

Final Program



3rd Hungary-Korea-Japan Joint Seminar on Design, Fabrication, and Maintenance of Welded Steel Structures, 2024

1. Purpose

This joint seminar is held to exchange knowledge of the design, fabrication, and maintenance of welded steel structures in mechanics, automotive, architecture, and civil engineering fields between Hungary, Korea, and Japan. Research activities in these countries are introduced to make strong relationships among them. The first seminar was held in September 2021. The second seminar was held in March 2023. This is the third seminar. Researchers and engineers in any other country interested in these topics can join the meeting. The logo marks listed at the top of this document are the universities/organizations to which the presenters at the third seminar belong.

Furthermore, this seminar has a role at the International Institute of Welding (www.iiwelding.org), commission XV (Design, Analysis, and Fabrication of Welded Structures) as an intermediate meeting of SC-A (Chair: Prof. Chang), SC-D (Chair: Prof. Azuma) and SC-F (Chair: Prof. Jármai) in IIW C-XV.

2. Date: 1st, March 2024

3. Style: Online seminar (ZOOM meeting)

<https://us02web.zoom.us/j/83556012594?pwd=KytRK25mdXYrbmpIajVmUHc3UEFKdz09>

Meeting ID: 835 5601 2594

Passcode: 899132

4. Registration

Anyone interested in the seminar is welcome to attend.

There is no charge for participation. No prior registration is required.

5. Presentation

Presentation: 10 minutes and Discussion: 4 minutes, per presenter

Keynote speech: 15 minutes and Discussion: 4 minutes, per speaker

6. Contact addresses

- Károly Jármai (University of Miskolc, Hungary): karoly.jarmai@uni-miskolc.hu
- Chang Kyong-Ho (Chung-Ang University): changkor@cau.ac.kr
- Hirohata Mikihito (Osaka University): hirohata@civil.eng.osaka-u.ac.jp

7. Program

Time (CET / Korea, Japan)	Contents	Title
08:00 – 08:25 (16:00 – 16:25)	Opening message and keynote speech (1) Károly Jármai, Maryam Hasanali, Kaveh Andisheh (University of Miskolc, Hungary, New Zealand Heavy Engineering Research Association (HERA))	Structural optimization example of a reusable seismic frame design
Session 1 Chair: Hirohata Mikihiro (Osaka University)		
08:25 – 08:40 (16:25 – 16:40)	Feng Yongyi, Goto Koji (Kyushu University, Japan)	Prediction of weld bead shape and defects by deep learning using welding conditions and acoustic features during welding as input variables
08:40 – 08:55 (16:40 – 16:55)	H. Taheri, M. Karpenko, G.C. Clifton, J.B.P. Lim, S. Ramhormozian, P. Dong J.B.P. Lim, Z. Fang & K. Roy (New Zealand Heavy Engineering Research Association (HERA), The University of Auckland, New Zealand, The University of Michigan, USA. The University of Waikato, New Zealand)	The use of equivalent full penetration butt welds for seismic applications
08:55 – 09:10 (16:55 – 17:10)	Mohsen Amraei (University of Turku, Finland)	Heat affected zone in welded ultra-high strength steels
09:10 – 09:25 (17:10 – 17:25)	Jiang Feng, Hirohata Mikihiro (Osaka University, Japan)	Deterioration Prediction of Paint-coated Steel with Different Defects Using a GAN Method
09:25 – 09:40 (17:25 – 17:40)	Nico Wilke (University of Pretoria, South Africa)	Advancing Multi-Fidelity Surrogate Modelling
09:40 – 09:55 (17:40 – 17:55)	Break	
Session 2 Chair: Károly Jármai (University of Miskolc), Jiang Feng (Osaka University)		
09:55 – 10:15 (17:55 – 18:15)	Keynote speech (2) Akahoshi Takuya, Azuma Koji (Sojo University, Japan)	Prediction of brittle fracture for beam-to-diaphragm joints using mixed-mode ratio
10:15 – 10:30 (18:15 – 18:30)	Nagy, N.; Gáspár, M.; Gyura, L.; Lukács, J. (University of Miskolc, Hungary)	Comparison of the behaviour of transporting pipeline sections without and with hydrogen exposure based on full-scale tests
10:30 – 10:45 (18:30 – 18:45)	Imre Tímár, Attila Csobán, Éva Kocsisné Pfeifer (Pannon University, Hungary)	Genetic optimization of fillet welds
10:45 – 11:00 (18:45 – 19:00)	Betti Bolló, Ildikó-Renáta Száva, Károly Jármai, Péter Bencs, János Száva, Sorin Vlase, Teofil-Florin Gălăţan, Denisa-Elena Popica (University of Miskolc, Hungary, Transilvania University of Brasov, Romania)	Experimental and numerical investigation of a reduced scale four-chamber building subjected to fire
11:00 – 11:25 (19:00 – 19:25)	Keynote speech (3) and closing message Eguillos Roque, Chang Kyong-Ho (Chung-Ang University, South Korea)	Fatigue life comparison of steeldeck with u-rib and v-rib stiffener