

4th WORKSHOP ON COATED TOOLS & MULTIFUNCTIONAL THIN FILMS 2024

19th - 23rd August, 2024
Campinas - Brazil

UNICAMP
Campinas - Brazil



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Conference Topics

- Design, preparation, and characterization of thin and multifunctional, hard multi-component, high-entropy, and multi-layer coatings;
- Optimization of coating for several applications, including (*but not limited to*) tribological, high-speed machining, and cutting tools.
- High-speed machining of coated tools;
- 2D materials (graphene, MXenes, and so on) and their application;
- Data mining, machine learning and AI applied to advanced materials;
- Multifunctional thin films and coatings to advanced sensors and other applications (e. g., virucidal and bactericidal materials).



Plenary Speakers (confirmed list)

- Prof. Dr. Vladimir J. Trava-Airoldi, National Institute for Space Research, Brazil
- Prof. Dr. Qimin Wang, Guangdong University of Technology, China
- Prof. Dr. Paul H. Mayrhofer from Technische Universität Wien, Vienna
- Prof. Dr. Fernando Lázaro Freire Júnior, PUC-RIO, Brazil
- Prof. Dr. Abdou Djouadi, University of Nantes, France

Keynote Speakers (confirmed list)

- Prof. Dr. Carlos Alejandro Figueroa, University of Caxias do Sul, Brazil
- Prof. Dr. Marcelo Eduardo Huguenin Maia da Costa, PUC-Rio, Brazil
- Prof. Dr. Jyh-Wei Lee from Ming Chi University of Technology (MCUT), Taiwan
- Prof. Dr. Sara Aldabe Bilmes, INQUIMAE-University of Buenos Aires, Argentina
- Dr. Harry Westfahl Jr., LNLS – Brazilian Synchrotron Light Source – Sirius, Brazil
- Prof. Dr. Luiz Fernando Zagonel, IFGW- UNICAMP, Brazil
- Prof. Dr. Tiberiu Mimea, Université Paris-Saclay, France
- Prof. Dr. Haroldo Cavalcanti Pinto, CEPAME-USP, Brazil
- Prof. Dr. Zaoli Zhang, Austrian Academy of Sciences, Austria
- Prof. Dr. Ana Sofia d'Oliveira, UFPR, Brazil

Key dates

Abstract submission period: February 15 to April 30, 2024

Abstract confirmation: May 30, 2024

Registration Fees	Until (April, 30 th)		After April	
	Participants from Brazilian Institutions	Participants from International Institutions	Participants from Brazilian Institutions	Participants from International Institution
Professor, Post-Doc, Researcher, Professional	R\$ 550.00	U\$ 800.00	R\$ 600.00	U\$ 900.00
Student	R\$ 250.00	U\$ 100.00	R\$ 350.00	U\$ 150.00

Registration on website: <https://sites.ifi.unicamp.br/wpcct2020/en>

The registration fee covers the full access to the conference, the guided tour to the Sirius (the new Brazilian Synchrotron Light Source), and the coffee breaks.

The best abstracts submitted by students (any level) will be selected to **receive free room charges** (in the hotel of the workshop - double-rooms at CPV, Unicamp) to attend the event!

Sponsored by INES

Local

Casa do Professor Visitante (UNICAMP) – New York Room

Av. Érico Veríssimo, 1251, Cidade Universitária, Campinas- SP, 13083-851.

<https://www.funcamp.unicamp.br/cpv/>



Context and Objectives

This year, the workshop is organized by the University of Campinas (UNICAMP) – Brazil, the Guangdong University of Technology – China, and the University of Nantes – France. The meeting, focusing on coated tools and multifunctional thin films (**WPCCT**), will be the fourth conference of the series initiated in 2014. The 1st edition was held in 2014 at the Guangdong University of Technology. Like the previous meetings, renowned experts will be invited for this fourth edition, covering the coatings field and advanced materials for different applications, in several plenary and keynote talks.

The workshop aims to improve **communication and cooperation** among the research institutions, academic organizations, industries, and other related companies in the scope of the conference. The gathering will provide **new opportunities for scientists, engineers, students, and enterprises** to report new results, share experiences, to enhance and/or create collaborations.

This meeting is expected to cover **the whole area of surface science and engineering**. It goes from the design and preparation of thin films, hard multi-component and multi-layer coatings, high entropy thin films, optimization of coating for several applications (e.g., tools, tribological, high-speed machining), 2D materials to applications, such as advanced sensors, high-speed machining of coated tools, data mining applied to developed advanced materials, virucidal and bactericidal coatings and many more.

University of Campinas (UNICAMP)

Founded in 1966, UNICAMP is the 2th in Brazilian's top universities and 220th in the world ranking (2023 QS Ranking) and the 9th top BRICS universities ranking. It is also a leading university in the number of published articles per faculty member and the top Brazilian university in the number of patents. More information about the institution: <https://www.unicamp.br/unicamp/english>.

“Gleb Wataghin” Institute of Physics (IFGW)

A world-renowned research institute since its inception, “Gleb Wataghin” Institute of Physics - IFGW is recognized as one of the leading Latin American research centers. IFGW brings together researchers with studies of international impact and is prominent in both basic and applied research. The Institute has played a key role in technological developments in the country, as in the case of optical communications. IFGW staff and alumni, contributing to Campinas becoming a high-tech center, have created many technology companies. IFGW currently has 41 research groups in 4 departments: Quantum Electronics; Applied Physics; Condensed Matter Physics; and Cosmic Rays and Chronology. The research conducted at the Institute distributed over nearly every field in Physics, from Cosmology and Astrophysics to Quantum Physics, from Photonics and Ultrafast Phenomena to Telecommunications, from Biophysics and Biophotonics and Medical Physics to Nanoscience (<https://portal.ifi.unicamp.br/en/>).





Brazilian Synchrotron Light Source - Sirius

The new Brazilian Synchrotron Light Source is intended to be the largest and most complex scientific infrastructure ever built in the country and one of the first fourth-generation synchrotron light sources in the world. It was planned to put Brazil in the leading position in the production of synchrotron light and is designed to be one of the brightest of all the equipment in its energy class. More information: (<https://www.lnls.cnpem.br/sirius-en/>).



Organized by

- University of Campinas (Unicamp): “Gleb Wataghin” Institute of Physics (IFGW)
- Guangdong University of Technology (GDUT): State Key Laboratory for High Performance Tools
- University of Nantes (UN)

Sponsors

- Foundation to Support the Research of the State of São Paulo (FAPESP);
- Support Fund for Teaching Research and Extension (FAEPEX).
- Instituto Nacional de Engenharia de Superfícies (INES-CNPq)

Venue



1) Campinas - São Paulo

Taquaral Park (8 km*)

Jequetibá Grove (15 km*)

2) São Paulo – São Paulo (120 km*)

Masp Museum

Ipiranga Museum

Avenida Paulista

3) São Paulo Coast –

Paradise Beaches (300 km*)

Ubatuba – SP

Ilha Bela – SP

São Sebastião -SP

4) Foz do Iguaçu – Paraná (1100 km*)

Waterfalls of Iguaçu



*from Conference Hotel

