

32nd Colloquium on Fatigue Mechanisms

25th – 26th February 2026

Vienna, Austria

Programme

Wednesday, 25th February

8:00 – 8:45 Registration
8:45 – 9:00 Welcome address

Session 1.1 Chair: B. Schönbauer

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| 9:00 – 9:30 | <i>Influence of cooling rates of wire and arc additive manufactured Ti-6Al-4V on fatigue life</i> | (FL) |
| | <u>H.W. Höppel</u> , A. Meermeier, L. Palaniappan, A. Henneböhle (FAU) | |
| 9:30 – 9:50 | <i>Low cycle fatigue of high manganese steel with variable microstructure processed by laser powder bed fusion</i> | (SC) |
| | <u>A. Muchangi</u> , M. Jambor, K. Neumannová, D. Koutný, M. Šmíd (IPM) | |
| 9:50 – 10:10 | <i>Deformation mechanisms under thermomechanical fatigue loading in additively manufactured superalloy</i> | (SC) |
| | <u>M. Gálíková</u> , I. Kuběna, I. Šulák, L. Poczkán, S. Guth, T. Babinský (IPM) | |
| 10:10 – 10:30 | <i>In-situ observation of persistent slip markings in early fatigue of LPBF 316L stainless steel</i> | (SC) |
| | <u>J. Brůža</u> , A. Weidner, I. Zetková, H. Biermann, J. Man (IPM) | |

10:30 – 11:00 Coffee break

Session 1.2 Chair: J. Yamabe

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| 11:00 – 11:30 | <i>Fatigue limit prediction of ductile cast irons</i> | (FL) |
| | <u>T. Matsuo</u> , M. Endo (Fukuoka University) | |
| 11:30 – 12:00 | <i>Fatigue behaviour of metastable austenitic steels</i> | (FL) |
| | <u>M. Smaga</u> (RPTU Kaiserslautern) | |
| 12:00 – 12:30 | <i>Probabilistic description of the cyclic R-curve based on microstructural barriers</i> | (FL) |
| | <u>J. Vaara</u> , K. Kärkkäinen, M. Vääntänen, J. Kemppainen,
B.M. Schönbauer, S.S. More, M. Åman, T. Frondelius (Wärtsilä) | |

12:30 – 13:30 Group photo & Lunch

Session 1.3 Chair: H.W. Höppel

13:30 – 14:00 *An in-situ electrochemical approach for hydrogen-assisted fatigue testing* (FL)

A.S. Jelinek, M. Kucher, M. Graf, R. Schnitzer, V. Maier-Kiener (MUL)

14:00 – 14:30 *Effects of hydrogen and casting defects on the fatigue properties of a Cu–Al–Ni–Fe–Mn cast alloy* (FL)

J. Yamabe, K. Fujiyama (Fukuoka University)

14:30 – 14:50 *The effect of humidity and small amplitude load cycles in variable amplitude loading on the crack growth rate in the railway axle EA4T steel* (SC)

P. Pokorný, T. Vojtek, P. Dlhý, R. Kubiček, L. Náhlík, P. Hutař (IPM)

14:50 – 15:10 Coffee break

Session 1.4 Chair: T. Kruml

15:10 – 15:40 *CEC processing of Zn-Mg alloys for biodegradable applications* (FL)

B. Sułkowski, G. Boczkal, A. Szot (AGH University of Kraków)

15:40 – 16:00 *Three-point bending fatigue behaviour of DIW-printed microporous titanium filaments for orthopaedic lattices* (SC)

K. Slámečka, M. Jambor, P. Skalka, A. Kashimbetova, J. Pokluda, L. Náhlík, P. Hutař, E.B. Montufar (IPM)

16:00 Departure to city centre of Vienna

17:00 – 18:00 Guided tour through Vienna's Rathaus (City Hall)

