

32nd Colloquium on Fatigue Mechanisms

25th – 26th February 2026

Vienna, Austria

Final Programme



BOKU

Institute of Physics
and Materials Science



DefTol

Christian Doppler Laboratory for Defect Tolerance
in the High and Very High Cycle Fatigue Regime

Wednesday, 25th February

8:00 – 8:45	Registration
8:45 – 9:00	Welcome address H. Lichtenegger, Head of the Institute of Physics and Materials Science

Session 1.1 Chair: B. Schönbauer

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

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

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

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

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 amp-litude loading on the crack growth rate in the railway axle EA4T steel* (SC)
P. Pokorný, T. Vojtek, P. Dlhý, R. Kubíček, 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 City Hall



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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 stop Borkowskigasse (40A)

Bus stop Dänenstraße (10A)

Bus stop 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, 1010 Vienna](#)

Colloquium dinner venue:

Vienna City Hall, Larger Coat of Arms Hall

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

Meeting point: City Hall, entrance [Lichtenfelsgasse 2, 1010 Vienna](#)

Organisation:

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