

**The 7th International Seminar on
Advances in Resistance Welding
12-14 September 2012, Busan, Korea**

ANNOUNCEMENT

Organizers:

[SWANTEC Software and Engineering ApS](#), Denmark
[I • S Korea Co., Ltd.](#), Korea
[Dong-Eui University](#), Korea

Background:

New inventions and innovative developments in recent years have enabled new possibilities for joining challenging materials such as advanced high strength steels, aluminum alloys, and with adhesives. With extensive research and development by material suppliers, welding equipment manufacturers and industrial end users, it is obvious to see that resistance welding remains one of the most efficient and competitive joining technologies in automotive, aerospace, electrical, electronics, white goods and other metal processing industries.

In order to meet the demands of industry to follow the recent advances in the technology available in the field of resistance welding, a series of international seminars on Advances in Resistance Welding have been initiated by SWANTEC since 2000 and now organized as a biennial international event. The 1st seminar was held in October 2000 in Copenhagen, Denmark; the 2nd was held in November 2002 in Aachen, Germany; the 3rd was held in November 2004 in Berlin, Germany; the 4th was held in November 2006 in Wels, Austria; the 5th was held in September 2008 in Toronto, Canada; while the 6th was held in September 2010 in Hamburg, Germany.

All lectures at the seminars were given by well-known experts specially invited from leading institutes and companies in the field of resistance welding with full coverage of all important topics on materials, welding equipment, innovations and the latest industrial applications. The seminars have been well attended with more than 80% participants coming from industry.

The 7th seminar will be organized by SWANTEC, I S Korea and Dong-Eui University on 12-14 September 2012 in Busan, Korea. Approximately 20 lectures will be given by invited experts from leading institutes and companies to cover the latest inventions and developments in resistance welding with special emphasis on adaptive welding controls and applications for challenging materials which are difficult to weld e.g. aluminum alloys, adhesives and advanced high strength steels, 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 optimizations of resistance welding with the support of computer technology.

Proceedings:

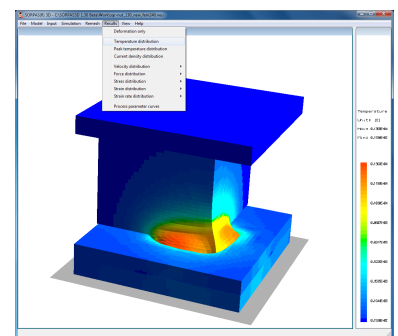
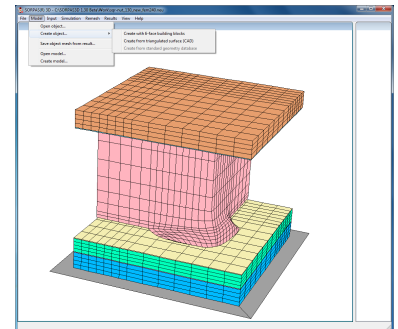
Proceedings of all lectures will be written in English and distributed to participants at the seminar. Presentations will be presented in English.

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FINAL PROGRAMME

Wednesday, 12 September 2012:

- 11:00 – 12:00 **Registration**
- 12:00 – 13:00 **Lunch**
- Workshop on SORPAS® and User Group Meeting**
Open to all participants
- 13:00 – 13:30 **New functions and applications of SORPAS version 11**
Dr. Wenqi Zhang, SWANTEC Software and Engineering ApS, Denmark
- 13:30 – 14:00 **Challenges and new developments of SORPAS 3D**
Dr. Chris V. Nielsen, Technical University of Denmark, Denmark
- 14:00 – 14:30 **The SORPAS applications in China**
*Yang Zhao and Qinghua Xiong
Shanghai InfoMass Information Technology Ltd., China*
- 14:30 – 15:00 **Coffee Break**
- 15:00 – 16:30 **Official release and demonstration of SORPAS 3D**
Dr. Wenqi Zhang, SWANTEC Software and Engineering ApS, Denmark
- 16:30 – 17:00 **Open discussions**
SORPAS users and all participants
- 18:00 – 20:00 **Reception and buffet**



3D simulation of square nut welding

Thursday, 13 September 2012:

