



CSI 2026  
YOKOHAMA

19 – 22 MAY 2026  
Yokohama, JAPAN

# 8th CIRP Conference on Surface Integrity CSI2026



**DMG MORI**

**Mitutoyo**

**OSG  
DIAMOND  
TOOL**

**recitech**  
AMETEK

**MEP**  
Micro Edge Process

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8th CIRP CSI - Conference on Surface Integrity  
Conference Booklet

Dear Colleagues,

It is my great pleasure to welcome you to the 8th CIRP Conference on Surface Integrity (CIRP-CSI 2026), held in Yokohama, Japan, from May 19th to 22nd, 2026.

Since its inaugural meeting in Bremen, Germany, in 2012, the CIRP Conference on Surface Integrity has become an established international forum for the global manufacturing research community. The conference series has been hosted in Nottingham (2014), Charlotte (2016), Tianjin (2018), Vitoria-Gasteiz (2020), Lyon (2022), and Bremen (2024). We are particularly honored that CIRP-CSI 2026 marks the first time this conference is being held in Japan.

Surface integrity is a key issue in modern manufacturing, as it directly affects the performance and reliability of industrial products. Ongoing advances in modeling, metrology, and materials characterization continue to deepen our understanding and expand our capabilities in this field. CIRP-CSI 2026 provides a valuable forum for exchanging such insights and strengthening collaboration. Against this background, Yokohama offers a particularly fitting location for our discussions. Situated in the Keihin industrial region, it has long been one of Japan's historic centers of advanced manufacturing.

On behalf of the organizing committee, I sincerely thank all authors, presenters, reviewers, sponsors, exhibitors, and participants for their valuable contributions. Your engagement ensures the continued vitality of our field.

I wish you a productive and inspiring conference and an enjoyable stay in Yokohama.

*Jiawang Yan*



Jiawang YAN, Keio University, Conference Chair

## Welcome to the 8<sup>th</sup> CIRP CSI 2026

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The Conference & Committees	7
Conference Venue	9
Access Information	10

## Keynote Speakers

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Keynote Speakers	11
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## Conference Program

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Program at a Glance	20
Technical Sessions	22
Conference Room	34

## Social Program

---

Young Researcher Night	38
Banquet	39
Lunch and Restaurants	40
Sights of Yokohama	41

## Useful Information

---

General Information	44
WiFi at the Conference Site	46

## Travel and Transportation

---

Haneda Airport	48
Narita Airport	49
Travel Cards	51

**Welcome to  
the 8<sup>th</sup> CIRP CSI 2026**

## Dear Participants,

Welcome to Japan, and welcome to Yokohama. It is our great pleasure to host you at the 8th CIRP Conference on Surface Integrity (CIRP-CSI 2026).

The Organizing Committee has worked tirelessly to prepare an inspiring and well-balanced program that combines high-level scientific discussions with opportunities for networking and cultural exchange. We hope that this conference will provide a stimulating environment for researchers, engineers, and industrial professionals from around the world to share ideas and discuss recent advances in surface integrity.

## A Welcome Event at Workpia Yokohama - 19th May 2026:

The conference will begin with a Welcome Event at Workpia Yokohama, offering participants the opportunity to meet colleagues and renew professional connections in a relaxed atmosphere at the heart of Yokohama.

## 8th CIRP CSI Conference program - 20th to 22nd May 2026:

The technical program features keynote lectures and technical sessions presented by leading experts from academia and industry. Topics will cover fundamental and applied aspects of surface integrity, including manufacturing processes and their effects on surface and subsurface layers, simulation and modeling, surface engineering, and advanced characterization techniques.

## Banquet with International Show - 21st May 2026:

We warmly invite you to join the Banquet, where you can enjoy further discussions in an informal setting while experiencing Japanese hospitality. We sincerely hope that your stay in Yokohama will be both scientifically rewarding and personally memorable.

We look forward to welcoming you to CIRP-CSI 2026 and wish you a successful and enjoyable conference.

**The CIRP CSI is supported by the following committees:**

**The Advisory Committee:**

Daniel Meyer, University of Bremen  
I. S. Jawahir, University of Kentucky  
Rachid M' Saoubi, Seco Tools AB

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Oltmann Riemer,

Albert Shih,

Sein Leung Soo,

Sandy To,

Petra Wiederkehr,

Frederik Zanger,



## **Workpia YOKOHAMA**

Tel: +81-45-664-5252

Address:

24-1 Yamashita-cho Naka-ku  
Yokohama, Kanagawa

Workpia Yokohama was established on June 14, 1966, under the initiative of labor organizations in Kanagawa Prefecture. Its founding bodies included the Kanagawa Labor Bank (now Central Labor Bank), the Kanagawa Workers' Mutual Aid Cooperative, and the Kanagawa Prefecture Consumers' Cooperative Federation, among other welfare organizations. It was created as a modern, comprehensive hall for working people.

In September 1994, aiming for a new stage of growth, Workpia Yokohama relocated to its current location with a newly constructed building. Since then, it has continued to operate conscientiously as a public interest corporation, serving a wide range of people who use it for conferences, social gatherings, weddings, anniversaries, New Year's gatherings, and more.

Furthermore, Workpia Yokohama has earned recognition not only from labor unions and welfare organizations, but also from local governments, public-interest corporations, and many other groups.

**Access Information**

Business Hours: 9:00 – 21:00 (Open year-round, except New Year holidays)

Telephone: 045-664-5252 (Reception: 9:00 – 17:15)

Fax: 045-664-6743

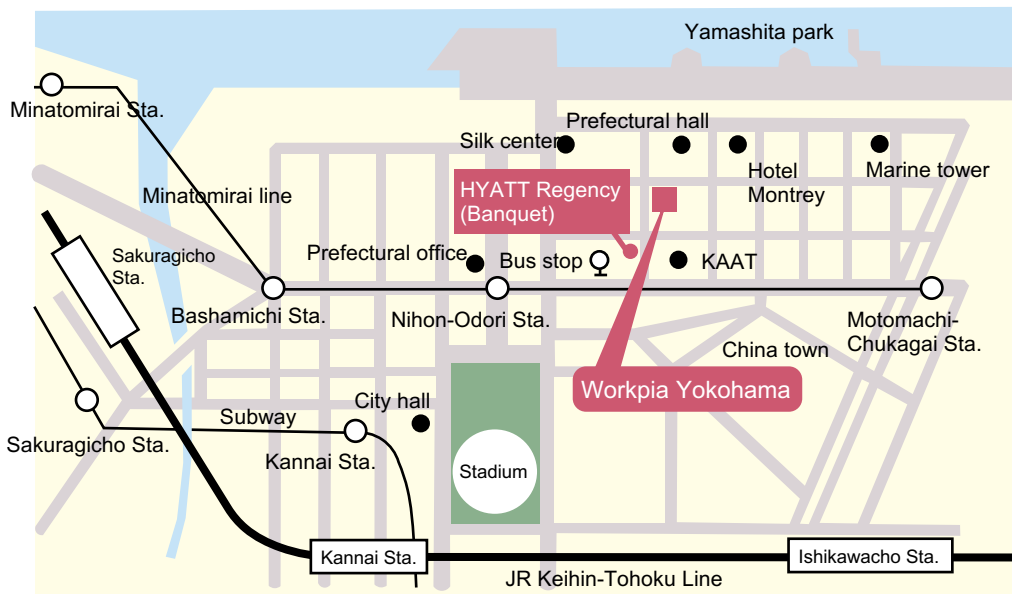
Address: 24-1 Yamashita-cho, Naka-ku, Yokohama, Kanagawa Prefecture

**By Train:**

- Minatomirai Line: Nihon-odori Station, Exit 3 – 5 minutes on foot
- JR Keihin-Tohoku Line: Kannai Station, South Exit – 15 minutes on foot
- JR Keihin-Tohoku Line: Ishikawacho Station, North Exit – 13 minutes on foot

**By Bus:**

- Geijutsugekijo / NHK-mae Bus Stop – 1 minute on foot



# Keynote Speakers of the 8<sup>th</sup> CIRP CSI 2026

**Dragos AXINTE**  
University of Nottingham

**9:00-9:30 on 20th May 2026**  
**Room 1**



**Title:**

On the importance of in-situ tracking the microstructural changes for deeper macro and micro scale understanding of workpiece surface integrity in machining

**Abstract:**

Rather than observing and assessing, there is a need to explain more the mechanisms that lead to microstructural changes under the free surface after machining. The great majority of the studies follow a “post-mortem” approach in relation to workpiece surface integrity, i.e. analysis of a particular region of the sample without documenting its exact microstructure prior to cutting. While this is enough to certify the part’s quality after machining (most of the time with industry internal standards), this conventional approach has limited insights on the intricate mechanisms occurring within the superficial layers that are formed during machining.

The presentation focuses on methods and studies that document, with great detail (i.e. at grain level), the microstructural characteristics of the workpiece before at after cutting performed at both macro and micro scales. As such, macro cutting of groups of grains or micro cutting within single grains of the machined surface can be traced prior and after cutting and which can, after detailed microstructural studies (SEM, EBSD, TKD, micro-mechanics, etc) reveal interesting/new mechanisms that alter workpiece surface integrity.

**Nobuaki OSAWA**  
OSG Corporation

**9:30-10:00 on 20th May 2026**  
**Room 1**



**Title:**

Manufacturing at a Historic Turning Point: OSG's Challenge and Strategic Vision for the Future

**Abstract:**

As a cutting tool manufacturer, we have been contributing to our customers' high-precision component machining across manufacturing sites worldwide for 87 years.

In recent years, the automotive industry has been undergoing what is often described as a once-in-a-century paradigm shift, and the global manufacturing sector as a whole is entering an era of structural transformation. The environment surrounding our company has also changed over the past two years—not only due to rising costs driven by yen depreciation and inflation, but also because of changes in manufacturing processes triggered by global supply chain restructuring, which began with tariff disputes between the United States and China.

The era when pursuing traditional QCD (Quality, Cost, Delivery) alone was sufficient has passed. Today, digitalization, decarbonization, and speed have become new value pillars demanded by the manufacturing industry.

To survive in this volatile and uncertain environment, we would like to introduce our current initiatives under the medium-term management plan, "Beyond the Limit," together with the history of our company's journey.

**Brigid MULLANY**  
University of North Carolina  
Charlotte

**9:00-9:30 on 21st May 2026**  
**Room 1**



**Title:**  
Additive Manufacturing of Ceramics;  
some insights on the factors affecting  
integrity

**Abstract:**

Additive manufacturing of ceramic components is a rapidly growing field that enables the creation of complex geometries not achievable through conventional processing methods. This talk will showcase printing capabilities across different processes and examine the key factors that influence part integrity. The role of coherent scanning interferometry (CSI) surface scans in advancing our understanding of process physics will also be highlighted. Direct additive techniques such as direct ink writing and vat polymerization will be discussed, along with indirect approaches that employ additively manufactured molds.

