



European Materials Research Society

# 2024 Spring Meeting

May 27 - 31 / Strasbourg Convention Centre

## SYMPOSIUM L

ALTECH 2024 - Analytical techniques for accurate nanoscale characterization  
of advanced materials

*Symposium Organizers:*

Burkhard BECKHOFF, Physikalisch Technische Bundesanstalt (PTB), Berlin, Germany

Fernando Araujo de CASTRO (Main organizer), National Physical Laboratory, U.K.

Georges FAVRES, LNE / Laboratoire national de métrologie et d'essais, Paris, France

Luca BOARINO, INRIM, Torino, Italy



**SPECSGROUP**

**HORIBA**  
Scientific



**WILEY**



**ThermoFisher**  
SCIENTIFIC

**Monday May 27**

## **L01\_Advances in optical metrology**

**MARIE CURIE A - FIRST FLOOR**

**Chairperson(s) : A. DE CASTRO Fernando - BOARINO Luca**

<b>08:45</b>	<b>2443</b>	<b>INV</b>	Topological Optical Metrology of Nanoscale Objects with Sub-atomic Resolution and a Rate of one Million Frames per Second	<b>MACDONALD Kevin</b>
<b>09:15</b>	<b>2865</b>		Towards super-resolution imaging of organized silver nanowire monolayers by microsphere-assisted microscopy	<b>MAHFOUD Farid</b>
<b>09:30</b>	<b>2675</b>		Rapid ellipsometric imaging characterization of nanocomposite films with an artificial neural network	<b>BATTIE Yann</b>
<b>09:45</b>	<b>2366</b>		Towards thin film quality control for perovskite photovoltaics: Double-pulse excitation for recombination rates and lifetime imaging	<b>HACENE Benjamin</b>

**Monday May 27**

## **L02\_Photovoltaics and Energy Materials**

**MARIE CURIE A - FIRST FLOOR**

**Chairperson(s) : BECKHOFF Burkhard - SOUSA João a.**

<b>10:30</b>	<b>813</b>	<b>INV</b>	Atomic-scale structure of complex semiconductors used for thin film solar cells	<b>SCHNOHR Claudia</b>
<b>11:00</b>	<b>1419</b>		Electron microscopy and X-ray techniques correlative in situ studies in microfluidic conditions: the example of hybrid 2D/3D perovskites	<b>JOLLY Claire</b>
<b>11:15</b>	<b>1757</b>		Advanced Operando Microscopy Reveals Ion Diffusion at Single Two-Dimensional Nanoparticle Level	<b>BELADI MOUSAVI Mohsen</b>
<b>11:30</b>	<b>1928</b>		Microstructural domain mapping of LaFeO <sub>3</sub> -based heterojunctions	<b>VILLA NAVAS Mario</b>
<b>11:45</b>	<b>2844</b>		The New European Metrology Network for Clean Energy	<b>SOUSA João A.</b>

Monday May 27

## L03\_OpMetBat and Battery I

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : ALFREDSSON Maria -KLEINER Karin

13:45	1076	INV	Nanocomposites electrodes for Li-sulfur batteries: materials properties, electrochemical reactions and performance	BRUTTI Sergio
14:15	2854		Multimodal operando analysis of high-capacity electrodes with photons and neutrons	RISSE Sebastian
14:30	1488		REALSEI: operando chemical space- and time-resolved quantification of Solid Electrolyte Interphase in hard carbon anode for sustainable sodium-ion batteries	GRECO Giorgia
14:45	2004		Operando spectroscopy and electrochemical pulse tests for non-destructive characterization of Li-ion batteries	KUBIAK Pierre
15:00	2550		Confocal micro X-ray fluorescence spectroscopy for interfacial analysis and depth profiling of NMC batteries under different operation conditions	MANTOUVALOU Ioanna
15:15	1898		A Combined Study on Synchrotron-based Diffraction/Absorption Spectroscopy and Advanced Computational Calculation for New Generation Li-based Batteries	ERAT Selma
15:30	2951		Quantitative operando x-ray spectrometry on Lithium-sulfur batteries for the investigation of capacity degradation effects	JONAS Adrian
15:45	2553		Multimodal operando characterization of Li-based batteries based on Impedance and X-ray Absorption Spectroscopy	FORTES Rebeca

