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**INTERNATIONAL INSTITUTE OF WELDING**  
**A world of joining experience**

**IX-2785-2022re1**

## **COMMISSION IX**

### **BEHAVIOR OF MATERIALS SUBJECTED TO WELDING**

**IX-2785-2022RE1**

**DRAFT AGENDA FOR 2022 MEETINGS OF COMMISSION IX,  
75TH ANNUAL ASSEMBLY, TOKYO, JULY 19~21, 2022**

**Authors: Hee Jin Kim, Chair of C-IX**

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## **DRAFT AGENDA FOR 2022 MEETINGS OF COMMISSION IX, 75TH ANNUAL ASSEMBLY, TOKYO, JULY 19~21, 2022**

### **Program Summary**

July 19, 2022 (Tuesday)	14:00 - 14:15	Opening of C-IX meetings
	14:15 - 18:00	Sub-Commission IX-L meeting <i>Venue : Ginga</i>
July 20, 2022 (Wednesday)	14:00 - 18:00	Sub-Commission IX-H meeting <i>Venue : Ginga</i>
July 21, 2022 (Thursday)	14:00 - 17:50	Sub-Commission IX-C meeting Sub-Commission IX-NF meeting
	17:50 - 18:00	Summary of meetings & Closing <i>Venue : Ginga</i>

### **IIW Antitrust policy**

*IIW activities are based on a close, voluntary cooperation of its worldwide members with the overall target to improve the knowledge and skills in joining. To maintain these fruitful activities, it is strictly necessary to meet the obligatory terms of antitrust laws during IIW working sessions, meetings and other events. Thus, any commercial oriented discussion (including, but not limited to market shares, prices, turnovers, production quantities, costs, suppliers and/or customers) is strictly banished.*

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**Tuesday, July 19, 2021**

## **I. Opening Session**

- I-1. Opening and welcome by Chair
- I-2. Approval of Agenda (IX- 2785-2022)
- I-3. Approval of Minutes of AA meeting 2021 (IX-2751-2021)
- I-4. Approval of Minutes of Intermediate meeting 2022 (IX-2754-2022)
- I-5. Election of Vice-Chair of C-IX (Att. 1)

## **II. Subcommission IX-L: Low alloy steel welds**

**Chair: Prof. Nobert Enzinger (online)**

**Vice-Chair : Prof. Kazuhiro Ito (onsite)**

- II-1. Administration matters of IX-L
- II-2. Technical Presentation of documents (presentation order is in IX-L Agenda)
  1. IX-2755-2022 Formation of Mn depletion zone around oxide as intragranular ferrite nucleus in low oxygen weld metal of low carbon steel, *R. Homma, G. Shigesato, M. Fujioka, K. Kadoi and H. Inoue*
  2. IX-2756-2022 Effect of microstructure on fracture behavior of 780 Mpa class weld metal submitted to PWHT, *M. Inomoto, T. Ito, S. Kano, M. Nagami, S. Sasakura*
  3. IX-2757-2022 Effect of carbon on the microstructure of intragranular acicular ferrite in weld metal of low-alloy steels, *H. Matsuo, T. Kamo, S. Daimaru, M. Kato*
  4. IX-2758-2022 On the effect of sulphur on the precipitation morphology in C-Mn steel weld metal, *K. Treutler, G.Evans, V. Wesling*
  5. IX-2759-2022 Evaporation modeling and experimental verification of high manganese steel and laser welds, *M. Choi, D. Chob, K. Leeb and N.Kang*
  6. IX-2760-2022 Microanalysis of TiN phase formed in Inclusions of Electrogas weld metals, *K. Seo, Y. Kang, H.J. Kim, J.G. Yoon*
  7. IX-2761-2022 Investigations on microstructure of drawn arc stud welds on structural steels by quantitative metallography, *O. Brätz, K.-M. Henkel*
  8. IX-2762-2022 Low cycle fatigue behaviour of differently matched welded joints of quenched and tempered steels, *M. Gáspár, Dobosy, Á. Meilinger, G. Nagy*
  9. IX-2763-2022 The effect of t<sub>8/5</sub> cooling time on HAZ properties of different pipeline steel grades, *M. Gáspár, R. Sisodia*

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**Wednesday, July 20, 2022**

## **II. Subcommission IX-H: Welding of stainless Steels and Nickel-base Alloys**

**Chair: Dr. Elin Westin (online)**

**Vice-Chair : Prof. María Asunción Valiente Bermejo (onsite)**

II-1. Administration matters of IX-H

II-2. Technical Presentation of documents (presentation order is in IX-H Agenda):

