Tuesday 07/10/2025

APT school with CAMECA

13h00: After-lunch coffee for arrival

13h30: CAMECA School

13h30 to 15h00: Lecture for all attendees

15h00: Coffee break

15h30 to 17h00: We will split into two group that will rotate between hands-on data analysis and acquisition on the lab 6000XR. 45 minutes at each station.

If you have a laptop that you would like to bring to work along, please install IVAS ahead of time, we won't have time to install it during the sessions. We will have some computers and dongles to work with during the AP Suite portion.

If you need to download the current version of IVAS, you can request a link here: AP SUITE 6

Evening: Dinner on your own, make new friends in the APT community

Wednesday 08/10/2025

APT equipment and progress

8h30: **Sonia Guehairia: From Precipitation to Diffusion: Case Studies at KTH Using the EIKOS UV**

9h00: Ivan Povstugar: The state of the TOMO project: coming on a home straight

9h20: Aidar Zakirov: Atom Probe Tomography analysis of ultrafine-grained Ti using various APT setups

9h40: Thomas Pejot: Revealing time and size-dependent precipitate composition in an Al-Zn-Mg-Cu alloy using Atom Probe Tomography

10h00: Samuel Eriksson: Field evaporation of CrN and NbN with deep ultraviolet laser light

10h20 coffee break

10h40: William Mottay: Enhancing atom probe tomography performance via simultaneous laser and voltage pulsing on the LEAP 6000 XR

11h00: Tim M. Schwarz: Using in-situ metallic coating to overcome challenges in analyzing poorly conductive and brittle fragile samples by atom probe tomography

11h20: Ivan Blum: Performances of high-repetition rate terahertz-assisted Atom Probe

11h40: Poster flash presentation (3 min/poster)

12h30 Lunch and discussions around the posters

APT measurements

14h00: **Constantinos Hatzoglou: Effect of dynamic reconstruction on particle size and morphology in atom probe tomography**

14h30: Eric V. Woods: Crystalline amino acid mass spectral fragmentation in different forms and under different conditions using atom probe tomography

14h50: Olof Hellman: Region Identification in APT Samples Based on Principal Component Analysis

15h10: Laura Lain Rodriguez: Grain Boundary Analysis of BaFe2As2 Superconductors Using Atom Probe Tomography

15h30: Xinren Chen: APT Calibrator: A Multifunctional C# Software for Reconstruction Calibration in Atom Probe Tomography

15h50 coffee break (Posters)

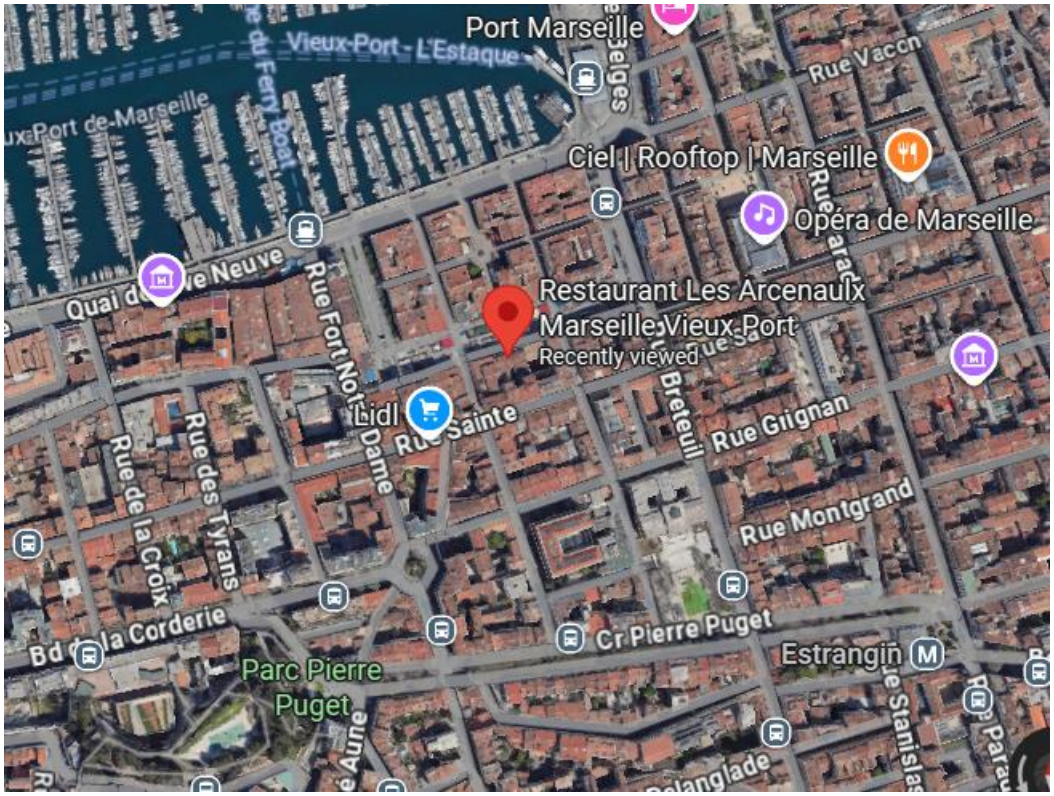
16h10: Theo Mauger: dictionary-based approach for identifying and quantifying atomic ions from mass spectra