**Monday May 27**  
**LP01\_Poster session**

**ETOILE - FIRST FLOOR**

<b>16:30</b>	<b>01_1038</b>	<b>120</b>	01_1038 DELTA – Oxidation behaviour of vanadium in annealed AlCrVYON functional coatings characterized by X-ray absorption spectroscopy	<b>SCHNEIDER Eric</b>
<b>16:30</b>	<b>02_1111</b>	<b>120</b>	02_1111 DELTA - Materials Science and Soft-Matter Research at Beamline BL9 of DELTA	<b>STERNEMANN Christian</b>
<b>16:30</b>	<b>03_1143</b>	<b>120</b>	03_1143 Analytical X-ray nanoscopy in the soft and tender X-ray range	<b>Haidl Andreas</b>
<b>16:30</b>	<b>04_1216</b>	<b>120</b>	04_1216 Packaging strategies by user level for materials research	<b>GINAM Kim</b>
<b>16:30</b>	<b>05_1244</b>	<b>120</b>	05_1244 DELTA The small angle x-ray scattering beamline BL2 of DELTA	<b>PAULUS Michael</b>
<b>16:30</b>	<b>06_1271</b>	<b>120</b>	06_1271 Investigating the Sulfur Strand Length in Organosulfur Battery Materials with in-situ and operando X-ray Spectrometry	<b>SKUDLER Konstantin</b>
<b>16:30</b>	<b>07_1417</b>	<b>120</b>	07_1417 Morphology-dependent strain relaxation mechanisms in type II radial heterostructures and their effects in band gap modulations at the sub-nanometer scale	<b>MARTÍ-SÁNCHEZ Sara</b>
<b>16:30</b>	<b>08_1472</b>	<b>120</b>	08_1472 Synchrotron Radiation Based Photoelectron Microscopy for Nano-characterization	<b>CHEN Chia-Hao</b>
<b>16:30</b>	<b>09_1475</b>	<b>120</b>	09_1475 Quantitative measurements of atomic electric fields by STEM differential phase contrast imaging	<b>BÜRGER Julius</b>
<b>16:30</b>	<b>10_1487</b>	<b>120</b>	10_1487 Work function control of transparent oxides by ambient pressure photoemission spectroscopy	<b>TORRISI Vanna</b>
<b>16:30</b>	<b>11_732</b>	<b>120</b>	Phase transformations in Mg-Whitlockite studied by solid-state NMR	<b>KLIMAVICIUS Vytautas</b>
<b>16:30</b>	<b>12_1596</b>	<b>120</b>	12_1596 DELTA - Hard X-ray absorption spectroscopy at the DELTA storage ring	<b>LÜTZENKIRCHEN-HECHT Dirk</b>
<b>16:30</b>	<b>13_1608</b>	<b>120</b>	13_1608 Laboratory scanning-free GEXRF from the soft to the hard X-ray range	<b>STAECK Steffen</b>
<b>16:30</b>	<b>14_1625</b>	<b>120</b>	14_1625 DELTA - In-situ grazing incidence EXAFS measurements of the formation of NiAl intermetallic compounds in Ni-Al-multilayers	<b>VOB Lukas</b>