**Volker SCHULZE**

Karlsruhe Institute of Technology  
(KIT)

**9:30-10:00 on 21st May 2026**

**Room 1**



**Title:**

Surface Engineering by controlled processing

**Abstract:**

Cutting and abrasive processes and other processes affect the surface layer state of the components. The surface layer state determines the service performance in fatigue, tribology and corrosion. The proper adjustment of the surface layer properties allows to enhance performance. This paper introduces the influences of selected processes on the surface layer state and their systematics. It includes simulation, sensor concepts and control strategies within the processes. Therefore a framework for controlled processing is shown.

**Naruhiko IRINO**  
DMG MORI Corporation

**9:00-9:30 on 22nd May 2026**  
**Room 1**



**Title:**

Machine Tool Innovation at DMG  
MORI Driven by Machining  
Transformation

**Abstract:**

Machining Transformation (MX) is DMG MORI's comprehensive framework designed to enhance precision and productivity in machine tools through process integration, automation, digital transformation, and green transformation. This paper outlines two key components of MX: the Process Force Monitor (PFM) and the Digital Twin Test Cut (DTTC). PFM enhances on-machine process sensing by capturing cutting-force data during machining and presenting it via a machine-integrated interface. This enables condition-aware operations, systematic anomaly detection, and the refinement of cutting conditions and tool usage based on evidence. DTTC, a physics-based digital twin, virtually simulates expected machining behavior using available manufacturing data, such as load tendencies, relative displacement, vibration stability, surface quality, and cycle-time characteristics, before physical execution. By shifting trial-and-error from the shop floor to the digital domain, DTTC facilitates rapid troubleshooting and optimization, reducing the resources and environmental impact associated with iterative testing. The combined use of PFM for real-time monitoring and DTTC for predictive simulation creates a closed feedback loop from sensing to modeling and back to process planning and machine development. This methodology links measurable process signals with model-based predictions to enhance robustness, efficiency, and sustainability in machining systems across design, commissioning, and production activities.

**Albert SHIH**  
University of Michigan

**9:30-10:00 on 22nd May 2026**  
**Room 1**

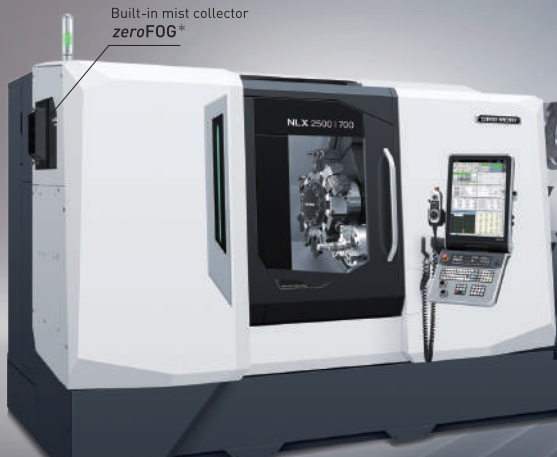


**Title:**  
Melt-blown nonwoven micro fibrous surfaces for filtration

**Abstract:**

Melt-blowing is a key process for manufacturing thermoplastic nonwoven air filtration media materials with very fine fibers in the mm or sub-mm diameter range. A thin layer of such air filtration material can capture fine airborne particles and is a critical component in respiratory personal protective equipment and air filters. The polymer melt is pushed out under high pressure from these micro-orifices to form molten polymer filaments, which are then stretched into thin fibers by the surrounding hot and high-speed air, with a velocity close to the speed of sound. Polypropylene (PP) is the traditional material used for melt-blown applications. The biosourced and biodegradable polylactic acid (PLA) is also studied. Electrostatic charging plays a crucial role in enhancing the melt-blown filtration efficiency of PP and PLA. A substantial amount of data on the pressure, efficiency, electrostatic charging, and polymer rheology of 510 PP and PLA melt-blown experiments has been collected. Scanning electron microscope images determine the average fiber diameter and its relationship to surface topography and filtration efficiency. This research has demonstrated that fiber diameter is the most critical factor in determining filtration efficiency, and viscosity is a reliable predictor of fiber diameter. This study has also demonstrated that PLA has equivalent efficiency to PP.

# STATE-OF-THE-ART UNIVERSAL TURNING CENTER NLX 2500 | 700 2<sup>nd</sup> Generation



zero-sludgeCOOLANT pro\*  
\* Option

Flexible high-variety applications  
with max. accuracy & min. thermal displacement

Realize high rigidity  
by digital twin-based design & the largest  
sliding guideway width in its class

Outer race // S50C  
φ 95 mm × 200 mm  
Automotive



Manifold block // SUS303  
35 mm × 40 mm × 100 mm  
Hydraulic equipment



Spool // S45C  
φ 70 mm × 360 mm  
Hydraulic equipment



Gear shaft // S45C  
φ 100 mm × 200 mm  
Industrial equipment



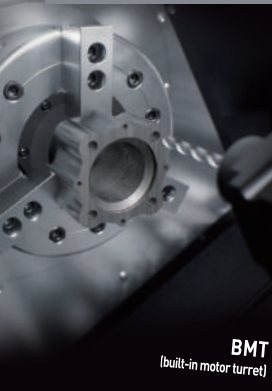
Sprocket // S45C  
φ 180 mm × 80 mm  
Industrial equipment



Milling capability  
on #40 Machining Center-level

With turnMASTER on both spindles  
for the same cutting performance  
Machine φ 105-mm bar material on  
both spindles!

Suppresses thermal  
displacement



Circular motion  
accuracy test  
by Double Ball Bar (DBB)



**3.3 μm**

XY plane (both directions)  
scale specification



**BMT**  
(built-in motor turret)

## Process integration

Cycle time reduction

**-49%**

from previous models\*

\* 1X Turning Center (2 processes)  
1X Vertical Machining Center  
(1 process)

into 1X NLX 2500 2<sup>nd</sup> Generation  
(2 processes)

## Automation

Both spindles with  
turnMASTER  
and large through-hole  
+  
bar feeder

Rich automation line-up  
and solutions against chips,  
coolant, and mist

**GX** Enables energy  
efficient & sustainable  
production

Annual CO<sub>2</sub> reduction **-1,890 kg**

Equivalent to **63\*** camphor  
trees

\* When operating a machine for  
2,000 hours to produce 3,500 parts

\* CO<sub>2</sub> absorption per camphor  
tree: 30 kg per year

by **DX**

Uses digital tools to  
improve work efficiency  
and create an  
operator-friendly  
shop floor

With **ERGOline X** – the new standard control panel

MAPPS  
specifications  
FANUC F31B Plus



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specifications  
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**DMG MORI CO., LTD.**

Tokyo Global Headquarters: 2-3-23 Shiomi, Koto-ku, Tokyo, Japan

Second Headquarters / Nara Product Development Center: 2-1 Sanjohonmachi, Nara City, Nara, Japan

NLX 2500 | 700 2<sup>nd</sup> Generation  
Watch the video



# Conference Program

Tuesday, May 19th				
start	end	[Conference venue]		
16:00	20:00	Registration Desk Opens		
18:00	20:00	Welcome Reception (Room1)		
Wednesday, May 20th				
Program: Opening Remarks, Plenary Lecture 1&2				
start	end	[Room 1]		
8:00		Registration Desk Opens		
8:20	9:00	Opening Ceremony incl. Round Table: Daniel Mayer, Rachid M'Saoubi, I.S. Jawahir, Joel Rech, Pedro Arrazola, Brigid Mullany		
9:00	9:30	Plenary Lecture 1 (Prof. Dragos Axinte)		
9:30	10:00	Plenary Lecture 2 (Mr. Nobuaki Osawa)		
10:00	10:20	Coffee Break		
Program: Technical Session 1				
start	end	[Room 1]	[Room 2]	[Room 3]
10:20	10:40	OS01 Milling Chair:Naomichi Furushiro, Gorka Ortiz de Zarate	OS04 Laser machining Chair:Yuki Shimizu, Togo Shinonaga	OS08 Modelling / Characterization Chair:Stefania Bruschi, Yuebin Guo
10:40	11:00			
11:00	11:20			
11:20	11:40			
11:40	12:00	Lunch Break		
12:00	14:00	Lunch Break		
Program: Technical Session 2				
start	end	[Room 1]	[Room 2]	[Room 3]
14:00	14:20	OS01 Milling Chair:Pedro Jose Arrazola, Benjamin Kirsch	OS04 Laser machining Chair:Jiaqiang Dang, Mirko Sinico	OS08 Modelling / Characterization Chair:Shuzo Masui, Weihai Huang
14:20	14:40			
14:40	15:00			
15:00	15:20			
15:20	15:40	Coffee Break		
15:40	16:00	OS01 Milling Chair:Daniel Meyer, Masao Nakagawa	OS04 Laser machining Chair:Reina Yoshizaki, Ryo Koike	OS08 Modelling / Characterization Chair:Masaki Michihata, Hiroyuki Kodama
16:00	16:20			
16:20	16:40			
16:40	17:00			
17:00	17:20			
Thursday, May 21st				
Program: Plenary Lecture 3 & 4				
start	end	[Room 1]		
8:30		Registration Desk Opens		
9:00	9:30	Plenary Lecture 3 (Prof. Brigid Mullany)		
9:30	10:00	Plenary Lecture 4 (Prof. Volker Schulze)		
10:00	10:20	Coffee Break		

Program:		Technical Session 3		
start	end	[Room 1]	[Room 2]	[Room 3]
10:20	10:40	OS01 Milling Chair:Rachid M'Saoubi, Benny C.F. Cheung	OS05 Additive manufacturing Chair:Frederik Zanger, Yoko Hirono	OS06 Mechanical surface treatment Chair:Yusuke Kajihara, Anthony Beaucamp
10:40	11:00			
11:00	11:20			
11:20	11:40			
11:40	12:00			
12:00	14:00	Lunch Break		
Program:		Technical Session 4		
start	end	[Room 1]	[Room 2]	[Room 3]
14:00	14:20	OS02 Turning Chair:Takashi Matsumura, Norikazu Suzuki	OS05 Additive manufacturing Chair:Keisuke Nagato, Jonas Holmberg	OS06 Mechanical surface treatment Chair:Kazuya Yamamura, Ryo Sato
14:20	14:40			
14:40	15:00			
15:00	15:20			
15:20	15:40	Coffee Break		
15:40	16:00	OS02 Turning Chair:Joel Rech, Zhenglong Fang	OS05 Additive manufacturing Chair:Ryo Koike, Alborz Shokrani	OS06 Mechanical surface treatment Chair:Hassan Ghadbeigi, Rongyan Sun
16:00	16:20			
16:20	16:40			
16:40	17:00			
17:00	18:00	Transfer		
18:00	20:00	Banquet (Hyatt Regency Yokohama)		