16h30: Ya-Lan Hsu: Understanding the structure of dinosaur enamel at a near-atomic scale

16h50: Figure Supported Questions: Figure supported questions (FSQ) are a change to ask the APT community for help/feedback on any interesting problems you are facing. For example, if you can't identify an important peak in the mass spectrum, finding reconstruction difficult of a particular sample, etc. This is a chance to put up some of your data as a starting point for discussion in a positive environment.

17h50 Visit of the lab (APT & FIB), group 1

20h00: Evening meal at the restaurant “Les Arcenaulx”, 25 cours d’Estienne d’Orves – 13001 Marseille



Thursday 09/10/2025

Steel and nuclear materials

8h30: **F. Danoix: Combined EDS - EBSD – TKD – APT investigation of Ni diffusion gradient in iron meteorites**

9h00: Holly Thompson: Multi-scale Characterisation of Thermally Aged Pressuriser Steel Welds

9h20: C. Hossepied: Impact of Annealing on the Restoration of Irradiation-Induced Defects in Reactor Vessel Steel: An Atomic-Scale Characterization Study

9h40: Benjamin Mahé: Investigation of Electron Irradiation (1 MeV) Effects on Cr Precipitation in a Fe-19at.%Cr alloy

10h00: Jennika Greer: APT analysis of ion irradiated additively manufactured 316L steel and 718 'Inconel'

10h20 coffee break

10h40: Aissatou Diagne: Microscopic behavior of hydrogen and hydride molecules in Atom Probe Tomography of Zirconium

11h00: Arvid Andersson: Oxidation Mechanism of Novel Nuclear Fuel Coating Reavealed by APT Analysis

11h20: Guénaël Gaulier: On the challenges of quantifying Nb in Zr alloys using APT

11h40: Figure Supported Questions: Figure supported questions (FSQ) are a chance to ask the APT community for help/feedback on any interesting problems you are facing. For example, if you can't identify an important peak in the mass spectrum, finding reconstruction difficult of a particular sample, etc. This is a chance to put up some of your data as a starting point for discussion in a positive environment.

12h30 Lunch and posters

Materials analyses and applications

14h00: **Magali Grégoire (STMicroelectronics): Three-dimensional nanoscale characterization by atom probe tomography of semiconductor devices: recent results and further challenges**

14h30: Mohamed Charai: Optimisation of the Chemical Composition Analysis of the Ni_3GaAs Phase using Atom Probe Tomography

14h50: Matthieu Ricard: On the Use of Atom Probe Tomography to Characterize Additively Manufactured Alloys: Application to Novel Al Alloys designed for Laser Powder Bed Fusion

15h10: Kiranbabu Srikakulapu: Atomistic chemical characterization of crack surfaces using novel crack opening protocols and APT: Case studies on austenitic stainless steel and Ni-based superalloy weld cracks

15h30: Beste Payam: Enhancing the Electrochemical Performance of Ruthenium-Titanium Catalysts: Effect of Grain Boundaries and Alloying

15h50 coffee break

16h10: Selase Torkornoo: In Vivo Degradation Pathways of Mg-10Gd Biodegradable Implants Revealed by Atom Probe Tomography

16h30: Devi Janani Ramesh: Influence of increased chemical complexity on the thermal stability and mechanical properties in equimolar transition metal nitrides

16h50 Visit of the lab (APT & FIB), group 2

<u>Notes about Posters and flash presentation</u> (3 mins/poster)

