C-XIII
Fatigue of Welded Components and Structures

Agenda Annual Assembly 2026

XIII-3201-2026-R3

Author: Farajian, Majid, Dr.-Ing.

Comments: The meetings will start on Monday 13.07.2026 and will be held in person until Thursday 16.07.2026.
Members are asked to review all documents prior to the meetings.
The presenters should keep the time management in mind due to the intensive agenda.
Presentations are to be prepared based on the 10+5 model. 10 min. presentation and 5 min. discussion.
The coffee/tee breaks are 30 minutes and offer good opportunities for deeper discussions and networking.

Delegation of Germany
XIII-3201-2026-R3

Commission XIII - Fatigue of welded components and structures
Draft Agenda for the 79th IIW Annual Assembly 2026

CONFERENCE VENUE
Salzburg Congress
Auerspergstraße 6
5020 Salzburg, Austria

Overview of C-XIII Meetings
Note: The schedule time is according to the local time in Salzburg, Austria.

Monday, 13.07.2026	Tuesday, 14.07.2026	Wednesday, 15.07.2026	Thursday, 16.07.2026
C-XIII main Commission meetings **Mozart 4 + Mozart 5, Ground Floor** 08:30 -18:00	C-XIII main Commission meetings **Mozart 4 + Mozart 5, Ground Floor** 08:30 -18:00	C-XIII main Commission meetings **Mozart 4 + Mozart 5 Ground Floor** 08:30 -18:00	C-XIII Sub-Commission meetings **TRAKL, 3rd Floor** 08:30 -17:00

COMMISSION XIII SUBCOMMISSION MEETINGS

Monday, 13th July **08:30 – 18:00**
Mozart 4 + Mozart 5, Ground Floor
Day 1

Main topic: Data, AI and Testing (SC-A) Co-Chair: Fabien Lefebvre			
Welcome **C-XIII New Title:** **Fatigue of Welded (and Additively Manufactured) Components and Structures** Agenda, opening remarks Delegation List Attendance List Decisions to be made **Round Robin FAT-WELD**			08:30-09:30
XIII-3236-2026 Keynote Lecture	**Advancement of IIW fatigue design concepts by applying the Peak Stress Method to offshore welded K-nodes**	**Giovanni Meneghetti et al**	**09:30-10:00**
Commission business Buffer Time			10:00-10:15
Break (Please notice since the IIW meetings on Monday start officially at 10:00, there will be no coffee/tee during this break)			10:15-10:45
XIII-3223-2026-**Granjon Cat. C**	Exploring Size Effects in the Fatigue Behaviour of Lightweight Welded Structures	Mehdi Ghanadi et al	10:45-11:00
XIII-3271-2026	ML-model to derive crack depth profiles from DIC-images at welded joints	Jörg Baumgartner et al	11:00-11:15
XIII-3245-2026	Re-evaluation of BS 7910 Fatigue Crack Growth Guidance Incorporating Expanded Experimental Datasets	Matthew Dore et al	11:15-11:30
XIII-3228-2026	Effect of minor amplitude cycles on the fatigue strength of welded high-strength steel joints	Aleksi Härkönen et al	11:30-11:45
XIII-3219-2026	Fatigue assessment of steel weld joints in H2/ammonia environment	Masoud Moshtaghi et al	11:45-12:00
XIII-3258-2026	Classification of Welds Using Neural Networks trained on Synthetic Data	Jonas Carlsson et al	12:00-12:15
Commission business Buffer time			12:15-12:30
Lunch break			12:30-14:00