16:30	<a href="#">15_1787</a>	120	15_1787 Influence of capillary's surface scattering for SAXS measurements	<b>ILLEMANN Jens</b>
16:30	<a href="#">16_1862</a>	120	16_1862 Optothermal infrared spectroscopy for fast and accurate measurement of thermal conductivity	<b>KAZAN Michel</b>
16:30	<a href="#">17_1935</a>	120	17_1935 CHALLENGES - Advanced clean room compatible TiN probes for tip enhanced Raman spectroscopy	<b>LA PENNA Giancarlo</b>
16:30	<a href="#">18_2016</a>	120	18_2016 CHALLENGES - Use of polarized Raman analysis for composition or strain measurement on ultrathin SOI and SiGeOI	<b>GAMBACORTI Narciso</b>
16:30	<a href="#">19_2134</a>	120	19_2134 Silicon stress measurements by Raman spectroscopy	<b>SHASHKOV Sergej</b>
16:30	<a href="#">20_2157</a>	120	20_2157 Inner surface chemical analysis of quartz nanopipettes with surface modification	<b>MATTHEWS Lauren</b>
16:30	<a href="#">21_2179</a>	120	21_2179 Simultaneous in-situ synchrotron X- Ray diffraction and in-situ complementary techniques to disentangle the ultrafast growth mechanisms of superconducting thin films	<b>PACH Elzbieta</b>
16:30	<a href="#">22_2244</a>	120	22_2244 FFT denoising methodology through CNN for the study of WS2 vacancies	<b>IVAN Pinto</b>
16:30	<a href="#">23_2313</a>	120	23_2313 Thermoelectric photocurrent nanospectroscopy using magnetic substrates	<b>DAI Dinghe</b>
16:30	<a href="#">24_2330</a>	120	24_2330 Advanced 4DSTEM Analysis for Nanocrystalline Phase Mapping	<b>CANCELLARA Leonardo</b>
16:30	<a href="#">25_2356</a>	120	25_2356 DELTA – Synthesis and characterization of multi-principal element alloys (MPEAs) for electrocatalysis applications	<b>SEDIQI Salbin</b>
16:30	<a href="#">26_2389</a>	120	26_2389 Kelvin Probe and Photoelectron Yield Spectroscopy for Characterisation of Surface and Interface Electronics	<b>RUSU Marin</b>
16:30	<a href="#">27_2398</a>	120	27_2398 MEMQuD – A database for data-driven rational development of nanoscale block-copolymer based structures	<b>MAGOSSO Chiara</b>
16:30	<a href="#">28_243</a>	120	28_243 High-energy synchrotron X-rays for interface structures and material processing analysis - ID31 beamline general poster	<b>SALLES Pol</b>
16:30	<a href="#">29_2446</a>	120	29_2446 Advanced Techniques for the Stability Studies of Pt-nanoalloy Based Fuel Cell Electrocatalysts	<b>ĐUKIC Tina</b>
16:30	<a href="#">30_2515</a>	120	30_2515 Magnetic sample environment for SAXS/WAXS measurements at the four-crystal monochromator beamline	<b>GOLLWITZER Christian</b>

16:30	<a href="#">31_2522</a>	120	31_2522 Experimental determination of differential scattering coefficients for nickel by means of linearly polarized X-ray radiation	<b>WAEHLISCH Andre</b>
16:30	<a href="#">32_2642</a>	120	32_2642 Thermo-mechanical characterization of boron and boron carbide nanocomposites with thermoplastic matrix.	<b>MARTINEZ Miguel-Angel</b>
16:30	<a href="#">33_268</a>	120	33_268 X-ray absorption spectroscopy of high-entropy materials	<b>KUZMIN Alexei</b>
16:30	<a href="#">34_269</a>	120	34_269 Advanced nanothermometry based on X-ray absorption spectra	<b>KUZMIN Alexei</b>
16:30	<a href="#">35_2709</a>	120	35_2709 A new X-ray micro focus beamline providing Tender X-ray for material analysis	<b>MÜLLER Matthias</b>
16:30	<a href="#">36_2803</a>	120	36_2803 Characterization of thin coatings for XRF measurements with gravimetric methods	<b>HEFNER Timo</b>
16:30	<a href="#">37_2816</a>	120	37_2816 Results of the Joint Network Project: Support for a European Metrology Network for Clean Energy	<b>SOUSA João A.</b>
16:30	<a href="#">39_2881</a>	120	39_2881 High-performing thin film carbon electrodes for correlative electrochemical/ physical mapping of nanomaterials	<b>COLAVITA Paula</b>
16:30	<a href="#">40_2923</a>	120	40_2923 MEMQuD - In Situ heating and biasing TEM investigation of the microstructural evolution in silver nanowires network showing neuromorphic behavior	<b>BEJTKA Katarzyna</b>
16:30	<a href="#">41_2945</a>	120	41_2945 Impact of different synthetic routes in the structure and functional properties of lithium/nickel rich materials for lithium batteries	<b>CIOFFI Andrea</b>
16:30	<a href="#">42_2950</a>	120	42_2950 Small angle X-ray scattering of complex-shaped nanoparticles	<b>SCHÜRMANN Robin</b>
16:30	<a href="#">43_2956</a>	120	43_2956 Upcoming needs in surface chemical analysis standardization: Surface Analysis of Energy Materials (ISO/TC 201/ SG 2)	<b>BECKHOFF Burkhard</b>
16:30	<a href="#">44_2957</a>	120	44_2957 Qualifying efficient and calibratable wavelength dispersive spectroscopy with high energy resolution for energy storage devices	<b>JONAS Adrian</b>
16:30	<a href="#">45_2979</a>	120	45_2979 Probing Dynamics of Functional Materials using Neutron Spectroscopy Techniques	<b>ZBIRI Mohamed</b>
16:30	<a href="#">46_2981</a>	120	46_2981 Quantitative operando NEXAFS characterisation approach applied to Na-ion and LiS batteries.	<b>FRENZEL Katja</b>

