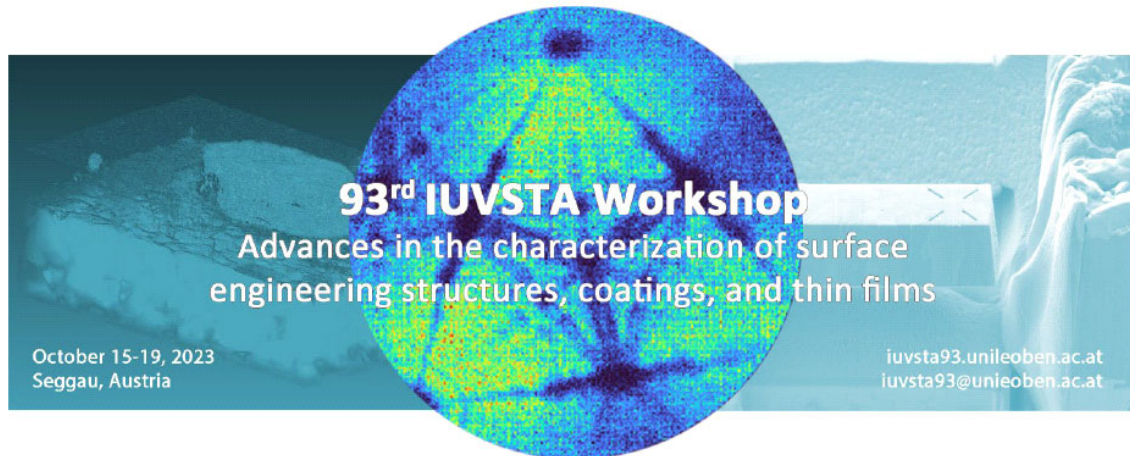




Union Internationale Pour La Science, La Technique et Les Applications du Vide
 International Union for Vacuum Science, Technique and Applications
 Internationale Union für Vakuum Forschung, Technik und Anwendung



The workshop aim is to address significant advances in characterization techniques for nanostructure, composition and properties of surface engineering structures, coatings and thin films within the past decade. Invited talks given by well recognized experts will cover mainly, but not only, (synchrotron) X-ray diffraction-based techniques, scanning and transmission electron microscopy, atom probe tomography, micro-mechanical testing and in-situ/in-operando and temperature variable setups. The necessity to use a combination of advanced characterization techniques to fully understand composition-structure-properties relationships will be highlighted.

The topical key areas of the workshop will be divided into three groups:

- microstructural, chemical and residual stress characterization,
- nano-/micro-mechanics,
- in-situ/in-operando studies and thermal properties

The workshop is intended to provide a forum and networking venue for scientists, engineers and technologist from academia, government laboratories and industry.

Invited speakers

- Gregory Abadias, Université de Pointiers, France
- Christoph Gammer, ÖAW, Austria
- Grzegorz Greczynski, Linköping University, Sweden
- Markus Hans, RWTH Aachen, Germany
- Jozef Keckes, Montanuniversität Leoben, Austria
- Daniel Kiener, Montanuniversität Leoben, Austria
- Johann Michler, EMPA, Switzerland
- Warren Oliver, KLA Instruments, USA
- Per Persson, Linköping University, Sweden
- Ivan Petrov, University of Illinois, USA
- Daniel Primetzhofer, Uppsala University, Sweden
- Bernhard Sartory, Materials Center Leoben GmbH
- Marco Sebastiani, Università Degli Studi Roma Tre, Italy
- Michael Tkadletz, Montanuniversität Leoben, Austria
- Markus Winkler, Fraunhofer IPM

Important dates

Deadline for abstract submission	May 10, 2023
Notification of acceptance	early June 2023
Full registration of all participants	July 15, 2023
Workshop	Oct. 15 -19, 2023

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20th IUVSTA School

17-21 September 2023
Porquerolles, France



The 20th IUVSTA School Vacuum Gas Dynamics
will be organised in the framework of the IUVSTA educational program on
17-21 September 2023 in island of Porquerolles near Marseille in France.

The School is designed for scientists, engineers and postgraduate students who are not the experts in the rarefied gas dynamics but need to apply this field in their every-day work.

The aim of the School is to train the participants in applying vacuum gas dynamics and also to fill the gap between complicated theory and practical needs. The lectures and practical sessions will be given by experts in rarefied gas dynamics, vacuum science, and metrology. In total, 10 lectures and 8 practical sessions will be given covering many topics in the field of Vacuum Gas Dynamics. The theoretical and computational parts will be focused on kinetic theory, kinetic models, diffusion models, gas-surface interaction, test particles and direct simulation Monte Carlo methods, while the experimental part will be dedicated to methods of measurements and standards in vacuum systems and vacuum metrology. The part related to applications will cover the gas flows through pipes, pumps, gauges, in small and large vacuum systems using the Molflow software as well as numerical codes based on the Monte Carlo and discrete velocity methods. During the practical sessions, the students will be asked to resolve specific exercises related to material of the lectures using their own laptops. These sessions will be running in two parallel groups supervised by 2 or 3 lecturers at the same time in order to help the students more effectively and to increase the interaction between students and lecturers.

For details see:

Web Page: <https://www.iuvsta-school-2023.com/>