Friday, May 22nd				
Program:		Plenary Lecture 5 & 6		
start	end	[Room 1]		
8:30		Registration Desk Opens		
9:00	9:30	Plenary Lecture 5 (Dr. Naruhiro Irino)		
9:30	10:00	Plenary Lecture 6 (Prof. Albert Shih)		
10:00	10:20	Coffee Break		
Program:		Technical Session 5		
start	end	[Room 1]	[Room 2]	[Room 3]
10:20	10:40	OS03 Drilling / Sawing / Broaching Chair:Hayato Yoshioka, Toru Kizaki	OS07 Grinding / Abrasive Processes Chair:Atsushi Ezura, Mohammad Rabiey	OS06 Mechanical surface treatment Chair:Albert Shih, So Ito
10:40	11:00			
11:00	11:20			
11:20	11:40			
11:40	12:00			
12:00	14:00	Lunch Break		
Program:		Technical Session 6		
start	end	[Room 1]	[Room 2]	[Room 3]
14:00	14:20	OS03 Drilling / Sawing / Broaching Chair:Takehiro Hayasaka, Necati Uçak	OS07 Grinding / Abrasive Processes Chair:Chunwei Liu, Urara Satake	OS06 Mechanical surface treatment Chair: Ashwani Pratap, Bernhard Karpuschewski
14:20	14:40			
14:40	15:00			
15:00	15:20			
15:20	15:40			
15:40	16:00	OS09 Ultraprecision machining Chair:Tatsuya Sugihara, Satoru Egawa	OS07 Grinding / Abrasive Processes Chair:Hitoshi Ohmori, Hitomi Yamaguchi	
16:00	16:20			
16:20	16:40			
16:40	17:00			
17:00	17:20			Closing (Room 1)

● Wednesday 20 May 2026

<b>Room 1</b>	<b>OS1: Milling</b>
<b>10:20-10:40</b>	3D numerical modelling of residual stresses induced in surface milling <i>J.Rech, F.Valiorgue, L.Polly, M.Raffestin</i>
<b>10:40-11:00</b>	Influence of Tool Wear-Induced Changes on the Cutting Edge Microgeometry and Resulting Surface Integrity in Micromilling of AISI H11 Tool Steel <i>Timo Platt, Malte Sobkowiak, Dirk Biermann</i>
<b>11:00-11:20</b>	Study on the Surface Integrity and Tool Wear in Induction-Assisted Milling of $\gamma$ -TiAl Alloys <i>Tao Fan, Changfeng Yao, Liang Tan, Qihui Cheng</i>
<b>11:20-11:40</b>	Subsurface deformation and residual stress analysis during micromilling of Ti6Al4V using coated and uncoated tools <i>Maria Clara Coimbra Gonçalves, Gemma Harling, Mihail Mandazhiev, Matthew Brown, Rob Alsters, Rachid M 'Saoubi, Hassan Ghadbeigi</i>
<b>11:40-12:00</b>	Evaluation of the achievable surface topographies, dimensional and geometrical tolerances in hybrid manufacturing of PLA parts by Fused Filament Fabrication (FFF) and milling <i>Laurent Spitaels, Valentin Dambly, Margaux Lorenzoni, Gregory Martic, Cathy Delmotte, Enrique Juste, Édouard Rivière-Lorphèvre, Fabrice Petit, François Ducobu</i>
<b>Room 2</b>	<b>OS4: Laser machining</b>
<b>10:20-10:40</b>	Femtosecond Laser Processing of 3D-Printed PETG for Sensor Substrates and Coating Preparation: Parameter Optimisation and Mechanical Testing <i>Shuchen Zuo, Mohamed Hassan, Cameron Pulham, Paul Mativenga, Olivier Allegre</i>
<b>10:40-11:00</b>	Ultrafast Laser Ablation on Biodegradable PLA/PCL Composite Tubes for Biomedical Application <i>Mohit Agarwal, Alok Srivastava, Madhur Pandya, Priya Vashisth, Naresh Bhatnagar</i>
<b>11:00-11:20</b>	Rapid creation of self-cleaning titanium alloy surface using laser surface texturing <i>Dinesh Kumar S, Kishor Kumar Gajrani</i>
<b>11:20-11:40</b>	Nanometer-Scale Polishing of Diamond by Pulsed Laser Using Feedback from Interferometric Topography Measurement <i>Yuta Teshima, Reina Yoshizaki, Yanming Zhang, Shogo Kitamura, Yangjin Kim, Kenichi Hibino, Kentaro Furuichi, Iori Watanabe, Toshihisa Hikita, Naohiko Sugita</i>

**11:40-12:00** Surface Formation Mechanism study of Water Jet-Guided Laser Machining of Single-crystal Nickel-Based Alloys  
*Tiancheng Ai, Wei Zhang, Liming Lei, Dongdong Xu, Wentao Qin, Zhirong Liao*

**Room 3** OS08 Modelling / Tribology

**10:20-10:40** Cloud-Edge-Device Collaborative Architecture for Online Surface Roughness Grade Recognition of Workpieces  
*Jiajie Shao, Zhiwen Huang, Zhuoyuan Zheng, Dianjun Fang, Jianmin Zhu*

**10:40-11:00** A Single-Particle Layer Approach for Micromechanical Characterization: Nanoindentation and Fracture Analysis of Cathode Secondary Particles  
*Andreas Mayr, Filip A. Dorau, Johannes Lindenblatt, and Rüdiger Daub*

**11:00-11:20** High-temperature Anti-adhesion and Low-friction Performance of Planar Glassy Carbon Mold with Nanopore Arrays  
*Wanying He, Peng Yao, Qilin Wang, Dongkai Chu, Shuoshuo Qu, Chuanzhen Huang*

**11:20-11:40** Integrity of hard-coated titanium surfaces under simulated regolith erosion tests for space exploration  
*Saket Kumar Gupta, Shahit Yadav, Sarvesh Kumar Mishra*

**11:40-12:00** Impact of ignition pulse voltage and acetylene gas flow on tribological and mechanical properties of hard diamond-like carbon coatings  
*Martin Sahul, Barbora Ludrovcová, Marián Haršáni, Margita Ščasná, Martin Truchlý*

**12:00-14:00 Lunch break**

**Room 1** OS1: Milling

**14:00-14:20** Surface Integrity and Fatigue Response of Lamellar Ti6Al4V Alloy after Cryogenic Machining  
*Rachele Bertolini, Andrea Stramare, Alberto Campagnolo, Andrea Ghiotti, Stefania Bruschi*

**14:20-14:40** Influence of the engagement condition on surface integrity in micromilling of cemented carbide  
*Christoph Paul Jäckel, Nils Schmidt, Timo Platt, Nelson Filipe Lopes Dias, Wolfgang Tillmann, Dirk Biermann*

**14:40-15:00** Surface Quality in Milling of Thin-Walled Wire Arc Additive Manufactured Inconel 718 Using Conventional and Modified Tool Geometries  
*František Jurina, Marek Vozár, Boris Pätoprstý, Tomáš Vopát*

**15:00-15:20** Surface integrity of machined 2024-T351 aluminum: Effects of cutting tool nose geometry and targeted minimum quantity fluid(TMQR)  
*Trevor K. Shoemaker, C.S. Rakurty, A.K. Balaji*

**Room 2****OS4: Laser machining****14:00-14:20**

Material removal and surface formation mechanism in laser assisted milling of Cf/SiC  
*Zifu Shen, Zhi Guo, Tiancheng Ai, Dongdong Xu*

**14:20-14:40**

Influence of laser parameters on microcracking during laser surface remelting on additively manufactured multi-material components  
*Mugilan T, Sumit Gusain, Sarvesh Kumar Mishra*

**14:40-15:00**

Machining-Induced Surface Integrity of Ti-6Al-4V Produced by Selective Laser Sintering: Role of Process Parameters and Cooling Conditions  
*Maria Rosaria Saffioti, Serafino Caruso, Giovanna Rotella, Domenico Umbrello*

**15:00-15:20**

Microlens Generation on 4H-SiC Using In-situ Laser-assisted Diamond Cutting  
*Yuhan Li, Wai Sze Yip, Suet To*

**Room 3****OS08 Modelling / Characterization / Tribology****14:00-14:20**

Influence of deposition parameters on tribo-mechanical properties of ta-C coatings: statistical approach  
*Barbora Ludrovcová, Martin Sahul, Marián Haršáni, Margita Ščasná, Martin Truchlý, Milena Kubišová*

**14:20-14:40**

Feature-based and angular analysis for surface integrity assessment  
*Matthias Eifler, Alexander Müller, Jörg Seewig*

**14:40-15:00**

Diagnosing Ion Beam Cleaning Ignition Failures in PVD Processes Using Interpretable Machine Learning on Kaufman-type Ion Sources for Optical Thin-Film Coatings  
*Alexander Weilacher, Valerius Abb, Alexander Schneider, Martin Barth, Tobias Reichenstein, Jörg Franke*

**15:00-15:20**

Modeling Grain Size Evolution under Thermomechanical Loads during Machining Using a Meshless Approach  
*Hui Liu, Pedro Henrique de Carvalho, Anna Kibireva, Markus Meurer, Thomas Bergs*

**15:20-15:40 Coffee break****Room 1****OS1: Milling****15:40-16:00**

(Video presentation)

An Improved Johnson-Cook Model for Residual-Stress Prediction and Process Optimization in Ti-6Al-4V Milling  
*Fangjia Liu, Daiquan Wang, Dong Zhang, Xiao-Ming Zhang, Han Ding*

<b>16:00-16:20</b> (Video presentation)	Milling Deflection Simulation via Voxel-based Material Removal and FEA Models <i>Yuanjie Sun, Ting Yang, Dong Zhang, Xiao-Ming Zhang, Han Ding</i>
<b>16:20-16:40</b>	Influence of Cutting Parameters on the Induced Residual Stress Profile and Resulting Part Distortion in Peripheral Milling of Ti-6Al-4V <i>Markus Diegel, Maurice Walther, Markus Meurer, Thomas Bergs</i>
<b>16:40-17:00</b>	Impacts of Cutting Parameters on Frictional Behaviors of the Machined Surface in Machining of TC21 Alloy <i>Yuhang Sun, Chenggang Liao, Hongguang Liu, Xin Liu, Jun Zhang, Wanhua Zhao</i>
<b>17:00-17:20</b>	Surface and near-surface edge integrity on additively manufactured multi-material IN718-SS316L under cryogenic micro-milling <i>Sumit Gusain, Shivam Mishra, Sarvesh Kumar Mishra</i>
<b>Room 2</b>	<b>OS4: Laser machining</b>
<b>15:40-16:00</b>	Laser interference lithography with a spatial light modulator <i>Nozomu Takahiro, Ryotaro Banno, Yuki Shimizu</i>
<b>16:00-16:20</b>	Surface Quality and Material Response in Laser Machining of Oxide-Oxide Ceramic Matrix Composites <i>Liam Mackenzie, Mahfuza Parvin, Aneta Chrostek-Mroz, Stephen Dondieu, Sundar Marimuthu, Priyanka Ghosh</i>
<b>16:20-16:40</b>	A Framework for Energy Efficient and Low Carbon Laser Cleaning Processes <i>Muhammad Tajuddin Reduan, Paul Mativenga</i>
<b>16:40-17:00</b>	Fabrication of Wear-Resistant Surfaces on Ti-6Al-4V alloy by Laser-Induced Wet Surface Treatment <i>Atsushi Ezura, Kazutoshi Katahira, Jun Komotori</i>
<b>17:00-17:20</b>	Laser-induced Surface Integrity Evolution of Amorphous Silicon <i>Huakun Zhong, Ziyuan Huang, Zhiyu Zhang, Tingting Zou, Hu Huang, Jiwang Yan, Jianjun Yang, Xuejun Zhang</i>
<b>Room 3</b>	<b>OS08 Modelling / Characterization / Tribology</b>
<b>15:40-16:00</b>	Strain rate effect on the deformation behavior of gallium nitride during nanoindentation tests <i>Weihai Huang, Jiwang Yan</i>
<b>16:00-16:20</b>	Influence of nitriding on the surface integrity of mold steel processed by shape adaptive grinding (SAG) <i>Takahiro Kaga, Yuichi Kurane, Anthony Beaucamp</i>