16:30	47_2988	120	47_2988 Quantitative X-ray photon beam damage investigations of solid-state electrolytes.	FRENZEL Katja
16:30	48_3030	120	48_3030 Towards operando electrochemical liquid phase TEM in aqueous electrolytes: optimized liquid flow configuration.	BEJTKA Katarzyna
16:30	49_3062	120	49_3062 An analytical revolution: Synchrotron radiation for everyone	HINRICHTSEN Bernd
16:30	50_476	120	50_476 X-ray lithography on base of the composite planar X-ray waveguide-resonator	EGOROV Vladimir
16:30	51_504	120	51_504 Utilizing Synchrotron Radiation Nanotomography for the Structural Characterization of Metal Hydrides for Hydrogen Storage Application	SEFA Sandra
16:30	52_573	120	52_573 Towards combined operando electrochemical impedance and X-ray absorption spectroscopy of batteries	HÖNICKE Philipp
16:30	53_718	120	53_718 DELTA - Investigation of single atom catalysts by X-ray absorption spectroscopy	LÜTZENKIRCHEN-HECHT Dirk
16:30	54_789	120	54_789 Atomic-scale Investigation of Ferroelectricity Using Scanning Transmission Electron Microscopy	HU Xinxin
16:30	55_826	120	55_826 The role of sample thickness and self-absorption for the energy dependent intensities of simultaneous XEOL-XAFS measurements	SCHNOHR Claudia
16:30	56_834	120	56_834 Determination of thermal and thermoelectric properties using micro four-point probe measurements	BELTRÁN-PITARCH Braulio
16:30	57_852	120	57_852 Analysis of the photoluminescence bandgap temperature dependence to investigate the doping of micrometric size GaAs crystals grown on silicon for tandem solar cells applications	MENCARAGLIA Denis
16:30	58_863	120	58_863 Revealing Structure-property Correlations in New Solid Electrolyte Materials for All-Solid-State-Batteries using Synchrotron X-ray Analysis	NAM Kyung-Wan
16:30	59_937	120	59_937 Recent experimental determinations of X-ray fundamental parameters at PTB	HÖNICKE Philipp
16:30	60_991	120	60_991 Regulating Spin Configuration for High Performance Li-S Batteries through Cationic Vacancies in Co <sub>1-x</sub> Se	YU Jing

Tuesday May 28

## L04\_Advanced modelling and machine learning

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : CARA Eleonora - HÖNICKE Philipp

09:00	1559	Ongoing VAMAS interlaboratory comparisons on nanoparticles size and shape as pre-standardisation projects for harmonized measurements	HODOROABA Vasile-Dan
09:15	2874	Machine learning-assisted reconstruction of periodic nanostructures with grazing incidence X-ray fluorescence (GIXRF) and grazing exit X-ray fluorescence (GEXRF) s spectroscopy	TRUONG Vinh-Binh
09:30	1806	Machine learning for the morphological characterization of fractal particles like soot	KLEIN Tobias
09:45	2681	Raman Spectroscopy Machine-Learning Approach for Inline Application in the Semiconductor Industry	PINHASSI Roy