Main topic: Fatigue Improvement Techniques (SC-B) Co-Chair: Martin Leitner			
XIII-3242-2026	A Fatigue Strength Evaluation Method for HFMI-Treated Welded Joints under Variable Amplitude Loading	Takeshi Hanji et al	14:00-14:15
XIII-3237-2026	HFMI treated welded joints: fatigue assessment according to the Peak Stress Method	Alberto Campagnolo et al	14:15-14:30
XIII-3222-2026	Fatigue strength of hot-dip galvanized welded ultra-high-strength steel joints in the as-welded and post-weld-treated conditions	Kalle Lipiäinen et al	14:30-14:45
XIII-3252-2026	Two-stage fatigue life prediction of HFMI-treated longitudinal stiffeners considering variable amplitude loading and stress ratio effects	Lea Wendler et al	14:45 15:00
XIII-3266-2026	Fatigue Assessment of HFMI-Treated Welded Joints under Variable Amplitude Loading: Influence of Load Sequence and Stress Ratio Using a Local Strain Approach	Daniel Löschner et al	15:00-15:15
XIII-3230-2026	Influence of post-weld improvement on fatigue strength of butt-weld for different steel grades	Laurent Jubin et al	15:15-15:30
Commission business Buffer time			15:30-15:45
Coffee/Tea break			15:45-16:15
Main topic: Fatigue Improvement Techniques (SC-B) Co-Chair: Martin Leitner			
XIII-3247-2026	Effect of Pile Driving Loads on the Fatigue Strength of Blast Cleaned Butt Welds for Offshore Monopiles	Andreas Gericke et al	16:15-16:30
XIII-3232-2026	Improvement of the fatigue strength of high-strength steels by post-weld treatments for weld geometry optimization	Tom Werner et al	16:30-16:45
XIII-3250-2026	Fatigue performance of repair welded and HFMI-treated butt joints	Nicolas Hiltscher et al	16:45-17:00
XIII-3262-2026	High Frequency Mechanical Impact treatment of V-notched bend specimens with pre-fatigue cracks in high-strength steel	Gustav Hultgren et al	17:00-17:15
XIII-3244-2026	Effect of fatigue cracks on fatigue life extension and residual stress fields in HFMI-retrofitted butt welds	Yuki Banno et al	17:15-17:30
Commission business Buffer Time			17:30-18:00
End of the day 1			**18:00**

MAIN COMMISSION XIII MEETINGS

Tuesday, 14th July **08:30 – 18:00**
Mozart 4 + Mozart 5, Ground Floor
Day 2

Main topic: Stress Analysis (SC-C) Co-Chair Jörg Baumgartner			
XIII-3275-2026-P Keynote Lecture	**LTT welding materials development and applications**	**Ninshu Ma**	**08:30-09:00**
XIII-3216-2026	An Open Benchmark Platform to Improve Fatigue Life Predictions for Welded Structures	Halid Can Yıldırım et al	09:00-09:15
XIII-3235-2026	Comparative Assessment of Multiaxial Fatigue Parameters on Effectiveness in Predicting Recent Pipe Girth Weld Data	Tara Larkin et al	09:15-09:30
XIII-3239-2026	Effective notch stress analysis of welded steel joints under pure normal and shear stress loading	Christian Buzzi et al	09:30-09:45
XIII-3273-2026	Towards Process-Consistent Fatigue Assessment of High-Strength Steel Welded Joints Using Welding Simulation and Critical Plane Methods	Georg Klenk et al	09:45-10:00
Commission business Buffer Time			10:00-10:15
Coffee/Tea break			10:15-10:45
Main topic: Stress Analysis (SC-C) Co-Chair: Jörg Baumgartner			
XIII-3229-2026 Keynote Lecture	**Mesh-insensitive fatigue evaluation method and applications in AM components**	**Pingsha Dong et al**	**10:45-11:15**
XIII-3226-2026	Evaluation of hot-spot stress approaches for offshore foundations	Stefan Vogts et al	11:15-11:30
XIII-3267-2026	Fatigue Life Assessment of Offshore Welded Tubular Joints Using Local Crack Initiation Modeling and Fracture Mechanics	Tim Brömer et al	11:30-11:45
XIII-3246-2026	Low-Cycle Fatigue Assessment of High-Strength Welded Joints Considering Elastic-Plastic Crack Growth Using the IBESS Approach	Maximilian Kling et al	11:45-12:00
XIII-3227-2026	Fatigue Damage Evaluation across Low- and High-Cycle Regimes and the Transition to Paris' Law	Su Hao et al	12:00-12:15
Commission business Buffer Time			12:15-12:30
Lunch break			12:30-14:00