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- 16:20-16:40** Surface characteristics in rigid and adaptive belt grinding of Inconel 718  
*Ashwani Pratap, Anthony Beaucamp*
- 
- 16:40-17:00** Surface integrity pivoting in an integrated design and processing for high-performance manufacturing of equipment  
*M.K. Lei, D.M. Guo*
- 
- 17:00-17:20** Surface properties of carbon fiber reinforced PEEK composites for a long-term water absorption at high temperature and high pressure  
*W.G. Wang, Y.P. Li, S.H. Liu, W.X. Suo, M.Q. Li, M.K. Lei*
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● **Thursday 21 May 2026**

- | Room 1                                     | OS1: Milling   |
|--|--|
| <b>10:20-10:40</b>                         | Experimental and numerical analysis of surface integrity in high-speed milling of Inconel 718 with ceramic tools<br><i>Necati Uçak, Marcos Ribeiro, Jose Outeiro</i>   |
| <b>10:40-11:00</b>                         | Investigation of the relation between the built-up edge formation and chip condition in dry orthogonal cutting of C45 steel<br><i>Ahmed Abotoor, Ramazan Hakki Namlu, Sabino Ayvar-Soberanis, David Curtis, Pete Crawforth, Sadik Engin Kilic, Paul Mativenga, Zekai Murat Kilic</i> |
| <b>11:00-11:20</b><br>(Video presentation) | Investigation into connection mark formation in titanium alloy blisk milling-grinding combined process<br><i>Wanqi Xu, Tingyue Bai, Guangyuan Yu, Shuai Chen, Zhitong Chen, Zhenglong Fang</i>   |
| <b>11:20-11:40</b>                         | Process–Structure–Wetting Relationships in Milled NiTi Surfaces<br><i>Nataliia Balytska, Lars Penter, Oleksiy Myronyuk, Steffen Ihlenfeldt</i>   |
| <b>11:40-12:00</b>                         | Effect of cutting fluid on subsurface characteristics in milling of stainless steel<br><i>Takashi Matsumura, Iman Farhana Binti Juanih, Shoichi Tamura</i>   |
| Room 2                                     | OS05: Additive manufacturing   |
| <b>10:20-10:40</b>                         | Surface Topography Evolution in Laser-based Directed Energy Deposition on Porous Metallic Substrates<br><i>Jacques Platz, Johanna Steiner-Stark, Lars Bachert, Jan C. Aurich</i>   |
| <b>10:40-11:00</b>                         | Influence of different contour scanning methods in laser powder bed fusion on the machinability of additively manufactured AISi10Mg<br><i>Johanna Steiner-Stark, Benjamin Kirsch, Jacques Platz, Jan C. Aurich</i>   |

**11:00-11:20** Evaluation of Ti-6Al-4V laser powder metal deposition (DED-LB/p) for weld repair based on surface integrity investigations  
*Jonas Holmberg, Ceena Joseph, Johan Fast Berglund, Peter Ottosson, Ramin Moshfegh, Stefan Karlsson, David Lindell*

**11:20-11:40** Surface integrity and functional performance of additively manufactured M789 maraging steel for mould applications  
*Mirko Sinico, Jerika Lamas, Kristof Driesen, Jitka Metelkova, Selma Hansal, Michael Doppler, Jeroen Tacq, Brecht Van Hooreweder*

**11:40-12:00** Impact of Material Gradation and Hatching on Surface Characteristics of Functionally Graded Materials Consisting of 316L/17-4PH Manufactured via Directed Energy Deposition  
*Lars Bachert, Jacques Platz, Jan C. Aurich*

**Room 3** OS06: Mechanical surface treatment / Finishing

**10:20-10:40** Surface topography evolution in robotic electrochemical-mechanical polishing process of 316L stainless steel  
*Sangil Han, Daniel Krzak, Mehmet Cici, Thierry André, Ferdinando Salvatore, Joël Rech*

**10:40-11:00** Numerical and experimental investigation on the effect of process parameters in machine hammer peening of AISI 4140  
*Zhaoyu Chen, Matthias Hettig, Jens Sölter, Daniel Meyer*

**11:00-11:20** Influence of Cutting Edge Radius on Subsurface Work-Hardening in Machined Inconel 718 Nickel-Based Alloy  
*Vopát Tomáš, Sahul Martin, Truchlý Martin*

**11:20-11:40** Impact of burnishing on surface integrity of AISI 316Ti stainless steel  
*Larissa Juliana Sirtuli, Xenia Stergiopoulou, Susanne Norgren, Volodymyr Bushlya*

**11:40-12:00** Systematic Analysis of Abrasive Media Geometry and Bond Effects on Surface and Edge Conditioning in Unguided Vibratory Finishing of WC-Co Cemented Carbides  
*Fabian Brüssel, Peter Breuer, Sebastian Prinz, Thomas Bergs*

**12:00-14:00 Lunch break**

**Room 1** OS02: Turning

**14:00-14:20** Correlation between Residual Stresses and Deformation Depths in the Turning of DA718  
*Nicklas Gerhard, Marina Kemperle, Maurice Walther, Markus Meurer, Thomas Bergs*

**14:20-14:40** Influence of the CO<sub>2</sub> mass flow rate on the surface integrity and dimensions of cryogenically hard turned AISI 52100  
*Felix Grossmann, Robin Lemmens, Benjamin Kirsch, Jan C. Aurich*

**14:40-15:00** Influence of machining parameters and cutting tool materials on surface layer properties and machinability in face turning of a nickel-based superalloy  
*Lars Langenhorst, Mattis Lieder, Jens Sölter, Gregor Kappmeyer, Bernhard Karpuschewski*

**15:00-15:20** Introduction of compressive residual stresses by Hammering Turning  
*Jannik Schwalm, Volker Schulze, Frederik Zanger*

**Room 2** OS05: Additive manufacturing

**14:00-14:20** Surface integrity and defects in stainless steel-Inconel 718 bi-metal cold metal transfer wire arc additive manufacturing  
*Joseph Betts, Ishrat Fairoz, Alborz Shokrani*

**14:20-14:40** Laser Remelting of directed energy deposited (DED) Ti6Al4V: surface refinement, microstructural evolution, and hardness enhancement  
*Shivam Kumar, Saket Kumar Gupta, Sarvesh Kumar Mishra*

**14:40-15:00** Late fusion for resource-efficient analysis of DED process parameters on coating characteristics  
*Felix Finkeldey, Shiho Takemura, Motoki Nagata, Petra Wiederkehr, Yasuhiro Kakinuma*

**15:00-15:20** A Synergistic Approach to Microstructure and Residual Stress Management Using Ultrasonic Vibrations in Laser Metal Deposition of Steel 1.4404  
*Mohammad Rabiey, Hélder Puga, Miodrag Prokic, Anthony Beaucamp*

**Room 3** OS06: Mechanical surface treatment / Finishing

**14:00-14:20** Influence of Process Input Parameters on the Reproducibility of Microstructures on Stainless Steel 304 in Pulsed Electrochemical Machining  
*Richard Petermann, Steven Nickel, Lars Berg, Pascal Clauß, Gunnar Meichsner, Matthias Hackert-Oschätzchen*

**14:20-14:40** Influence of Surface Roughness on the Tribological Performance of 3D Printed CF/PEEK Gear and its Wear Mechanism  
*Guang Cheng, Hanlin Zheng, Qingwen Dai, Marvin May, Nanya Li*

**14:40-15:00** 3D Measurement of Abrasive Particles and Analysis of Wear-Induced Effects on Surface Roughness in Abrasive Flow Machining  
*Stefanie Stöckel, Frank Segel, Sophie Gröger, Eckart Uhlmann, André Rozek*

**15:00-15:20** Wettability Analysis of Non-textured and Textured Thin-Walled Stainless Steel Tubes Fabricated using Electrochemical Micromachining  
*Naisarg Sagathiya, Vyom Sharma, Janakarajan Ramkumar*

**15:20-15:40 Coffee break**

**Room 1** OS02: Turning

**15:40-16:00** Surface and subsurface characteristics of Ti-6Al-4V in a sequence of turning and deep rolling  
*Nicole Mensching, Daniel Meyer*

**16:00-16:20** The effect of dynamic tool engagement on tool wear and surface integrity in diamond turning of titanium alloys  
*Jian Weng, Linhe Sun, Suet To, Wai Sze Yip*

**16:20-16:40** Ultrasonic Vibration-assisted Turning of Aerospace-grade Titanium Alloy: Surface Quality Characteristics and Tool Wear Morphology  
(Video presentation)  
*Sirui Yi, Liyu Wang, Songmei Yuan*

**16:40-17:00** Comparative evaluation of linear regression and neural network models for estimating surface hardness and residual stress in turning of carbon steels  
*Kazunori Kohara, Yasuhiro Imabeppu, Naruhiro Irino, Norikazu Suzuki*

**Room 2** OS05: Additive manufacturing

**15:40-16:00** Surface Integrity in 17-4PH Binder Jetting parts subjected to Contact Fatigue testing  
*Matheus Rubik, Guilherme Guimarães, Izabel Criscuolo, Ronnie Rego*

**16:00-16:20** Utilizing intermediate feature value correlation for efficient parameter identification in high-speed directed energy deposition  
*Helena Wexel, Keisuke Nagato, Frederik Zanger*

**16:20-16:40** The Effect of Printing Parameters and Post-Processing on Surface Roughness and Mechanical Properties of PLA and Recycled PLA Parts Fabricated by Extrusion-Based 3D Printing  
*Emrah Güneşsu, Emre Taşcıoğlu, Yusuf Kaynak*

**16:40-17:00** Investigation on the correlation between spatter behavior and single-track surface geometry in laser power bed fusion  
*Yudai Yokota, Yoshiki Sakai, Kotaro Kaneko, Keisuke Nagato*