Tuesday May 28

## L05\_MEMQuD and memristors

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : BOARINO Luca - VALOV Ilia

10:30	1522	INV	Recent Advances in Understanding Fundamentals of Memristive Devices – Processes and Materials	VALOV Ilia
11:00	1322		Electrical characterization of memristive devices for metrological applications	CABRAL Vitor
11:15	2334		Electrical characterization of NbOx-based resistive switching devices with different top electrode materials	LEONETTI Giuseppe
11:30	2521		Quantitative element-sensitive analysis of individual nanoobjects	WAEHLISCH Andre
11:45	1136		Advanced tools to characterize metallic nanowire networks thanks to in-situ and multiscale approaches: a key to better understand the correlation between properties and functionalities of nanomaterials	BELLETT Daniel



Tuesday May 28

## L06\_1\_Advanced scanning probe microscopy

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : OUF François-xavier - PIQUEMAL Francois

13:45	1823	INV	Adiabatic Nanofocusing in Hot Electron Nanoscopy and spectroscopy (HENS): from probe design to real applications	TORRE Bruno
14:15	1981		Infrared nanospectroscopic permittivity recovery via time-domain calibration combining multiple tapping harmonics	SIEBENKOTTEN Dario
14:30	550		Cutting-Edge Correlative Microscopy: Integrating AFM, SEM, and Spectroscopy for Enhanced Characterization of Advanced Nanomaterials	BRITES Jeremy
14:45	2211		Two probe Scanning Thermal Microscopy for characterisation of 1D and 2D materials	KLAPETEK Petr

Tuesday May 28

## L06\_2\_Surface analysis of advanced materials

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : OUF François-xavier - PIQUEMAL Francois

15:00	1288	INV	Innovative Secondary Ion Mass Spectrometry approaches for the physico-chemical characterization of advanced materials	SPAMPINATO Valentina
15:30	459		Artifact-free secondary ion mass spectrometry profiling of a full vertical cavity surface emitting laser structure	MICHALOWSKI Pawel Piotr
15:45	804		Correlative characterization of InGaAs-GaAs pyramidal quantum dots with transmission electron microscope and secondary ion mass spectrometry	MALESZYK Justyna

Tuesday May 28

## L07\_1\_CHALLENGES and Semiconductors I

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : BECKHOFF Burkhard - LÜTZENKIRCHEN-HECHT Dirk

16:30	1958	Strain analysis in semiconductor devices using tip-enhanced Raman spectroscopy	MANCINI Chiara
16:45	2282	On the accuracy of strain measurements by different TEM techniques	BALBONI Roberto
17:00	2361	Metrological Raman shift calibration for strain quantification in semiconductor	WUNDRACK Stefan
17:15	2508	Design and implementation of a data management system for efficient Raman spectroscopy data handling	LAVAGNO Irio

Tuesday May 28

## L07\_2\_Synchrotron methods at DELTA

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : BECKHOFF Burkhard - LÜTZENKIRCHEN-HECHT Dirk

17:30	1395	Insights into the Structural Response of Metal-Organic Frameworks under High Pressure and Guest Loading	KOŁODZEISKI Pascal
17:45	2000	Proteinadsorption on lipid membranes	SAVELKOULS Jaqueline
18:00	2332	Investigation of corrosion and microbially influenced corrosion processes by means of X-Ray absorption spectroscopy	OZCAN Ozlem
18:15	2376	In-situ EXAFS studies on metallic glasses FeCoSiB and FeGaB	HAYEN Nicolas

Wednesday May 29

## L08\_Semiconductors II

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : GOMILA Gabriel - WOOD Sebastian

08:45	2014	INV	Scanning capacitance microscopy of nitride high electron mobility transistors	CHEN Chen
09:30	408		On the use of spectroscopic imaging ellipsometry for quantification and characterisation of defects in thin films for power electronics	HERTWIG Andreas
09:45	2038		Imaging ellipsometric measurements for the characterization of material defects on GaN wafers	BODERMANN Bernd

Wednesday May 29

## L09\_X-ray methods I

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : BECKHOFF Burkhard - SCHNOHR Claudia