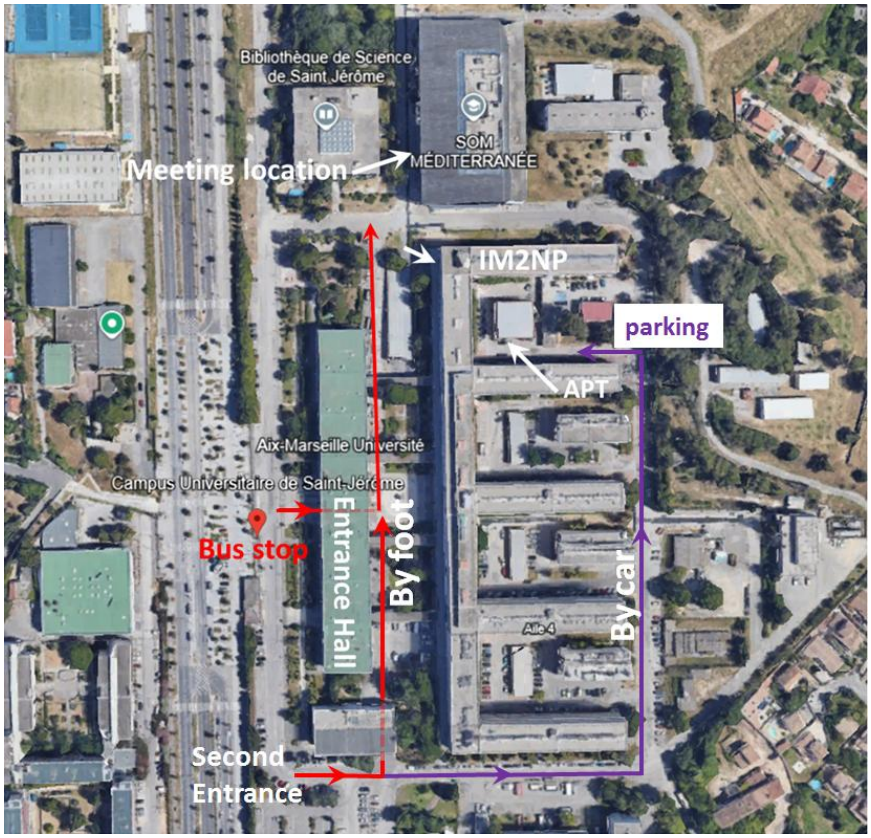
To speed up the flash presentations, please send the slides you will be presenting to Alain Portavoce alain.portavoce@im2np.fr prior to the meeting. They will be pre-loaded on the computer.

- Jean-Baptiste Maillet: COSMO-SAT Project: New atom probe development for geological materials
- Yasmine Campbell: Exploring Microstructural Changes due to Thermal Ageing Effects on Steel Welds in Reactor Pressure Vessels
- Nikolaus Kostwein: Novel femtosecond laser-ablation based APT sample preparation workflows to statistically evaluate detrimental grain boundary segregation of tramp elements in green steels
- Richard G. Forbes: Conceptual error in the definition of Voltage in the International Standard, and possible related implications for atom-probe.
- Bismiya Fasni Chakkalakunnan: Kinetics of Phase Formation in Ni-Co-Si Ternary system using Bilayer and Alloyed thin films
- Daniel-Nixon: Investigating Catalyst Degradation in Pt-Rh Alloys: Insights from Atom Probe Analysis of Iron Oxide Contaminated Ammonia Oxidation Catalysts
- Xinren Chen: Quantifying Low-Temperature Diffusivity via Spinodal Decomposition Kinetics and Atom Probe Tomography
- Aissatou Diagne: Field Effect on Hydrogen Species Detection and Composition in Atom Probe Tomography (APT) of Hydrogenated Indium Nitride (InN-H)
- P. Gopon: Precious and critical metal incorporation into sulfide minerals: insights from APT into the non-stoichiometric metal substitions mechanisms
- Tom Veret: Combining structural imaging and compositional analysis to correlate specimen morphological evolution with specimen evaporation behavior
- Min Wu, latest developments from ThermoFisher Scientific

Location information

The meeting will be held at the Campus Universitaire de Saint Jérôme, there are several campuses in Marseille.

Address :
IM2NP
Faculté des Sciences de Saint Jérôme - Case 142
Avenue Escadrille Normandie Niemen
F-13397 Marseille Cedex 20



Bus stop: Faculté de Saint Jérôme

Metro is available at Frais Vallon, but a longer walk from the building