<b>Room 3</b>	OS06: Mechanical surface treatment / Finishing
<b>15:40-16:00</b>	Influence of Drag Finishing Parameters on the Uniformity of Cutting Edge Radius Along the Tool Axis for Carbide Milling Tools <i>Boris Pätöprstý, Tomáš Vopát, František Jurina, Marek Vozár</i>
<b>16:00-16:20</b>	Surface Integrity of Sapphire Micro-Optics Finished by Mechanical Polishing <i>Tarlochan Singh, Brock Taylor, Bona Burlison, Anthony Beaucamp</i>
<b>16:20-16:40</b>	Development and Applications of Magnetic Field Assisted Mass Polishing <i>Rui Gao, Chunjin Wang, Yee Man Loh, Dawei Luo, Chi Fai Cheung, Lai Ting Ho</i>
<b>16:40-17:00</b>	Power-based process signature for surface and form accuracy in wire EDM <i>Yifei Guo, Yuebin Guo</i>

● **Friday 22 May 2026**

<b>Room 1</b>	OS03: Drilling / Sawing / Broaching
<b>10:20-10:40</b>	Comparison of MQL versus dry machining on the surface integrity and the fatigue strength of a drilled AA2024-T351 aluminium alloy <i>Rosalinda Solis, Raphaël Lorain, Frédéric Valiorgue, Joel Rech</i>
<b>10:40-11:00</b>	How fabrication route and particle size influence the drilling response of Al-SiC metal matrix composites <i>Edoardo Ghinatti, Rachele Bertolini, Andrea Ghiotti, Stefania Bruschi</i>
<b>11:00-11:20</b>	Study of the impact of robot posture and trajectory compensation on the drilling quality of Al 6082 T6-GFRP stacks in robotic drilling operations <i>Thomas Beuscart, Valentin Dambly, Edouard Rivière-Lorphèvre, Gorka Ortiz-de-Zarate, Pedro José Arrazola, François Ducobu</i>
<b>11:20-11:40</b>	Improving surface integrity in bone sawing through trajectory optimization <i>Han Wang, Urara Satake, Toshiyuki Enomoto</i>

### Room 2

#### OS07: Grinding / Abrasive Processes

**10:20-10:40**

Surface Integrity of Ground AISI4140: A Comparison of Quenched and Tempered and Induction Hardened States

*Gerrit Kuhlmann, Meik Baschak, Nikolai Guba, Tobias Hüseemann, Carsten Heinzel*

**10:40-11:00**

Flow Separation Effects on Surface Integrity in Abrasive Flow Machining

*Eckart Uhlmann, André Rozek, Elias Berg, Sophie Gröger, Stefanie Stöckel, Sven Fiebig*

**11:00-11:20**

Investigation of Surface Integrity Changes in Multistage Grinding with Interim Thermally Induced Material Modifications

*Gerrit Kuhlmann, Lars Langenhorst, Matthias Knauer, Nikolai Guba, Tobias Hüseemann, Carsten Heinzel*

**11:20-11:40**

Effects of surface treatment and morphology on tensile shear strength of adhesively bonded aluminum alloy plate

*Shogo Takesue, Kenya Sakuma, Tatsuro Morita*

**11:40-12:00**

Emulsion-based Al<sub>2</sub>O<sub>3</sub>-nanofluids: evaluation of rheology and tribological behavior in ball-on-grinding-wheel experiments

*Robar Arafat, Sherif Okeil, Oliver Schömig, Gabriela Ventura Silva, Georg Garnweitner, Christoph Herrmann*

### Room 3

#### OS06: Mechanical surface treatment / Finishing

**10:40-11:00**

Plasma-modification characteristics of OVPE GaN wafer

*Rongyan Sun, Tong Tao, Shigeyoshi Usami, Yuji Ohkubo, Masayuki Imanishi, Yusuke Mori, Kazuya Yamamura*

**11:00-11:20**

Influence of Rheological Characteristics of Media on Surface Morphology of Additively Manufactured Tool Steels in Abrasive Flow Finishing Process.

*Jojjode Kiran Kumar, Botta Thirupathi, Veerla Saisurendra, Mamilla Ravi Sankar*

**11:20-11:40**

Tailored Viscoelastic Media for Precision Finishing of Additively Manufactured Inconel 718.

*Botta Thirupathi, Jojjode Kiran Kumar, Veerla Saisurendra, Mamilla Ravi Sankar*

**11:40-12:00**

Electromagnetic assisted Ultrasonic Nanocrystal Surface Modification of SS304

*Yu Zhang, Binghan Huang, Yixuan Ye, Le Gao, Chang Ye*

**12:00-14:00 Lunch break**

**Room 1****OS03: Drilling / Sawing / Broaching****14:00-14:20**  
(Video presentation)

High-precision laser drilling of CFRP enabled by zinc-mediated heat dissipation

*Yongfeng Qian, Hong An, Hu Huang***14:20-14:40**

Effects of Cutting Speed and Lubrication on Surface Topography in Broaching of 42CrMo4 Steel

*Cristhian M. Chingo, Gorka Ortiz-de-Zarate, Iñigo Rodriguez, Mikel Etxebeste, Pedro J. Arrazola***14:40-15:00**

Drilling induced surface integrity: surface deformation characterization

*Hassan Ghadbeigi, Joshua Priest, Sabino Ayvar-Soberanis, Matthew Way, Anders Liljerehn***Room 2****OS7: Grinding/Abrasive processing****14:00-14:20**

Magnetic Field-Assisted Finishing Process for Ni-Ti Alloy (Nitinol) Stents

*Hiroyuki Matsumura, Patrick Moorhead, Hitomi Yamaguchi***14:20-14:40**

Interactions between Superabrasives and the Workpiece in Grinding of Hardened Steel: Analysis of the Integrity of the Grinding Tool and the Workpiece utilizing Laser Spectroscopy

*Tountzer Tsagkir Dereli, Monika Kipp, Gabriel Brune, Julian Herbers, Jörg Debus, Dirk Biermann***14:40-15:00**

Grind hardening in reciprocating grinding

*Gibin George, Dinesh Setti, Vineed Narayanan, Pramod Kuntikana***15:00-15:20**

Continuous Variable-Speed Grinding Cycles: Experimental Study on Thermal Integrity and Surface Quality

*David Barrenetxea, Jorge Alvarez, Maria Garcia, Leire Godino***Room 3****OS06: Mechanical surface treatment / Finishing****14:00-14:20**

Crack Suppression in V-Bending of Metal Sheets via Molecular Adsorption

*Tatsuya Sugihara, Yu Tobuchi, Debapriya Pinaki Mohanty, Toshiyuki Enomoto***14:20-14:40**

Prediction of Required Process Time for Edge Rounding in Centrifugal Barrel Finishing

*Yohei Hashimoto, Rika Noda, Minoru Ito, Tetsuya Yamada***14:40-15:00**

(Video presentation)

Citric Acid-Assisted Chemical Mechanical Polishing for Y<sub>2</sub>O<sub>3</sub>-MgO Nanocomposite Ceramics*Weijian Zhang, Wei Gao, Maosen Yang, Jingyuan Wang, Keyi Wu, Wule Zhu*

**15:00-15:20** Direct joining of hot water-treated copper and epoxy resin for improvement of semiconductor packaging  
*Ryuichiro Hanada, Weiyen Chen, Fuminobu Kimura, Yusuke Kajihara*

**15:20-15:40 Coffee break**

**Room 1** OS09: Ultraprecision machining

**15:40-16:00** Material Dependency of Water-Mediated Surface Modification in Ultra-Precision Machining  
*Chaoyue Zhang, Jiaming Zhan, Yu Zhang, Hao Wang*

**16:00-16:20** Feasibility Study of Using Acceleration Signals for Online Monitoring of Brittle-to-Ductile Transition in Slow Tool Servo Diamond Turning of (111) CaF<sub>2</sub> Single Crystal  
*Keer Tang, Duoshiun Jang, Jiwang Yan, Chunwei Liu*

**16:20-16:40** Preliminary study on atomic-scale smoothing of silicon using enzymatic hydrolysis machining  
 (Video presentation)  
*Bing Wu, Hui Deng*

**16:40-17:00** Investigation of tool wear characteristic of nano-polycrystalline diamond in ultra-precision cutting of silicon  
*Asuka Otani, Jiwang Yan*

**Room 2** OS7: Grinding / Measurement

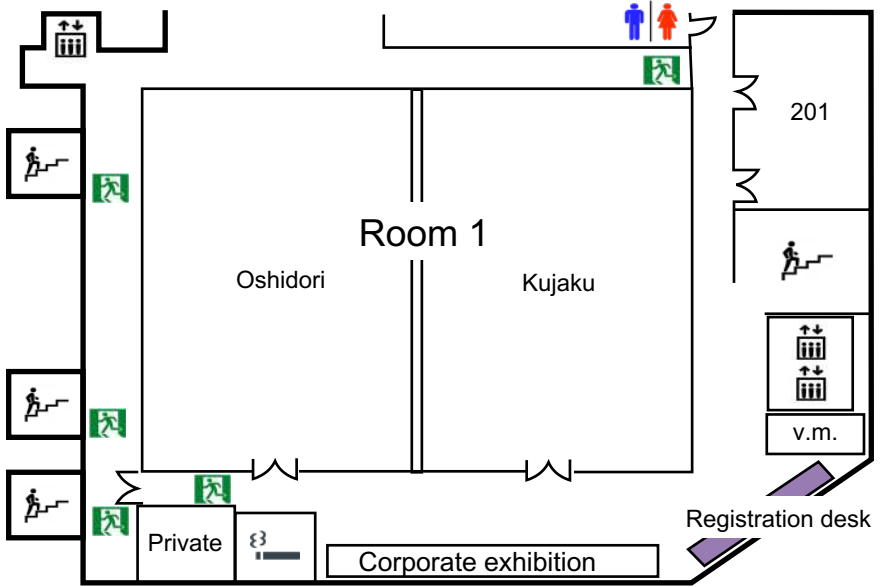
**15:40-16:00** Influence of the Dressing Process Parameters on the Grinding Wheel Topography and the Work Result in Double Face Grinding with Planetary Kinematics  
*Eckart Uhlmann, Alexander Hötling*

**16:00-16:20** Form error compensation in Reaction-Induced Slurry-Assisted grinding  
*Tatsuya Uchikawa, Yusuke Chiba, Tsuyoshi Kaku, Masahiko Fukuta, Kentaro Watanabe, Yasuhiro Kakinuma*