10:30	271		Probing of oxygen redox and charging mechanism of LiNiO <sub>2</sub>	CHEN Jun
10:45	1040		Advanced X-ray nanodiffraction techniques for materials science	DAVYDOK Anton
11:00	1117		Outstanding Non-Noble Metal-Based Catalysts for the Oxygen Evolution Reaction with Transmission Electron Microscopy and Spectroscopy Techniques	LLORENS RAURET David
11:15	1286		Laboratory GEXRF for the investigation of TiO <sub>2</sub> nanogratings	STAECK Steffen
11:30	1499		Hybrid Metrology for Sequential Infiltration Synthesis nanomaterials	CARA Eleonora
11:45	1708		Operando 3D Visualization of PEFC Catalysts by CT-XAFS Imaging	TADA Mizuki

Wednesday May 29

## L10\_Nanoscale electrical characteristaion

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : K LAPETEK Petr - TORRE Bruno

13:45	997	INV	Advanced nanoscale electrical characterisation in liquid environments	GOMILA Gabriel
14:15	1541		Automated quantitative Scanning Spreading Resistance Microcopy enabled by Reverse Tip Sample configuration and Artificial Intelligence	PERIC Nemanja
14:30	1593		Challenges of local electrical measurements on cross-sectional devices using Conductive Atomic Force Microscopy (C-AFM)	ALVAREZ José
14:45	1331		Development of first universal standard samples for calibrating resistance and current measurements in Conductive probe Atomic Force Microscopy	PIQUEMAL Francois
15:00	1044		Ellispometry as optical metrology method for analysis of reference materials for nanoelectronic	ERMILOVA Elena
15:15	2228		A Calibration Tool for Scanning Microwave Microscopy	DE PRÉVILLE Sophie

Thursday May 30

## L11\_Semiconductors III

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : A. DE CASTRO Fernando - BECKHOFF Burkhard

08:45	1232	INV	Three-dimensional semiconductor devices: a new realm for metrology	BOGDANOWICZ Janusz
09:15	806		X-ray fluorescence techniques for dimensional and analytical metrology of semiconductor nanostructures	HÖNICKE Philipp
09:30	2876		Nanoscale Strain Measurement for Semiconductors	OSBORN Will
09:45	1829		PowerElec – new metrological tools for quality control of wide bandgap semiconductors	WOOD Sebastian

Thursday May 30

## L12\_Microscopy and X-ray methods II

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : JONAS Adrian - KLEINER Karin

10:30	2390		EnviroMETROS – A Novel Surface and Multilayer Thin Film Analysis Tool	DIETRICH Paul
10:45	2418		Design and qualification of potential calibration samples for the quantification of heavy elements in particulate matter	EICHERT Diane
11:00	2456		Integration of measuring systems for coating thickness analysis and material characterization in production processes in the semiconductor industry	DILL Simone
11:15	2485		EELS at Extreme Energy Losses - an opportunity to provide complementary information to X-ray Absorption Spectroscopy (XAS)	LAZAR Sorin
11:30	2067		Influence of thermal exposure on the physico-chemical structure of nanoscale release layer in double copper foils	BHUSARI Rutuja
11:45	1966	INV	Bio-inspired electronics and neuromorphic computing	MAJUMDAR Sayani

Thursday May 30

## L13\_Energy Materials and Battery II

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : BRUTTI Sergio - RISSE Sebastian

13:45	1049	INV	Function and failure of condensed matter upon energy storage	KLEINER Karin
14:15	788		RISE-Correlative Microscopy Applied to Battery Research	SCHMIDT Ute
14:30	2007		Understanding Induction effect in Polyanionic Li-ion battery cathode materials caused by doping and binder formulations	ALFREDSSON Maria
14:45	2972		Quantitative operando NEXAFS characterisation of the solid electrolyte interphase formation at the hard-carbon anode of Na-ion batteries.	FRENZEL Katja
15:00	1137		Unveiling the Reaction Mechanism of Battery Materials: Bridging the Atomic and Macroscopic Scales	YU Zhenjiang
15:15	2513		Insights into the LiI Redox Mediation in Aprotic Li-O <sub>2</sub> Batteries: Solvation Effects and Singlet Oxygen Evolution	PETRONGARI Angelica
15:30	692		Electrochemical lithium intercalation & exfoliation in 2D TMDs and its in-situ studies	ZENG Zhiyuan
15:45	1871		An Overview on the Muon Spin Spectroscopy for New Generation Ni rich Li-based Batteries	USLU Eda