- 09:00 – 09:10 **Welcome by Dr. Yeong-Do Park, Dong-Eui University, Korea**
- 09:10 – 09:50 **Keynote speech:**
Various automotive applications to improve the quality of resistance spot welding
Dr. Yong-Joon Cho, Hyundai Motor Company, Korea
- 09:50 – 10:30 **Sophisticated resistance spot welding & weight saving technologies for automotive body with steel products**
Dr. Kiyoyuki Fukui, Sumitomo Metal Industries, Japan
- 10:30 – 11:00 **Coffee Break**
- Session 1: Resistance Welding of Challenging Materials**
- 11:00 – 11:30 **Weld current in resistance spot welding considering steel compositions**
Sangman Yun, Duyoul Choi and Sangho Uhm, POSCO, Korea
- 11:30 – 12:00 **Spot welding of high strength hot-stamped steels in the production of vehicles in North America**
*Kevin Chan¹, Baris Gokce², Saad Ahmad³, Nigel Scotchmer¹, Adrian P. Gerlich³
¹Huys Industries Ltd., Canada, ²Afyon Kocatepe University, Turkey, ³University of Waterloo, Canada*
- 12:00 – 13:00 **Lunch**

Session 2: Resistance Welding of Challenging Materials - continue

- 13:00 – 13:30 **Study of heat generation behavior on resistance spot welded hot press forming (HPF) steels**
Dulal Chandra Saha and Prof. Dr. Yeong-Do Park, Dong-Eui University, Korea
- 13:30 – 14:00 **Simulation-based temperature field analysis for resistance spot welding of aluminum to steel**
Almedin Becirovic, Fronius International GmbH, Austria, and Christian Neudel, Audi AG, Germany
- 14:00 – 14:30 **Process simulation of resistance weld bonding and automotive light-weight materials**
*Dr. Wenqi Zhang, SWANTEC Software and Engineering ApS, Denmark
Dr. Azeddine Chergui, ThyssenKrupp Steel Europe AG, Germany, and
Dr. Chris Valentin Nielsen, Technical University of Denmark, Denmark*
- 14:30 – 14:40 **General Standard for Welding Simulation** - *Almedin Becirovic, Fronius International GmbH, Austria*
- 14:40 – 15:00 **Coffee Break**

Session 3: Advanced Welding Control Technologies

- 15:00 – 15:30 **Resistance welding of ultra-high strength materials with MFDC using advanced software technologies**
Jörg Eggers and Ralf Bothfeld, Harms & Wende GmbH & Co KG, Germany
- 15:30 – 16:00 **Development of single-side resistance spot welding technology applying in-process welding current and electrode force controls**
Dr. Muneo Matsushita, Dr. Rinsei Ikeda and Dr. Kenji Oi, JFE Steel Corporation, Japan
- 16:00 – 16:30 **Projection welding with pneumatic and servo-mechanical electrode pressure system in FEM calculations – comparison**
Dr. Zygmunt Mikno and Dr. Zbigniew Bartnik, Welding Institute, Poland
- 16:30 – 17:00 **Resistance spot welding technology for lightweight metals using process tape**
Jiyoung Yu, Joonghyun Yeom and Prof. Dr. Sehun Rhee, Hanyang University, Korea
- 19:00 – 22:00 **Dinner**

Friday, 14 September 2012:

Session 4: Welding Processes and Applications

- 09:00 – 09:30 **Resistance welding of aluminum alloys with medium frequency inverters and Refill Friction Stir Spot Welding as mechanical joining method**
Ralf Bothfeld, Jörg Eggers and Fritz Luidhardt, Harms & Wende GmbH & Co KG, Germany
- 09:30 – 10:00 **The importance of sacrificial projection geometry design**
*Dr. Patrick Van Rymenant, Wilfried Pelgrims, Lessius Mechelen | University College, Belgium, and
Dr. David Yapp, Cranfield University, United Kingdom*
- 10:00 – 10:30 **Single-sided sheet-to-tube spot welding investigated by 3D numerical simulations**
*Dr. Chris Valentin Nielsen, Technical University of Denmark, Denmark,
Dr. Azeddine Chergui, ThyssenKrupp Steel Europe AG, Germany, and
Dr. Wenqi Zhang, SWANTEC Software and Engineering ApS, Denmark*
- 10:30 – 11:00 **Coffee Break**