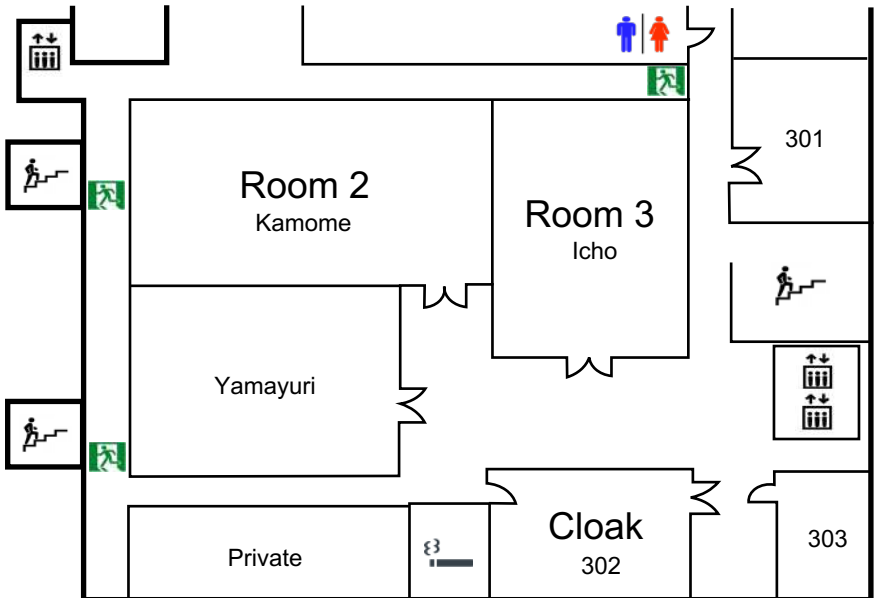
**16:20-16:40** Fluorescence-Based On-Machine Surface Topography Measurement in Wet Grinding Processes  
*Masaki Michihata, Saeko Fujii, Shuzo Masui, Satoru Takahashi*

**16:40-17:00** Thin-film measurement using Mirau-type coherence scanning interferometer  
*Masaharu Hayami, Shuzo Masui, Masaki Michihata, Yoshiyuki Kawata, Tetsuji Kawakami, Hideki Morii, Satoru Takahashi*

2nd floor



3rd floor



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# **Social Program**

## Welcome Reception

A Welcome Reception will be held on May 19, from 18:00 to 20:00, at the conference venue, Workpia Yokohama. A buffet-style dinner will be provided. The Registration Desk will also be available at the same location during this time.

All participants are warmly encouraged to attend and enjoy this opportunity to network and begin the conference in a relaxed and welcoming atmosphere.

## Young Researcher Night

Young Researchers Night is a banquet event for CSI2026 attendees who are interested in international communication, networking, and mutual encouragement among young researchers. Held in a relaxed and friendly atmosphere, this event provides an ideal opportunity to meet colleagues from different backgrounds, exchange ideas beyond research fields, and build new professional connections.

Date: May 20th, 2026

Time: 18:30 to 20:30

Place: H.B's nest (肉の溶岩 Grill&横浜地野菜 H.B's nest)

Fee: The participation fee is 1,000 yen per person.



## Banquet Venue Introduction (Hyatt Regency Yokohama)

We are delighted to welcome you to the conference banquet at Hyatt Regency Yokohama, a venue that perfectly captures the spirit and beauty of Yokohama. The hotel is situated in one of the city's most iconic locations, allowing guests to truly experience the atmosphere and charm that define Yokohama.

The banquet will be held on the 20th floor, where guests can enjoy sweeping panoramic views of the city's most celebrated landmarks. From the ballroom foyer, you can admire Osanbashi Pier, Yamashita Park, the port warehouses, Bay Bridge, Marine Tower, and even the vibrant streets of Chinatown. This exceptional vantage point offers an unforgettable backdrop as the city transitions from day to night.

In addition to the stunning scenery, guests will be treated to an exquisite multi-course dinner, carefully crafted to showcase fine culinary quality. The combination of elegant space, remarkable views, and exceptional cuisine ensures a memorable evening for all attendees.

We hope you enjoy this special banquet experience in one of Yokohama's most distinguished venues.



## Restaurants for Lunch

Lunch will be served at two restaurants, which are listed below. As seating capacity at each restaurant is limited, lunch tickets will be distributed at the conference venue. Please bring your ticket with you to the restaurant.

At the beginning of the lunch break, staff members will guide participants from the venue to the restaurants. Lunch service at 456 Saikan will begin at 12:30 each day.

- **The Wharf House Yamashita Koen**

Situated along the waterfront in Yamashita Park, this restaurant provides a pleasant picnic-style lunch experience overlooking the sea of Yokohama. A special lunch box will be prepared for conference participants.



- **The 456 Saikan**

Located in Yokohama Chinatown, this restaurant offers a short-course Chinese lunch specially prepared for conference participants. After lunch, participants may enjoy a stroll around the nearby Chinatown area.



## **Hakkeijima Sea Paradise - 20 km away**

The “Hakkeijima Sea Paradise” is an amusement park located on a small island just offshore. It is one of the most visited amusement parks in Japan and houses quite an impressive aquarium. Visitors are free to enter the island to utilize its park areas, stroll along the promenades, shop at the stores or dine at the restaurants. Aqua Resorts consists of the Aqua Museum, Dolphin Fantasy and Fureai Lagoon. Pleasure Land is the section of the park with amusement rides for all ages.



## **Kawasaki Factory Night Cruise**

A night cruise from Yokohama to the nearby industrial factories in Kawasaki. While an eyesore during the day, the metallic, fume-belching structures provide a great photo opportunity come nightfall. \*This activity requires reservations.



## **Sankeien Garden - 5 km away**

Sankeien is a spacious Japanese-style garden in southern Yokohama that exhibits a number of historic buildings from across Japan. There is a pond, small rivers, flowers and wonderful strolling trails that make you think you are in Kyoto rather than Yokohama. The garden was built by Hara Sankei and opened to the public in 1904. Among the historic buildings exhibited in the park are an elegant daimyo (feudal lord) residence, several tea houses and the main hall and three-storied pagoda of Kyoto's old Tomyoji Temple.



# Nanoform<sup>®</sup> X

MULTI-AXIS MACHINING SYSTEM

precitech

AMETEK<sup>®</sup>

Shaping the Future



Lower work envelope and integral TMC MaxDamp<sup>®</sup> vibration isolation system



Swarf containment featuring inner/outer enclosure overlapping tray design



Upper enclosure opens for cleaning and maintenance



User-friendly control console features



High speed HS 150 workholding spindle and improved cable management



## Nanoform Optional Accessories:

- Fast Tool Servo 5000
- Air Temperature Controller
- Laser Assisted Machining
- Ultrasonic Tool Holder
- Diffsys Part Programming Software
- Diamond Milling or Grinding Spindle
- On Machine Metrology
- Vertical Axis
- Virtual Center Software
- Part Centering Accessory
- Flycutting head
- Video Process Observation System
- Remote Access and Control Software

## Key Specifications

Turning performance	Surface roughness < 1 nm Sa Form accuracy < 0.1 μm P-V (tested and measured on one surface upon request)
Programming resolution	0.01 nm linear / 0.0000001° rotary
Ultimate load capacity	136 kg (300 lbs) @ 100 PSI
Swing capacity	Max swing 440 mm dia., w/ 100 mm riser block (250 mm dia. standard swing)

## Nanoform<sup>®</sup> X Ultra Precision Diamond Turning Machine

The Nanoform X is designed to increase productivity and ease of use in the diamond turning, milling, and grinding of optical lenses, mold inserts, mirrors, and precision mechanical components. The machine can be configured from 2 to 4 axis to produce spherical, aspherical and freeform surfaces of up to 440 mm diameter.

PRECITECH is ultra precision machining solutions.

precitech / AMETEK<sup>®</sup>

www.precitech.com • Precitech.machinesales@ametek.com

# Useful Information

**Emergency Calls**

To Where	Phone Number
Police	110
Ambulance or Fire	119

**Security**

Japan is known for its low crime rate, but it is always wise to be careful of one's personal belongings, especially in crowded areas.

**Drinking Water – Tap Water**

Tap water is safe to drink anywhere in Japan unless otherwise stated. Also, you can buy mineral water at convenience stores, supermarkets, and station kiosks, etc.

**Currency Exchange**

The official currency of Japan is the YEN and only the Yen is accepted when paying in cash. Currency exchange is available at hotels and designated foreign exchange banks.

**Credit Cards, Debit Cards, Traveller's Cheques and ATMs**

Major credit cards such as VISA, MasterCard, Diners Club and American Express are widely accepted in Japan. Personal checks are not accepted anywhere in Japan. Foreign debit cards are not accepted in most Japanese shops or restaurants. Traveller's cheques are accepted only at limited, designated leading foreign exchange banks and certain currency exchange shops.

ATMs that accept credit, debit and ATM cards issued outside of Japan can be found in:

- Post offices in Japan:

[http://www.jp-bank.japanpost.jp/en/ias/en\\_ias\\_index.html](http://www.jp-bank.japanpost.jp/en/ias/en_ias_index.html)

- 7-Eleven convenience stores:

<https://www.sevenbank.co.jp/intlcard/index2.html>

Please note that ATMs in most Japanese banks do not accept foreign cards that are issued outside of Japan.

## Climate

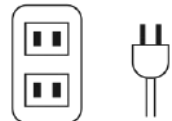
The average temperatures in Yokohama during the period of the conference would generally be between 20°C and 25°C.

You can check the latest weather forecast on the Japan Meteorological Agency website.

<http://www.jma.go.jp/jma/indexe.html>

## Electricity

The local power supply is uniformly 100 volts. The frequency is 50Hz in Tokyo (Eastern Japan). The type of power outlet/connector is "Type A" which is a two parallel-pronged type.



Type A plug

## Consumption Tax

Consumption tax is 10%.

## Taxis

Taxi fares start at approximately JPY500 with additional costs depending on distance covered and time elapsed. Payment is made when you reach your destination and the exact fare is shown clearly on the meter, for transparency and assurance. Tipping is not necessary at any time when taking a taxi.

## Tipping

Tipping is not necessary in Japan.

## Smoking

Smoking is permitted only in the designated areas. Public transportation such as trains, buses and taxis are generally non-smoking. Most hotels have separated rooms, smoking or non-smoking.

## Liability

The Organising Committees and/or Conference Organisers will not be held liable for personal accidents or losses or damage to private property of registered delegates to the Conference. Delegates should make their own arrangements as regards personal insurance.

