austria
Special price: €48/night for single room and €82/night for double room incl. breakfast.
www.dormotel-traunpark.at

Transportation:

The Seminar site and Hotel are within walking distance from the railway station Wels Hbf. There are direct train connections from Linz, Salzburg and Vienna. You can find train connections and time at ÖBB website: <http://www.oebb.at/vip8/oebb/en/index.jsp>. The nearest airport is Linz Airport which is only about 25km from Wels. There are direct flights from Frankfurt, Vienna and Salzburg.

For hotel booking and further information, please contact **Mrs. Josipa Karlovcec** at FRONIUS.
Tel.: +43 (7242) 241 8590 Fax: +43 (7242) 241 2260
E-mail: Karlovcec.Josipa@fronius.com



Location 3: Fronius Plant 3 - Seminar Venue.

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REGISTRATION FORM

Participant:

Name: _____ Ms. Mr. Dr. Prof.
Organisation: _____
Department: _____
Address: _____
Post code: _____ City: _____
Country: _____
Phone: _____
Fax: _____
E-mail: _____
VAT Reg. No. _____ (for EU countries only)

Participation:

		Registration before 28 October 2006	Registration after 28 October 2006
Seminar:	<input type="checkbox"/> 15 November 2006	€395 / €325 ^a	€425 / €355 ^a
Workshops:	<input type="checkbox"/> 14 November 2006	€50 / free ^b	€60 / free ^b
User Group Meeting:	<input type="checkbox"/> 16 November 2006	€50 / free ^b	€60 / free ^b

*Note: a. The seminar registration fee for members of INNOWELD.NET.
b. The workshops and user group meeting are free of charge for participants attending the seminar.
All prices are in Euro and exclusive of VAT.*

Payment:

- Send invoice to me.
- Cheque made payable to SWANTEC Software and Engineering ApS.
- Bank transfer to Danske Bank, DTU-Branch, 2800 Lyngby, Denmark.
SWIFT: DABA DK KK. IBAN: DK3630004263877810.
Notice: Your name in the transfer is important for identification.

Please return to:

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