Monday, 8th July – London I, Crowne Plaza Bratislava

1. Preliminary Items 08:15 - 08:25
   (a) Welcome address
   (b) Status of C-X members
   (c) Approval of agenda (X-1942-19)
   (d) List of C-X documents (X-1941-19)

   (a) Approval of draft minutes of C-X meeting during Annual Assembly in Bali, 2018 (X-1932-18)
   (b) Approval of draft minutes of C-X intermediate meeting at DGB conference house, Freiburg (X-1940-19)
   (c) Status of C-X papers in Welding in the World
   (d) Operational plan of Commission X-FFS
   (e) WG on welding residual stresses in thick steel structures


4. Election of Vice-Chair for 2019 – 2021 09:10 - 09:15
### 5. Development of FFS for Weld Structures

**X-1935r-18**  
Progress towards BS 7910: 2019  
Isabel Hadley, TWI, UK  

--- Coffee break ---

### 6. Fracture Toughness Testing and Evaluation

**X-1946-19**  
Numerical Simulation of Crack Tip Opening Profile in Fracture Toughness Test Considering Variation of Welding Residual Stress Distribution  
Y. Mikami, JWRI, Osaka University, JAPAN  
T. Kawabata, The University of Tokyo, JAPAN  

**X-1958-19**  
COD assessment of S960M grade steel at different temperatures  
Z. Koncsik, G. Nagy, J. Lukacs, University of Miskolc, HUNGARY  

**X-1959-19**  
Determination of plane-strain fracture toughness using CRB specimens and their applicability for structural integrity calculations  
J. Lukacs, Z. Koncsik, University of Miskolc, HUNGARY  

--- Slovak Evening ---  
The Old Market Hall  
19:00 - 23:00
Tuesday, 9th July – Morava, Austria Trend Hotel

7. Fracture Assessment of Welds

**X-1949-19**
Numerical Investigation on the Brittle Fracture Driving Force and Shielding Effect of Laser Welds
C. Shao, H. Cui, F. Lu, Shanghai Jiao Tong University, CHINA
Y. Takashima, F. Minami, JWRI, Osaka University, JAPAN

**X-1948-19**
Numerical Investigation on CTOD Estimation Methods for Laser Welds
Y. Takashima, F. Minami, JWRI, Osaka University, JAPAN
C. Shao, F. Lu, Shanghai Jiao Tong University, CHINA

**X-1950-19**
LCF Failure Behavior of 9Cr/617 Dissimilar Welded Joint at Elevated Temperature
Y. Wang, H. Cui, F. Lu, Shanghai Jiao Tong University, CHINA

**X-1947-19**
Damage Model for Predicting Ductile Crack Growth in High Strength Steel Welds
M. Ohata, H. Shoji, Osaka University, JAPAN
Y. Takashima, F. Minami, JWRI, Osaka University, JAPAN
Y. Kayamori, Nippon Steel, JAPAN

------ Coffee break ------
Tuesday, 9th July – Morava, Austria Trend Hotel

7. Fracture Assessment of Welds (Continued)

**X-1944-19**
Evaluation on Prevention of Unstable Fracture by Influence of Welding Residual Stress
G. AN, J.-U. Park, Chosun University, KOREA
H. Bae, POSCO, KOREA
W. Woo, KAERI, KOREA

**X-1951-19**
A Strain-Based Engineering Critical Assessment for Offshore Clad Pipes with V-groove Weld and Circumferential Embedded Cracks under Large-Scale Plastic Strain
X. Zhao, L. Xu, H. Jing, Y. Han, L. Zhao, Tianjin University, CHINA

**X-1901r-19**
Numerical Study of Crack Growth in Welded Structures Using Characteristic Tensor Method – Preliminary Study on Quasi Static Crack Growth
Hidekazu Murakawa, JWRI, Osaka University, JAPAN
Tuesday, 9th July – Morava / Dunaj, Austria Trend Hotel

8. C-X, C-XIII,C- XV Joint Session

X-1953-19/XIII-2822-19/XV-1588-19
A Set of Parametric K-Solutions for Fatigue Modeling of Short Cracks in Round Bar Components
P. Dong, X. Pei, S. Song, University of Michigan, USA

X-1954-19/XIII-2823-19/XV-1589-19
Fracture Mechanics Based Evaluation of Recent Fatigue Test Data of Metallic AM Components
P. Dong, S. Song, University of Michigan, USA

X-1955-19/XIII-2824-19/XV-1590-19
The Use of Effective Full Penetration of T-butt Welds in Welded Moment Connections
T. Taheri, G.C. Clifton, G.M. Raftery, J.B.P. Lim, University of Auckland, NEW ZEALAND
M. Karpenko, HERA, NEW ZEALAND
P. Dong, University of Michigan, USA

Presentation schedule will be informed by Commission XIII.
### Wednesday, 10th July – London III, Crowne Plaza Bratislava

<table>
<thead>
<tr>
<th>9. Assessment of Welding Residual Stresses</th>
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<tbody>
<tr>
<td><strong>X-1936r-19</strong></td>
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<tr>
<td>ANN Based Assessment of Welding Residual Stresses in Austenitic Pipe But Welds</td>
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<tr>
<td>F. Dittmann, S. Moroz, I. Varfolomeev, Fraunhofer IWM, GERMANY</td>
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<tr>
<th>10. Advanced Approaches to Material Processing and and Joining</th>
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<tbody>
<tr>
<td><strong>X-1945-19</strong></td>
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<tr>
<td>Thermal-Mechanical FE Analysis of Laser Assisted Lap Joining of Plastics and High Strength Steel</td>
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<tr>
<td>Y. Okawa, Y. Kitani, Osaka University, JAPAN</td>
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<td>Y. Ma, N. Ma, JWRI, Osaka University, JAPAN</td>
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<th>----- Coffee break -------</th>
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<td>10:45 - 11:15</td>
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<th>11. Resolutions</th>
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<tbody>
<tr>
<td>(a) Vice-Chair of C-X</td>
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<td>(b) Prospective Action of WG-A</td>
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<td>(c) C-X FFS</td>
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<td>(d) Recommendation of documents to Welding in the World</td>
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<td>11:15 - 11:45</td>
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<tr>
<th>12. Next Meeting</th>
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<tbody>
<tr>
<td>(a) Meeting at 73rd Annual Assembly: 20th (Mon.) to 22nd (Wed.), July 2020, Singapore</td>
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<td>(b) Intermediate meeting: Date: XXXX, 2020, Place: XXXX</td>
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<td>(c) Any other business</td>
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<th>------ Gala Banquet ------</th>
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<tr>
<td>Refinery Gallery</td>
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<td>19:30 - 23:00</td>
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