Wireless LAN is available at the conference venue.  
Please connect to the WiFi named:

**workpia\_wifi**

The password is:

**welcomewp**

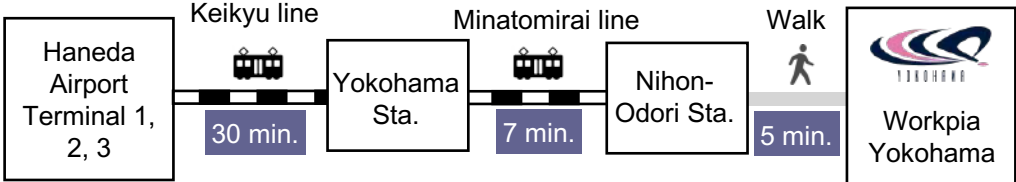


©Adobe Stock

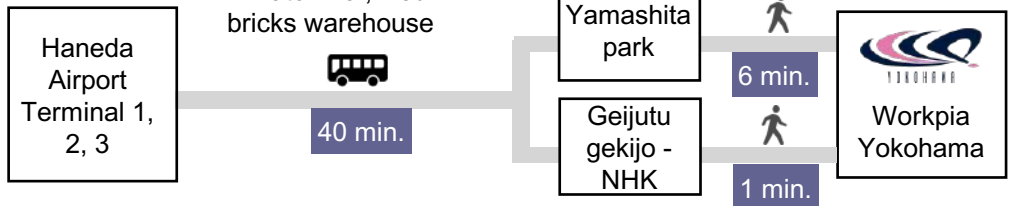
# **Travel and Transportation**

**By train**

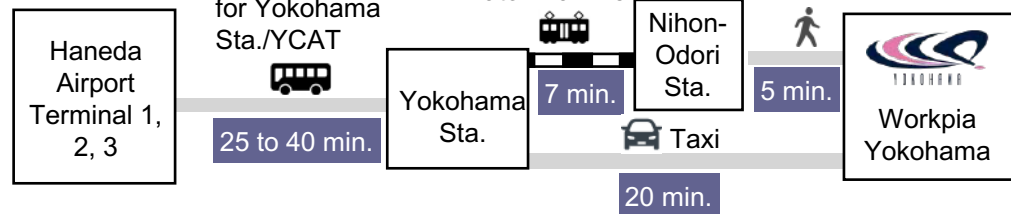
•45 min.

**By bus**

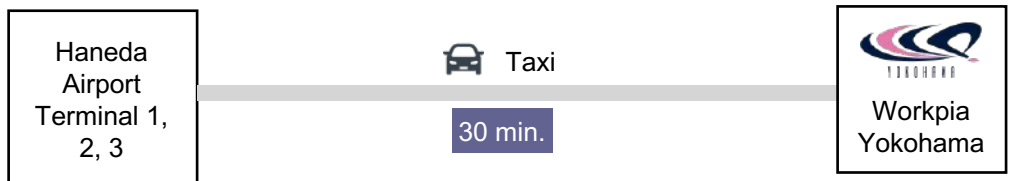
(1) 50 min.



(2) 60 min.

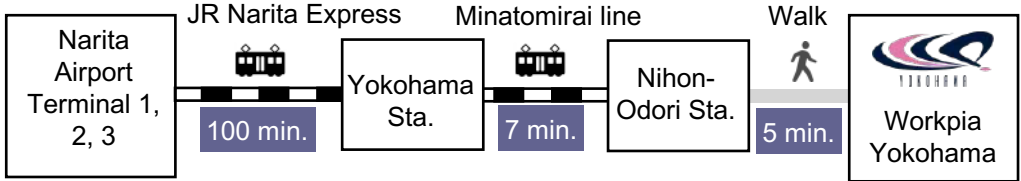
Keikyu bus: <https://www.keikyu-bus.co.jp/en>**By taxi**

•30 min.

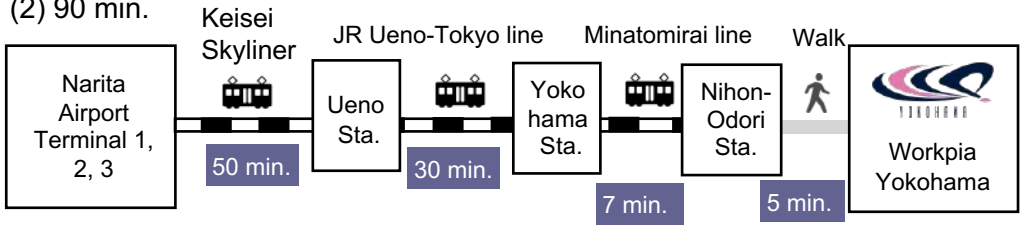


## By train

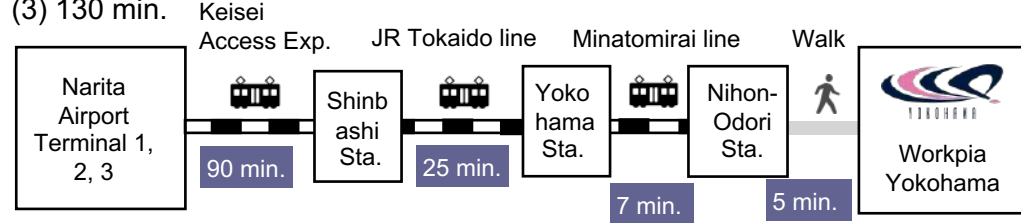
(1) 110 min.



(2) 90 min.

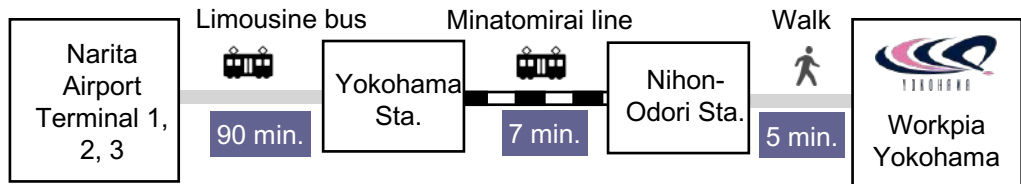


(3) 130 min.



## By bus

- 100 min.



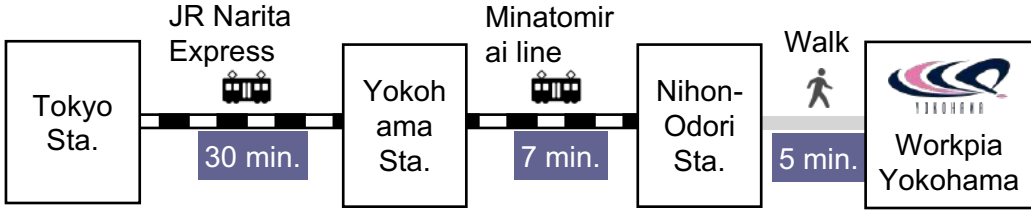
Narita to YCAT: <http://bit.ly/3WgWHHb>

YCAT to Yokohama Sta. <http://bit.ly/3VJrdJK>

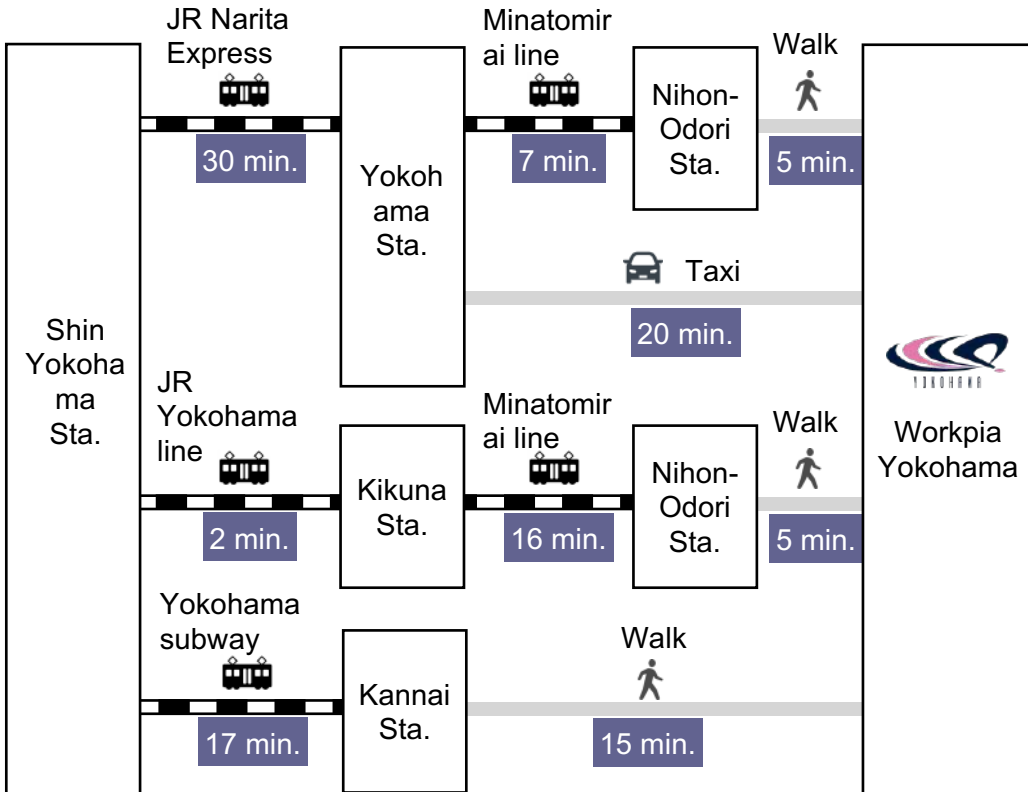
# 50 From Tokyo or Shin Yokohama station

## From train station

(1) Tokyo station : 45 min.



(2) Shin Yokohama station



For traveling in Japan, the travel cards make for a more pleasant trip. For example, “Welcome Suica” and “PASMO Passport” are e-money that can be used for travel and shopping and are recommended for temporary visitors.

These cards can be used on train lines in the Tokyo and Yokohama areas as well as for subways, buses, the Tokyo Monorail that connects Haneda Airport with Tokyo, and in the Sendai, Niigata, Aomori, Morioka, and Akita areas and parts of the Hokkaido, Tokai, West Japan and Kyushu areas.

For trains, simply tap your card at the ticket gate and for buses, tap the sensor when getting on and off. There's no need to purchase a ticket. Automatically pay for fares based on your balance. If you travel outside the area, you will need to top up at a fare adjustment machine.

To ride the limited express and express trains or Green Cars, please purchase the related ticket in advance. The cards can be used for shopping. You can use your card to make purchases onboard trains as well as from vending machines, to rent coin lockers and for spending at convenience stores and restaurants.