Main topic: Stress Analysis (SC-C) Co-Chair Jörg Baumgartner			
XIII-3243-2026 **Keynote Lecture**	**Fatigue life prediction of Welded Joints with implicit gradient approach**	**Paolo Livieri et al**	**14:00** **14:30**
XIII-3264-2026	Fatigue assessment of high-strength steel welded joints using equivalent structural stress approaches	Yuki Ono et al	14:30- 14:45
XIII-3274-2026	Effective Notch Stress Method Accounting for the Distribution and Dependence of Geometric Weld Profile Parameters	Jiacheng Qi et al	14:45 15:00
XIII-3270-2026	Evaluation of DIC-images to assess the crack mouth opening displacement at welded joints for crack initiation and propagation analysis	Jörg Baumgartner et al	15:00- 15:15
XIII-3218-2026	Fatigue fracture mechanism and efficient life prediction of friction self-piercing riveted structures	Jiarui Yuan et al	15:15- 15:30
Commission business Buffer Time			15:30- 15:45
Coffee/Tea break			15:45- 16:15
Main topic: Effects of Imperfections on Fatigue Strength (SC-D) Co-Chair: Heikki Remes			
XIII-3255-2026	Surface residual stress characterization of DED-arc manufactured high-strength steels ER110 and ER120 by X-ray diffraction	Hessam Moshayedi et al	16:15- 16:30
XIII-3234-2026	Correlation of the weld bead shape and fatigue strength based on 3D-scans	Jan Schubnell et al	16:30- 16:45
XIII-3238-2026	Numerical investigation on the influence of lack-of-fusion defects in arc welded butt joints using fracture mechanics	Niklas Wehrkamp et al	16:45- 17:00
XIII-3263-2026	Round-robin study on the determination of weld geometry parameters - Part C: Benchmark of assessment algorithms	Gustav Hultgren et al	17:00- 17:15
XIII-3233-2026	Influence of Laser Scanning and Profile Sampling Resolutions on Weld Geometry Parameters	Aayush Askhedkar	17:15- 17:30
Commission business Buffer Time			17:30- 18:00
End of the day 2			**18:00**

MAIN COMMISSION XIII MEETINGS

Wednesday, 15th July **08:30 – 18:00**
Mozart 4 + Mozart 5, Ground Floor
Day 3

Main topic: Advanced Manufacturing (SC-F) **Joint Meeting Commissions X/XIII/XV** Co-Chairs: Kyong-Ho Chang, Jonas Hensel, Mitsuru Ohata			
XIII-3269-2026	Influence of reverse engineering modelling techniques on the fatigue life assessment of DED-arc structures	Jan Schubnell et al	08:30-08:45
XV-1750-2026	Corrosion behaviour and fatigue performance of stainless-clad bimetallic steel plate by cold spray additive manufacturing	Yixun Wang et al	08:45-09:00
XIII-3254-2026	EN-AW 4046 processed by DED-Arc and Heat Treatment – Microstructure, porosity and mechanical properties	Jonny Kaars et al	09:00-09:15
XV-1751-2026	Fabrication and Mechanical Performance of Multi-Material Steel Components Produced by DED-Arc Additive Manufacturing	Mohsen Amraei	09:15-09:30
XIII-3225-2026	Statistical Perspective on 3D-Scan Data and Effective Notch Stress on DED-Arc Manufactured Components: Measurement Parameters and Results Confidence	Tim Essbach et al	09:30-09:45
XV-1752-2026	Fatigue design and manufacturing aspects of an Inconel bracket produced by laser powder bed fusion	Kalle Lipiäinen et al	09:45-10:00
Buffer Time			10:00-10:15
Coffee/Tea break			10:15-10:45
Main topic: Advanced Manufacturing (SC-F) Co-Chair: Jonas Hensel			
XIII-3261-2026	Fatigue properties of laser and electron beam welded pure copper butt joints	Tamás Tóth et al	10:45-11:00
XIII-3224-2026	Multiscale fatigue assessment of LPBF SS316: Role of imperfections and residual stress on fatigue assessment	Meysam Norouzi-Inallu et al	11:00-11:15
XIII-3265-2026	Fatigue Behavior of Aerospace Titanium Alloy Ti-6Al-4V Samples Produced by Electron Beam Melting	Sviatoslav Motrunich et al	11:15-11:30
XIII-3257-2026	Surface Description and Fatigue Assessment of as-built DED-Arc Surfaces based on optical 3D-Measurements	Jonny Kaars et al	11:30-11:45
XIII-3276-2026	Influence of HFMI Treatment on Fatigue Performance of Hybrid-WAAM Stiffeners	Kane F. ter Veer et al	11:45-12:00
XIII-3277-2026	Review on Fatigue Test Data of DED-Arc manufactured Steel and Aluminium	Markus Köhler et al	12:00-12:15