Session 5: Welding Processes and Applications - continue

- 11:00 – 11:30 **Comparisons of spot weldability between rolled AZ31 and AZ61 magnesium alloy sheets**
Dr. MokYoung Lee, RIST, Korea
- 11:30 – 12:00 **Welding distortion and residual stress simulation and its experimental validation in resistance spot welded 980 MPa-class high tensile strength steel sheets**
*Prof. Dr. Masahito Mochizuki and Muneyoshi Iyota, Osaka University, Japan, and
Dr. Rinsei Ikeda, JFE Steel Corporation, Japan*
- 12:00 – 13:00 **Closing remarks and Lunch**

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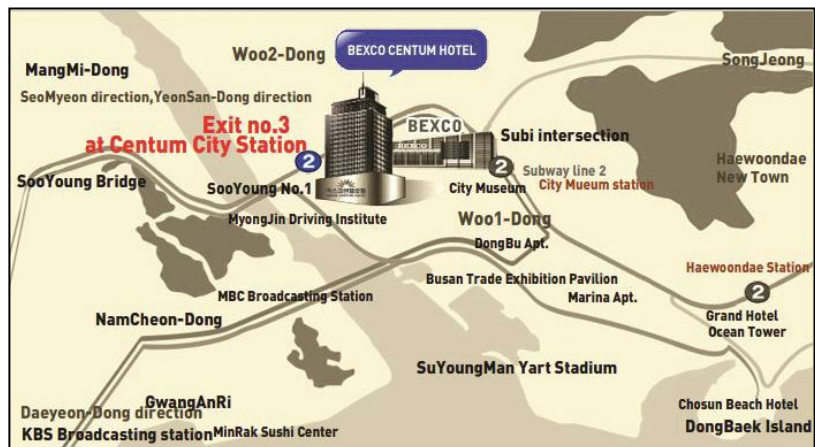
VENUE INFORMATION

Venue for Reception, Workshop, User Group Meeting, and Seminar:



Haeundae Centum Hotel
www.ecentumhotel.com

1505 Woo-Dong
 Haeundae-Gu
 Busan 612-020
 Korea
 Phone: +82-51-720-9000
 Fax: +82-51-720-9990



Reservation:

A number of rooms have been pre-reserved with special rate at **KRW 110,000** (approx. USD 100) per night for single or deluxe rooms.

Please make reservation through our host organizer ISK or SWANTEC or directly book at the hotel by mentioning the code “SWANTEC” or “SORPAS” or “ISK” before **1st August, 2012**.

Transportation:

VIA	FROM (Time)	REMARKS
Airport Limousine	Airport (30-40 min.)	Get off at Centum Hotel stop
Subway Line 2	Busan Station, Downtown Area (30 min.)	Get off at Centum City Station (Exit no.3)
BUS	Busan Station, Downtown Area	Bus No : 5 / 36 / 338 / 40 / 63 / 100 / 109 / 115 / 155 / 181 / 139

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REGISTRATION

Participant:

Name: _____ Ms. Mr. Dr. Prof.

Organization: _____

Address: _____

Postal or Zip: _____ City: _____

Country: _____

Phone: _____

Fax: _____

E-mail: _____

Participation:

Seminar

**Registration before
1st August 2012**

**Registration after
1st August 2012**

€395 (Euro)

€425 (Euro)

KRW 585,000

KRW 630,000

All prices are exclusive of any applicable taxes and/or fees.

Payment:

Bank transfer to **SWANTEC Software and Engineering ApS:**

Danske Bank, DTU-Branch, 2800 Lyngby, Denmark.

SWIFT: DABA DK KK. IBAN: DK3630004263877810

Notice: Your name in the transfer is necessary for identification.

Bank transfer to **I.S KOREA Co., Ltd:**

SHINHAN BANK, BUJEON-DONG BRANCH.

SWIFT: SHBKKRSE. ACCOUNT NUMBER: 110-363-706353

Notice: Your name in the transfer is necessary for identification.

Check/cheque made payable to **SWANTEC Software and Engineering ApS**

Send invoice to me (VAT registration number for **EU countries only**: _____)

Please return to:

SWANTEC Software and Engineering ApS

Diplomvej 373

DK-2800 Kgs. Lyngby

Denmark

Email: info@swantec.com

Fax: +45 7567 8885

See you again in two years!

**The 8th International Seminar on
Advances in Resistance Welding
10-12 September 2014, Krakow, Poland**

Organizers:

SWANTEC Software and Engineering ApS, Denmark

Institute of Welding, Poland