18:30 – 21:00 Colloquium dinner at Vienna's Rathaus



FL... full-length: 25 min presentation + 5 min discussion

SC... short contribution: 15 min presentation + 5 min discussion

Thursday, 26th February

Session 2.1 Chair: H. Mayer

9:00 – 9:30	<i>Fatigue notch sensitivity of CoCrFeNiMn</i>	(FL)
	<u>M. Lederer</u> , M. Delshadmanesh, G. Khatibi (TU Wien)	
9:30 – 9:50	<i>Mechanical properties of different laminated metal composites with a graded layer structure</i>	(SC)
	<u>S. Vollath</u> , S. Wagner, P. Pohl, H.W. Höppel (FAU)	
9:50 – 10:10	<i>Lifetime evaluation of wire bonds in LED systems by modelling and accelerated testing</i>	(SC)
	T. Walter, B. Czerny, <u>G. Khatibi</u> (TU Wien)	
10:10 – 10:30	<i>Detection of fatigue damage in AM by analysing ultrasonic vibration properties</i>	(SC)
	<u>J.H. Lopes</u> , M. Fitzka, B.M. Schönbauer, L. Reis, H. Mayer (IST/BOKU)	

10:30 – 11:00 Coffee break

Session 2.2 Chair: A. Hohenwarter

11:00 – 11:30	<i>Mechanisms of short crack propagation in austenitic-ferritic duplex steel</i>	(FL)
	<u>W. Skrotzki</u> , M. Scharnweber, W. Tirschler, C.-G. Oertel (TU Dresden)	
11:30 – 11:50	<i>Fast prediction of fatigue crack growth through materials containing particles or voids</i>	(SC)
	<u>D. Brescakovic</u> , O. Kolednik (MCL)	
11:50 – 12:10	<i>Temperature dependent FCG mechanisms of ITER grade tungsten</i>	(SC)
	<u>P. Reindl</u> , M. Pegritz, S. Wurster, A. Hohenwarter, M. Cordill (ESI)	
12:10 – 12:30	<i>Influence of overload effects on crack growth - A numerical investigation</i>	(SC)
	<u>D. Avgustinovic</u> , J. Maierhofer, R. Pippan, T. Antretter (MCL)	

12:30 – 13:30 Lunch

FL... full-length: 25 min presentation + 5 min discussion

SC... short contribution: 15 min presentation + 5 min discussion

Session 2.3 Chair: M. Zehetbauer		
13:30 – 14:00	<i>Fatigue crack growth behavior and fracture analysis of microstructurally graded PBF–LB/M austenitic steel components</i> <u>N. Möller</u> , F. Loebich, T. Wegener, J. Richter, J. Gibmeier, T. Niendorf (Uni Kassel)	(FL)
14:00 – 14:20	<i>Deformation mechanisms of C263 and C265H nickel-based superalloys under thermomechanical and isothermal fatigue</i> <u>T. Vražina</u> , M. Gálíková, A. Dlouhý, L. Poczklan, Š. Guth, D. Petrell, B. Novak, I. Šulák (IPM)	(SC)
14:20 – 14:40	<i>High and very high cycle fatigue properties of stainless steel sheets</i> <u>A. Khatammanesh</u> , C. Mamagkinidou, S.S. More, M. Rester, M. Prunbauer, M. Proschek, B.M. Schönbauer (BOKU)	(SC)
14:40 – 15:00	<i>Torsional fatigue properties of high strength steels</i> <u>S.S. More</u> , J. Vaara, T. Frondelius, H. Mayer, B.M. Schönbauer (BOKU)	(SC)
15:00 – 15:10	<i>Final Remarks</i>	
15:10	Coffee and drinks (BOKU beer, wine & juice)	
around 15:30	Lab tour on demand	

FL... full-length: 25 min presentation + 5 min discussion

SC... short contribution: 15 min presentation + 5 min discussion

Colloquium venue:



Institute of Physics and Materials Science
Peter-Jordan Strasse 82
1190 Vienna



Ilse-Wallentin-Haus, Seminar Room 29

Closest bus stops:

- Line 10A: Dänenstraße
- Line 37A: Dänenstraße
- Line 40A: Borkowskigasse

Bus tickets: ticket machines at underground stations and tobacconists or [online](#) (no tickets on buses)

By car: no free parking space available. Short-term parking zones in the surrounding area ([tickets](#))



Bus Station Borkowskigasse (40A)

Bus Station Dänenstraße (10A)

Bus Station Dänenstraße (37A)

Social Event

Guided tour through Vienna's City Hall

Start: Wednesday, 25th February 2025 at 17:00

Meeting point: City information in the City Hall, entrance [Friedrich-Schmidt-Platz 1](#)

Colloquium dinner venue:

Rathauskeller

Start: Wednesday, 25th February 2025 at 18:30

Address: [Rathausplatz 1, 1010 Vienna](#)

Organisation:

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