



**SUBMISSION DEADLINE EXTENDED: 15 May 2022**

# WCMNM 2022

## 5<sup>th</sup> World Congress on Micro and Nano Manufacturing

Jointly organised by the **4M Association**, the International Institute for Micro Manufacturing (**I2M2**) and the International Forum on Micro Manufacturing (**IFMM**)

**Congress Chair:** Sylvie Castagne, KU Leuven, Belgium

**Congress Co-Chairs:** Stefan Dimov, University of Birmingham, UK  
Lawrence Kulinsky, University of California, Irvine, USA  
Kuniaki Dohda, Northwestern University, USA  
Dominiek Reynaerts, KU Leuven, Belgium

**Scientific Committee Chairs:** Pierre Vella, University of Malta (4M)  
Ming-Chyuan Lu, National Chung Hsing University, Taiwan (I2M2)  
Tohru Sasaki, University of Toyama, Japan (IFMM)



**19<sup>th</sup>-22<sup>nd</sup> September 2022**  
**Leuven, Belgium**

Co-Organised by KU Leuven, 4M Association, IFMM, I2M2



<https://www.4m-association.org/conference/WCMNM2022/wcmnm2022.html>

## Themes

Papers are sought to address theoretical and applied research issues related to manufacture, assembly and metrology for components and systems with nano/micro/meso-scale features and dimensions.

Topics to be covered, but not limited to:

- ❖ Micro fabrication technologies, process chains and process characterization
- ❖ Miniaturization of machines and equipment; positioning, motion generation, sensors systems, and control
- ❖ Novel product designs, micro-assembly technologies and micro-handling
- ❖ Surface engineering and interface nanotechnology
- ❖ Process modelling and simulation
- ❖ Processing and characterization of smart materials, energy materials, metamaterials and nanomaterials
- ❖ Micro and nano additive, subtractive, joining, and hybrid manufacturing technologies
- ❖ Micro and desktop factory concepts, systems, components and modules
- ❖ On-line monitoring and inspection systems, and smart manufacturing
- ❖ Standardization in micro manufacturing and micro factories
- ❖ Applications of micro and nano technologies
- ❖ Emerging micro manufacturing methods and equipment, including those that bridge the nano- and macro- worlds
- ❖ Biomanufacturing and biomedical devices

These themes represent the intended content of the WCMNM 2022 thematic sessions, to which the authors are invited to submit papers.

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## Invited Speakers:

- ❖ **Professor Jian Cao**, Northwestern University (USA), McCormick School of Engineering and Applied Science

*Research Interests:* Innovative manufacturing processes and systems, particularly in the areas of deformation-based processes and laser processes; Characterization of the effects of material structure on forming behaviour of metals and woven composites

- ❖ **Professor Takashi Matsumura**, Tokyo Denki University (Japan), Department of Mechanical Engineering

*Research Interests:* Machining process modelling; Optimization Micro/nano machining (cutting, grinding, polishing, water jet, FIB); Tribology; Surface engineering; Computer-aided Manufacturing; Manufacturing Process/Systems

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## Submission of Full Papers and Peer Review

We invite you to submit 4-page papers using the template provided on the conference website.

Link for submission: <https://conf.papercept.net/conferences/scripts/start.pl>

All papers will be peer reviewed by members of the Scientific Committee under the leadership of the Scientific Committee Chairs. Submitted papers may be selected for oral or poster presentation. All oral and poster presentations will be included in the Conference Proceedings.

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## Important Dates

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| ❖ Paper submission site opens:                         | 15 <sup>th</sup> of January 2022                       |
| ❖ Submission <b>deadline for full papers extended!</b> | <b>15<sup>th</sup> of May 2022</b>                     |
| ❖ Feedback from the peer review to authors:            | 4 <sup>th</sup> of June 2022                           |
| ❖ Submission deadline of revised final paper:          | 18 <sup>th</sup> of June 2022                          |
| ❖ Congress dates:                                      | 19 <sup>th</sup> to 22 <sup>nd</sup> of September 2022 |
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## Scientific Committee

Tatsuhiko Aizawa  
Massimiliano Annoni  
Kiwamu Ashida  
Vito Basile  
Samuel Bigot  
Giuliano Bissacco  
Stefania Bruschi  
Evgueni Bordatchev  
Jian Cao  
Sylvie Castagne  
Amal Charles  
Pin-Chuan Chen  
Kai Cheng  
Chunhui Chung  
Stefan Dimov  
Gianluca D'Urso  
Kornel Ehmann  
Ahmed Elkaseer  
Irene Fassi  
Eleonora Ferraris  
Ming-Wang Fu  
Tatsuya Funazuka  
Yanquan Geng  
Christian Griffiths  
Ping Guo  
Hans Nørgaard Hansen  
Tong Hao  
Wen-Jeng Hsue  
Suhas Joshi  
Martin Byung-Guk Jun  
Shiv Kapoor

Yannis Korkolis  
Lawrence Kulinsky  
Senthil Kumar  
Antony Lee  
Kuan-Ming Li  
Yong Li  
Yunn-Shiuan Liao  
Chorng- Tyan Lin  
Ming-Chyuan Lu  
Giovanni Lucchetta  
Numpon Mahayotsanun  
Deepak Marla  
Valeria Marrocco  
Yasuo Marumo  
Davide Masato  
Paul Mativenga  
Takashi Matsumura  
J. Rhett Mayor  
Yonggan Meng  
Hussein Mohamed  
Balasubramanian Nagarajan  
Wataru Natsu  
Gracious Ngaile  
José Ocaña  
Burak Ozdoganlar  
Simon Park  
Petko Petkov  
Frank Pfefferkorn  
Wilhelm Pfleging  
Volker Piotter  
Raphaël Pugin

Yi Qin  
Mariangela Quarto  
Iban Quintana  
Kamlakar Rajurkar  
Lara Rebaioli  
Andrew Rees  
Claudia Pagano  
Pavel Penchev  
Izidor Sabotin  
Tanveer Saleh  
Tohru Sasaki  
Krishna Kumar Saxena  
Albert Shih  
Ramesh Singh  
Xu Song  
Marco Sorgato  
Sathyan Subbiah  
Rossella Surace  
Guido Tosello  
Yao-Yang Tsai  
Joško Valentinčič  
Pierre Vella  
Thomas Velten  
J.-J. Junz Wang  
Shih-Ming Wang  
Zongwei Xu  
Jiawang Yan  
Yongda Yan Harbin  
André Zimmermann  
Wansheng Zhao

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## Awards

- ❖ **The Elena Ulteru Innovation Award** for the best paper presentation by a young female scientist sponsored by **SITEX 45**
  - ❖ **Best Student Presentation Award** sponsored by **Micromachines**
  - ❖ **Best Paper Award** sponsored by **Micromachines**
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## Venue

Leuven is the largest city of the province of Flemish Brabant in the Flemish Region of Belgium. It is located about 25 kilometres (16 miles) east of Brussels. With its historic centre Leuven is one of the most beautiful and atmospheric towns in Belgium. The congress will be held at the KU Leuven **Gasthuisberg Campus Onderwijs en Navorsing (O&N)** in Leuven.

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## Proceedings

All final papers will be included in the WCMNM 2022 Proceedings to be published by Research Publishing Services, in both hardcopies and electronic format (copyrights remain with the authors).  
In addition, selected papers will be invited for publication in the Special Issue of *Micromachines*.

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Leuven, Belgium  
19<sup>th</sup>-22<sup>nd</sup> September 2022

## 4M Association Officer

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