Thursday May 30

## LP02\_Postar session

ETOILE - FIRST FLOOR

16:30	02_1011	120	02_1011 Nanoscale Study of Antiferroelectric Domains Through Advanced Piezoresponse Force Microscopy	CHEN Yi-Chun
16:30	03_1045	120	03_1045 Metrological Raman spectroscopy for the characterization of two-dimensional MoS <sub>2</sub>	ECKERT Marius
16:30	05_1560	120	Measurement of thermal conductivity of ZnO coated nanowires using four-probe thermal conductivity method with AC measurements	GÓMEZ-TORRES Hugo

16:30	06_1175	120	06_1175 Surface functionalization and characterization of support with N-containing film for hydrogenation over Pt catalyst	YUN Minji
16:30	07_1226	120	07_1226 Microstructure property correlation of Al added medium Mn steel	YADAV Mukesh Kumar
16:30	10_1303	120	10_1303 In-situ measurement and analysis of machined surface state on Si electrode based on acoustic emission and forces	GWAK Eun-Ji
16:30	11_1306	120	11_1306 Coherent Fourier scatterometry for detection of killer defects on silicon carbide and gallium nitrate samples	PEREIRA Sylvania
16:30	13_1336	120	13_1336 PillarHall lateral high aspect ratio test structures for quantitative analysis of conformality	PHILIP Anish
16:30	14_1345	120	14_1345 Investigation of EUV photomask degradation with reference-free $\mu$ -X-ray fluorescence spectroscopy	TRUONG Vinh-Binh
16:30	15_2836	120	Improvement and implementation of pulse heating technique for the measurement of heat capacity in sub-picogram thin film materials	GÓMEZ-TORRES Hugo
16:30	18_1611	120	18_1611 Novel Method for Nickel Silicide Encroachment Suppression in 28 nm Logic Device	LEE Juwon
16:30	20_1707	120	20_1707 Two Microscopes are better than One - Nanoscale Correlative Analysis of hard to reach sample areas by combination of AFM and SEM	SCHWALB Chris
16:30	23_190	120	23_190 The Wear Characteristics of Sintered Cu-based Composite for Aircraft Brake Pad under Dry Sliding Conditions	KIM Kyung Il
16:30	25_2035	120	25_2035 Quantification of hydrophilic surface ligands on nanoparticles	MATIUSHKINA Anna
16:30	26_2094	120	26_2094 Use of open hardware Gwyscope controller for complex SPM experiments	VALTR Miroslav
16:30	27_2222	120	27_2222 Atomic force microscopy based mechanical properties mapping using linearized errors-in-variable model	CHARVÁTOVÁ CAMPBELL Anna
16:30	28_2256	120	28_2256 The Frontier of Time-Resolved Spectroscopy: PbS Quantum Dots as a Model for Elucidating Decay Kinetics	GREBEN Michael
16:30	31_2426	120	31_2426 Single-Ion Counting with an Ultra-Thin-Membrane Silicon Carbide Sensor for Quantum Applications	SANGREGORIO Enrico