## Welcome SUICA



<https://www.jreast.co.jp/en/multi/welcomesuica/welcomesuica.html>

## PASMO Passport



<https://www.pasmo.co.jp/visitors/en/>

## Laser Micromachining

### Hole drilling



\* SiN Square hole



\* PI micro hole array

### Micro groove

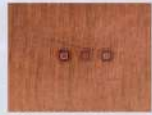


\* Micro groove processing



\* High density micro groove

### Micro laser welding

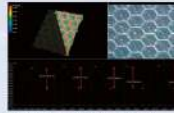


\* Key hole welding  
High demand copper welding

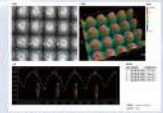


\* High precision laser welding with beat width 0,2mm

### Etching



\* Roller bearing groove etching



\* Surface microstructure etching

## Laser Solution

- Laser micromachining system with high power picosecond laser
- High quality laser process with cold ablation
- Highly integrated laser micromachining system designed for R&D and industrial application
- Fully customizable system
- perform (or assist with) process / application development if needed



### Pico second laser

#### High reliable industrial picosecond laser

- Picosecond laser for micromachining
- Wavelength : 532 nm
- Pulse width : < 15 ps
- Average power : 60 W
- High pulse energy : 300 µJ
- Burst mode



\*We can offer the best solution

### Laser scan

#### High speed digital galvo-scanner

- Digital galvo-scanner
- Max speed : 25 m/s
- Repeatability : < 2 µrad
- Tracking error : 0.15 ms



### Positioning

#### High accurate XY linear axes

- High accurate, high speed axes
- Optical glass encoder
- Positioning area : 600 mm x 400 mm
- Resolution : 0.1 µm
- Max speed : 700 mm/s
- Low profile stable drive



### Beam delivery & vision system

#### Efficient beam delivery & accurate monitoring

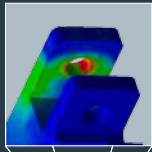
- Beam delivered efficiently
- High accurate vision system
- Fully designed for micromachining



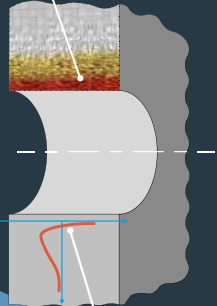
## Laser Processing Service

We can respond to requests for small-lot, multi-variety laser micro-processing, and can cooperate as a partner in laser processing. Our application engineers will help you solve any questions you may have about laser processing by setting the optimum laser processing conditions and conducting evaluations and analyses.





Strain hardening  
& microstructure



Residual stresses

# MISULAB

Simulation software to  
boost machining productivity  
& secure fatigue performance



designed by  
MISUTECH



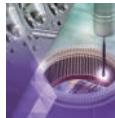
contact@misulab.fr

**Tokyo Seimitsu is the manufacturer with two main business lines:**

**Precision Measuring Instruments and  
Semiconductor Manufacturing Equipment**

## Precision Measuring Instrument

In addition to general-purpose measuring instruments, Tokyo Seimitsu provides a diverse range of products for in-line measurement to meet customer needs.



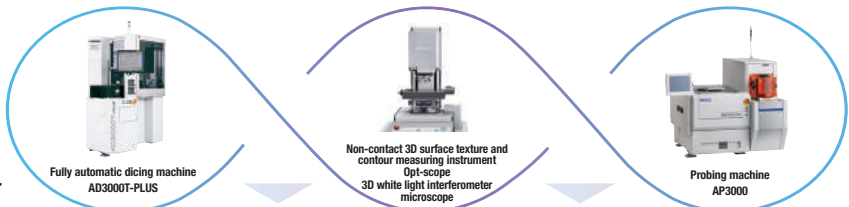
## Semiconductor Manufacturing Equipment

Tokyo Seimitsu supports customers to build optimal production systems in the areas of testing, assembly, and wafer fabrication.



## Initiatives for Further Social Contribution

The synergistic effect of precision measurement technology and semiconductor manufacturing technology enables higher-precision wafer processing and inspection.



Fully automatic dicing machine  
AD3000T-PLUS

### AD3000T-PLUS Opt-scope built in

Machining groove profile measurement  
using a dicing machine

Non-contact 3D surface texture and  
contour measuring instrument  
Opt-scope  
3D white light interferometer  
microscope

### AP3000-Opt/Ales

Inspection of needle tracks in three  
dimensions (height, width, and depth)

Probing machine  
AP3000

**ACCURETECH**  
TOKYO SEIMITSU

Head office: 2968-2, Ishikawa-machi, Hachioji-shi, Tokyo 192-8515, Japan

Tel : +81(0)42-642-1701

Fax: +81(0)42-642-1798

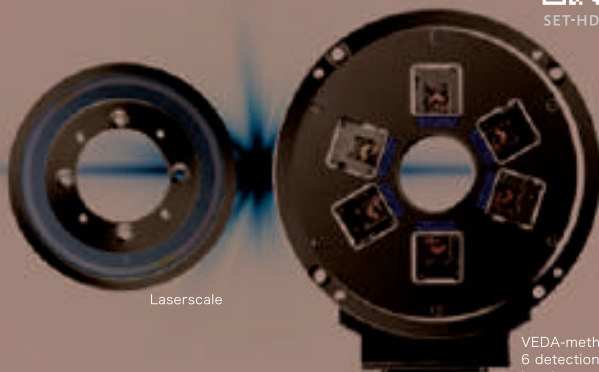
<https://www.accuretech.com/en>





## Ultimate high precision for The World of $\pm 0.1$ arcsec

Easy installation and fast measurement  
as calibration system



Proprietary new algorithm by Magnescale "VEDA-Method" Non-contact Self-Calibrating High-Precision Rotary Encoder

**High angular accuracy**  
 $\pm 0.1$  arcsec over full range\*  
(resolution 0.0012 arcsec)  
\*during calibration

**Traceability for accuracy**  
JCSS Calibration Service Provider  
Certification

# SET-HD100

JSPE Technology Award in 2018 JSPE Takagi Award in 2018

Magnescale Co., Ltd.

[www.magnescale.com](http://www.magnescale.com)

## ポータブル型X線残留応力測定装置

### ダレでも、どこでも簡単測定！ $\mu$ -X360J



世界で初めて**cosa法**の製品化に成功し、  
**小型・軽量・高速・高精度・低価格を実現した装置**

- ◆ **高速測定**  
残留応力測定時間 約40秒(フェライト系) \*前モデル約60秒
- ◆ **簡単操作**  
液晶モニタ搭載で試料の位置調整がより簡単に  
検出器が大きくなり、試料設置マージンが約20mm増加
- ◆ **X線管球・コリメータ交換作業が簡略化**
- ◆ **活用用途**  
熱処理、溶接、表面改質、金型の寿命予測、  
インフラ、プラントメンテナンス  
金属積層造形、電磁鋼板、残留オーステナイト測定

各種計測サービスに対応 (お預かり測定 / レンタル / 出張測定 / 測定ルーム貸出)  
企業展示に出展中！お気軽にご相談ください！



# 多関節型三次元測定機

## Beak Master

### ◆あらゆる表面形状をスキャン

光沢面



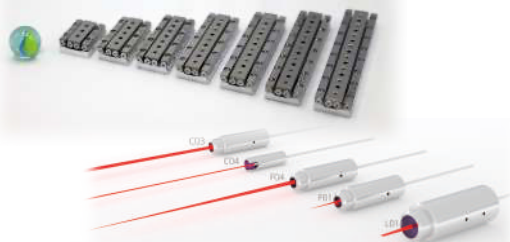
刻印スキャン



Kosaka Laboratory Ltd.



### ロングレンジピエゾステージ レーザー干渉計



#### 【ピエゾステージ】

- ・小型かつmmオーダーの移動が可能
- ・1nm分解能

#### 【レーザー干渉計】

- ・1pm分解能で5mのワーキングディスタンス
- ・φ6mmの小型センサーヘッド



### プラズマクリーナー・エッチング装置 パラキシリレン成膜装置



#### 【主な特徴】

- ・切削加工により高い耐久性チャンバー使用
- ・独自のガスフローティング技術で均一処理
- ・RIEモードによるナノエッチング
- ・用途に応じて選べるチャンバーサイズ
- ・高い信頼性のデジタル制御

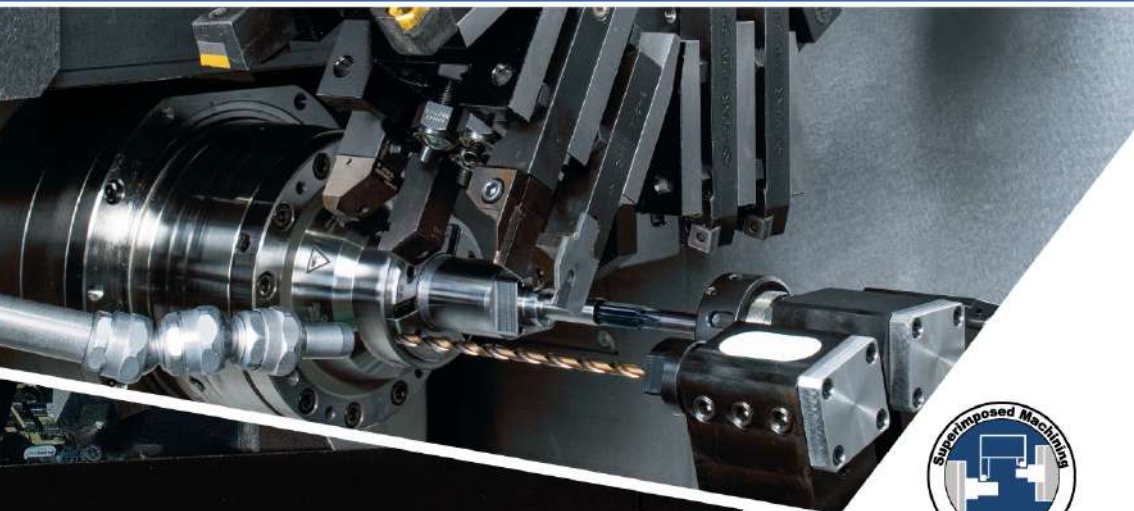


株式会社フィジックステクノロジー

〒272-0023 千葉県市川市南八幡4-2-5

TEL: 047-370-8600 URL: <https://www.physix-tech.com>

# Compact Meets Flexibility



## NT-Flex



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Netsuno 15, Hakusan city, Ishikawa, 920-2195 Japan  
Phone : +81 76 273 8100 Fax : +81 76 273 4312



LUMINIZER

ウォーターガイドレーザ加工機

LB300/500



Precision pulse Laser with Minimal Thermal Damage

熱影響を最小化する高精度パルスレーザ加工





# MY MOTHER MAZAK

工作機械の子供たちは、  
今日も世界のどこかで。

あらゆる産業の製品を産み出すことから  
マザーマシン=母なる機械と呼ばれる工作機械。

マザーマシンから生まれた製品たちは  
今日も世界のどこかで働いています。

マザックは工作機械を通して  
人々の暮らしと社会を支え続けます。



**Mazak**  
ヤマザキマザック株式会社

工作機械のグローバルブランド  
[www.mazak.com](http://www.mazak.com)



MY  
MOTHER  
MAZAK  
INTEGREX I-H  
INTEGREX I-450H S

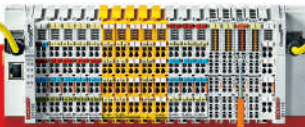
# From compact to complex: The scalable CNC solution



Industrial PC



I/O system



Servo drives



Control technology from Beckhoff covers the entire spectrum of high-precision CNC applications, whether they be compact or complex.

- TwinCAT modular automation software for engineering and runtime
- TwinCAT CNC: powerful and scalable CNC functionality as a pure software solution
- a comprehensive I/O system for all signals and fieldbuses
- a scalable industrial PC range with processors from Intel Atom® to many-core
- dynamic servo technology for all performance classes



Scan to discover the benefits of the Beckhoff CNC solution

New Automation Technology **BECKHOFF**



**8th CIRP Conference on  
SURFACE INTEGRITY  
19th to 22nd May 2026  
Yokohama - Japan**