1. IX-2764-2022 In-situ analysis of the LTT-effect and its influence on residual stress and distortion in austenitic high alloy steel. *Fatma Akyel, Maximilian Gamerding, Konrad Mäde, Timm Evers, Simon Olschok, Rahul Sharma, Uwe Reisgen, Guilherme Abreu Faria, Gleb Dovzhenko*
2. IX-2765-2022 Effect of chemical composition on corrosion property of weld metal of austenitic stainless steels, *Kota Kadoi, Yudai Kanno, So Aoki, Hiroshige Inoue*
3. IX-2766-2022 Evaluation of hot ductility curve for solidification cracking, *Shotaro Yamashita, Kazuyoshi Saida*
4. IX-2767-2022 Toughening due to deformation induced martensitic transformation in delta ferrite-containing austenitic stainless steel weld metals, *Hajime Yamamoto, Reika Oda, Kazuhiro Ito, Hirofumi Maniwa, Yoshihiko Kitagawa, Hirohisa Watanabe*
5. IX-2768-2022 Effects of Mo and Cu contents on sigma phase precipitation in 25Cr-5Ni-Mo-Cu-1Mn-0.18N duplex stainless steel, *K. Yamada, T. Osuki, K. Ogawa, B. Holmes, K. Sotoudeh, H. Dong*
6. IX-2769-2022 Theoretical study on cold crack susceptibility in laser beam welds of dissimilar materials' joints for reduced activation ferritic/martensitic steel F82H and Type 316 austenitic stainless steel, *Hiroaki Mori, Hisashi Serizawa, Taichiro Kato, Takanori Hirose, Takashi Nozawa, Hiroyasu Tanigawa*
7. IX-2770-2022 Keyhole TIG welding of newly-developed nickel-based superalloy VDM alloy 780. *Achmad Ariaseto, Nima Sadeghinia, Joel Andersson, Olanrewaju Ojo*
8. IX-2771-2022 Solidification cracking in duplex stainless steel flux-cored arc welds Part 2 - Susceptibility of 22Cr all-weld metals under high restraint, *E.M. Westin, F.G. Warchomicka*
9. IX-2772-2022 Influence of laser metal deposition process parameters on a precipitation hardening stainless steel. *Gökçe Aydın, Maria Asuncion Valiente Bermejo, Mats Högström, Aydın Şelte, Christos Oikonomou, Joel Andersson*
10. IX-2773-2022 Corrosion resistance and microstructure analysis of additively manufactured 22% chromium duplex stainless steel by laser metal deposition

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with wire. *Amir Baghdadchi, Claire Cary, Narasi Sridhar, Maria Asuncion Valiente Bermejo, Carolin Fink, Joel Andersson*

11. IX-2774-2022 Evaluation of ferrite fraction in 6 mm thick duplex stainless steel welds using gas flows with different nitrogen additions in autogenous single-pass welding with a novel plasma torch, *K. Trydell, K.-A. Persson, N. Fuertes, E. Siewert, N. Hussary, M. Pfreuntner, P. Bengtsson, P. Janiak, R. Vishnu, M. Frodigh*
12. IX-2775-2022 Investigation on the microstructural and mechanical properties of electron beam welded 2507 duplex stainless steel joint, *Tamás Tóth, Ann-Christin Hesse, Klaus Dilger*

**Thursday, July 21, 2022**

### **III. Subcommittee IX-C: Creep and Heat resistant welds**

**Chair: Prof. Peter Mayr (onsite)**

III-1. Administration matters of IX-C

III-2. Technical Presentation of documents (presentation order is in IX-C Agenda):

1. IX-2782-2022 Heat affected zone and tensile properties investigation of coated and uncoated 12%Cr steel using a thermophysical simulation system, *Fabian Dittrich, Johannes Fürbacher, Peter Mayr*
2. IX-2783-2022 Influence of alloying elements on the presence of delta ferrite in modified 9Cr-1Mo as-welded microstructure produced by GMAW, *S.S. Mahlalela, P.G.H. Pistorius*
3. IX-2784-2022 Hydrogen dependent mechanical properties of 9 % Cr P92 steel and P91 weld metal, *Michael Rhode, Jonathan Nietzsche, Tim Richter, Peter Mayr, Alexander Nitsche*

### **IV. Subcommittee IX-NF: Non-ferrous materials**

**Chair: Prof. Jean Pierre Bergman (online)**

**Co-Chair : Dr. Hee Jin Kim (onsite)**

II-1. Administration matters of IX-NF

II-2. Technical Presentation of documents (presentation order is in IX-NF Agenda):

1. IX-2776-2022 Microstructure and mechanical properties of wire arc additive manufactured aluminum AA2024, *C. Schneider, M. Silmbroth, T. Klein*
2. IX-2777-2022 Thermal-Electrical aging of laser-welded dissimilar aluminum-copper joints, *C. Oberfell, M. Brandner, P. Mayr*

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3. IX-2778-2022 Temperature-based quality analysis in ultrasonic welding of copper sheets with microstructural joining evaluation and machine learning methods, *E.B. Schwarz, F. Bleier, F. Guenter, J.P. Bergmann*
4. IX-2779-2022 Investigation of the liquation cracking mechanism in AA7075 GTAW joints by CALPHAD-coupled finite model, *Y. Zhang, H. Li, Z. Li*
5. IX-2780-2022 Microstructure, mechanical properties and weldability of low-cost beta titanium alloys welded joints, *S.Akhonin, R.Selin, V.Belous, S.Schwab*
6. IX-2781-2022 Electroslag welding of ultra-thick plates of Ti-6-4 titanium alloy, *V. Porokhonko, I. Protokovilov*

#### **IV. Meeting Summary and Others**

IV-1. Review of WitW recommendation

IV-2. Review of Administrative matters

IV-3. Plan for Next meetings

- Intermediate Meeting of 2023

- AA meeting 2023

IV-4. Adjournment of C-IX meeting

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## Candidate for the Vice-Chair of C-IX



**Prof. Kota KADOI**

Associate Professor  
Joining and Welding Research Institute,  
Osaka University

BS, MS, and Ph.D in Materials Science and Engineering,  
Waseda University.

2009 to 2016 : Assistant Professor,  
Department of Mechanical Science Engineering,  
Graduate School of Engineering,  
Hiroshima University

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