16:30	32_2468	120	32_2468 Reliable Measurement of Photoluminescence Quantum Yields of UV/vis/NIR/SWIR-Emissive Nanocrystals and Luminescent Particles	RESCH-GENGER Ute
16:30	33_2543	120	33_2543 The EMP Project SMURFnano - Standardized Measurements of Surface Functionalities on Nanoparticles	Lindner Gottlieb Georg
16:30	34_2562	120	34_2562 Artefact-free chiroptical and anisotropic characterization of supramolecular structures using Mueller polarimetry	NIZAR SHYLA Shahana Nizar
16:30	35_2643	120	35_2643 Effect of the Addition of Nano-Carbonaceous Particles on the Curing Kinetics of an Epoxy Resin	ABENOJAR Juana
16:30	36_2768	120	36_2768 Preparation of Al-doped and V-doped ZnO thin films by sputtering method using mixed powder targets	AOQUI Shin-Ichi
16:30	37_2801	120	37_2801 Measuring local Electrochemical Properties with Scanning Probe Microscopy	KLASEN Alexander
16:30	38_2811	120	38_2811 Early-stage nucleation behavior of GaAs nanowires on Si substrate based on in-situ TEM	WEI Chen
16:30	39_2815	120	39_2815 Analysis of nanoindentation creep of ceramic-organic supercrystalline nanocomposites	YAN Cong
16:30	40_2821	120	40_2821 Non-spherical monodisperse multi-element LiYF <sub>4</sub> :Yb,Tm nanoparticles as potential reference materials for sizing methods – Design, synthesis & characterization	ANDRESEN Elina
16:30	41_2824	120	41_2824 Metrology for innovative nanotherapeutics using small-angle X-ray scattering and complementary methods	ENGEL Nicholas
16:30	44_2873	120	44_2873 Contact Force in Current-Detecting Atomic Force Microscopy – Moving Towards C-AFM Tomography in Photovoltaic Research	HYVL Matej
16:30	45_3002	120	45_3002 Unveiling the effect of substrate on graphene via non-destructive multiscale Raman spectroscopy	MANCINI Chiara
16:30	46_3016	120	46_3016 Generating 2 to 300 nm-Sized Silver Nanoparticles with High Stability and Reproducibility Using a Novel Silver Particle Generator	BERGER Vinicius
16:30	47_3076	120	47_3076 In-operando 3D imaging of elastic deformation fields in architected ceramics	ZHU Tingting



<b>16:30</b>	<b>51_584</b>	<b>120</b>	51_584 Correlative imaging of single graphene oxide flake: sample selection and limitations	<b>CHIBANE Lydia</b>
<b>16:30</b>	<b>52_697</b>	<b>120</b>	52_697 A Comprehensive Approach to Widespread Implementation of Multifunctional Hydrophilic Layer Modification for Contact Lenses	<b>CHEN Po-Hsiang</b>
<b>16:30</b>	<b>53_736</b>	<b>120</b>	53_736 Correlative SEM/AFM Microscopy - Combining Two High-Performance Methods for Nanoscale Measurements	<b>FRERICHS Hajo</b>
<b>16:30</b>	<b>57_943</b>	<b>120</b>	57_943 Local spectroscopy for thin film characterization using white light interferometry	<b>GAMBAUDO Noémie</b>

Friday May 31

## L14\_ Nanomaterials Metrology and safety assessment

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : BOARINO Luca - DE LEO Natascia

08:45	1259	INV	Optimized 3D human and/or animal explants for ex vivo precision cut tissue slices	MANSHIAN Bella
09:15	822		Washing-machine-on-a-chip: a new eco-compatible device for the analysis of encapsulation systems	SPENA Riccardo
09:30	2300		How to Quantify the Total and Accessible Number of Functional Groups and Ligands on Nanomaterials Using a Multimodal Approach - A Bilateral Comparison	TAVERNARO Isabella
09:45	1302		Influence of sample preparation methods on ToF-SIMS surface analysis of TiO <sub>2</sub> nanoparticles: Results from a VAMAS Interlaboratory comparison	BENNET Francesca

Friday May 31

## L15\_ Surface analysis and nanoscale reference materials

MARIE CURIE A - FIRST FLOOR

Chairperson(s) : GOLLWITZER Christian - RESCH-GENGER Ute

10:30	1949		Iron Oxide Nanoparticles as Versatile Nanoscale Reference Materials	ABRAM Sarah-Luise
10:45	2797		Advancing Traceable Small-Angle X-ray Scattering for the Characterization of Complex Nanoparticle Reference Materials	SCHÜRMANN Robin
11:00	2507		Characterization and Quantification of Functional Groups and Coatings on Nanoobjects – An Overview	RESCH-GENGER Ute
11:15	3057		spICP-MS for Particle-Number Concentration: Towards Development and Characterisation of Reference Materials	OJEDA David

<b>11:30</b>	<b>2181</b>	Correlative analysis with electron microscopy applied in different operating modes (SEM, STEM-in-SEM and TEM) for the accurate morphological characterisation of non-spherical fine nanoparticles	<b>MRKWITSCHKA Paul</b>
<b>11:45</b>	<b>2884</b>	Sensing properties of gold nanoparticles created by combinatorial magnetron sputtering and annealing	<b>MUKHERJEE Deshabrato</b>