Buffer Time Commission business			12:15 12:30
Lunch break			12:30- 14:00
Main topic: Maintenance of Welded Structures (SC-E) Co-Chair: Takeshi Hanji			
XIII-3259-2026	Residual Stress of Shot-Peened Welded Joints in an Existing Steel Bridge after 8 Years of Service and Its Fatigue Life Assessment	Koji Kinoshita et al	14:00- 14:15
XIII-3241-2026	Improving the Fatigue Strength of Longitudinal Fillet-Welded Attachments under Out-of-Plane Bending by Segmented Wrap-Around Welding	Takeshi Hanji et al	14:15- 14:30
XIII-3260-2026	Determination of safe inspection intervals of existing crane runway girders	Matthias Winkler et al	14:30- 14:45
XIII-3248-2026	Sensitivity analysis of reverse engineering approaches for 3D-scanned welds with complex geometries	Xiru Wang et al	14:45 15:00
XIII-3221-2026	Fatigue failure mechanism and life prediction of aluminum-stainless steel heterogeneous metal friction stir welding joints	Weilun Zheng et al	15:00- 15:15
Buffer Time Commission business			15:15- 15:45
Coffee/Tea break			15:45- 16:15
Main topic: New emerging topics			
XIII-3268-2026	Low-Cycle Fatigue Behavior and Deformation Mechanisms of Haynes 282 Superalloy with GTAW Weldments at Elevated Temperatures	Pushpendra Kumar Dwivedi et al	16:15- 16:30
Commission business Decisions **Round Robin FAT-WELD** Next Intermediate Meeting 2027 AOB End of the Commission Meetings			16:30- 17:30
Delegation Meeting (Delegates+ Chairs of the Subcommissions) Paper recommendations Voting on Decisions			17:30- 18:00
End of the day 3			**18:00**

SUBCOMMISSION XIII MEETINGS

Thursday, 16th July **08:30 – 18:00**
TRAKL, 3rd Floor
Day 4

COMMISSION XIII	**Chair**	**Time**
SC-A Data, AI and Testing	**Fabien Lefebvre**	**08:30-09:30**
SC-B Fatigue improvement techniques	**Martin Leitner**	**09:30-10:15**
Coffee/Tea Break		**10:15-10:45**
SC-B Fatigue improvement techniques	**Martin Leitner**	**10:45-11:15**
SC-D Effects of imperfections on fatigue strength	**Heikki Remes**	**11:15-12:15**
SC-F Advanced Manufacturing	**Jonas Hensel**	**12:15-13:15**
Buffer Time **Lunch Break**		**13:15-14:00**
SC-C Stress Analysis/JWG III/XV	**Jörg Baumgartner**	**14:00-15:15**
SC-E Maintenance of Welded Structures	**Takeshi Hanji**	**15:15-15:45**
Coffee/Tea Break		**15:45-16:15**
SC-E Maintenance of Welded Structures	**Takeshi Hanji**	**16:15-16:45**
Buffer Time **Next Subcommission meetings** **Any other business**		**16:45-17:00**
End of the day 4		**17:00**