



M&N_S

Materials & Nanomaterials
An International Conference

Scientific Program



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European Education Scientific Conferences

Welcoming Message

Dear Colleagues,

2022 International Conference on Materials and Nanomaterials (MNs-22) is organized by academics and researchers belonging to different scientific areas of the University of Rome “Niccolò Cusano” di Roma, Universidad Carlos III de Madrid, the Universidad de Extremadura, the Universidad de Las Palmas de Gran Canaria, Ecole Nationale Supérieure d’Arts et Métiers de Paris, Liverpool Centre for Materials Technology, Firat University of Turkey and the Universidade Tecnica de Lisboa, with the technical support of Sciknowledge European Conferences.

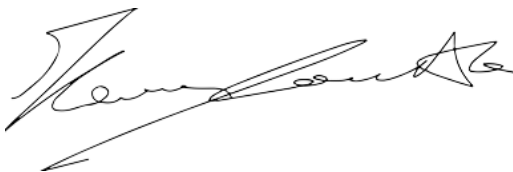
This event aims to create an international forum for academics, researchers and scientists worldwide to discuss worldwide results and proposals regarding the soundest issues related to **Materials and Nanomaterials**.

This event will include the participation of renowned keynote speakers, oral presentations, poster sessions, technical conferences related to the topics dealt with in the Scientific Program, and an attractive social and cultural program.

The papers will be published in the Abstracts E-book of the Conference. Those communications with enough quality can be further considered for publication in International Conference Journals. At the authors’ choice, those works unsuitable for publication in any congress journals will be published in the Extended Abstracts E-book.

To finish, I hope that all of you will enjoy the Conference, and I wish our visitors from abroad will have an enjoyable stay in Rome.

Sincerely,



Prof. Ilaria Cacciotti Ph.D.
MNs-22 Chairman
Engineering Department
University of Rome “Niccolò Cusano”, Italy

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Department of Chemical Engineering and Chemical Physics
University of Extremadura, Spain

M&Ns-22 MEETING (Provisional AGENDA) A three-day event

Important Note:

Conference attendees have accepted in the terms and conditions of their registration that their presentation will take place on any day and hour of the schedule established by the Conference Organization.

The day and order of presentation assigned by the Organization to the speakers and poster-type presenters may not be altered by particular requests. Changes will only be accepted for reasons of **delay in the visa or flight**, which must always be **previously accredited documentary**.

Presenters who are not in their place in the assigned time slot will lose the right to present the work and obtain their certificate.

Attention! The use of FFP2 mask is mandatory in the Niccolo Cusano University

Oral communications

(12 minutes for presentation + 3 minutes for questions)

Monday, 25th July 2022 (morning)

SCHEDULE	MAIN ROOM
08:45-09:45	Documentation delivery
09:45-10:00	Opening session
10:00-10:45	Plenary talk 1 <i>Nature inspires innovative approach to develop biomaterials for regenerative medicine</i> Anna Tampieri Director of ISTEC-CNR-Faenza Italy
10:45 – 11:30	Raman study of the Fe ions doped bioglass surface layer before and after immersion in Simulated Body Fluid Paulina Kapusniak Jan Dlugosz University in Czestochowa Poland

	<p>Silicon Carbide and Gallium Nitride Technologies for E-mobility Sasa Sladic University of Rijeka Croatia</p> <p>Pd/ZnO bilayers obtained by PLD with improved morphology for Surface Acoustic Wave Sensors Cristian Viespe National Institute Of Laser, Plasma and Radiation Physics Romania</p>
11:30-12:00	<p>Coffee-break POSTERS SESSION-1</p>
12:00 -13:45	<p>SAM functionalized ZnO nanowires for selective acetone detection: disclosing the sensing mechanism through surface characterization Andrea Casotto Universita Cattolica del Sacro Cuore Italy</p> <p>New type nanofibrous cerium radical scavenger to enhance the durability of perfluorosulfonic acid membrane for polymer electrolyte membrane fuel cell (PEMFC) application Junghwan Kim Korea Institute of Science and Technology South Korea</p> <p>A Biphasic 3D Osteo-vascular on a Chip for Recapitulating the Bone Marrow Environment Hwan D. Kim Korea National University of Transportation South Korea</p> <p>Influence of chemical treatment of P. setaceum fibres in injected composites Patricia del Pino Cabrera Garcia Universidad de Las Palmas de Gran Canaria Spain</p> <p>Bio waste fillers as reinforcing agents for eco-friendly polymer composites production Irene Bavasso Sapienza University of Rome Italy</p>

13:45-14:30	Plenary talk 2 <i>Circular Economy: New Opportunities in Sustainable Nano Materials and Polymer Bio-Nanocomposites</i> Sabu Thomas Mahatma Gandhi University India
14:30-15:30	LUNCH

Oral communications
(12 minutes for presentation + 3 minutes for questions)
Tuesday, 26th July 2022

SCHEDULE	MAIN ROOM
09:00 – 09:45	<p style="text-align: center;">Plenary talk 2 <i>Biomass-derived sustainable, functional materials with enhanced performance for value-added applications: innovative strategies in circular economy</i> Maria Carmen Garrigós Selva Universidad de Alicante Spain</p>
09:45 – 11:30	<p style="text-align: center;">Aluminate and borate ceramics for thermal neutron detection Vit Jakes University of Chemistry and Technology Prague Czech Republic</p>
	<p style="text-align: center;">In search for new ceramic scintillators based on the oxides of heavy elements Katerina Rubesova University of Chemistry and Technology Prague Czech Republic</p>
	<p style="text-align: center;">Hollow @MgAl-MO spheres obtained in bottom-up approach as a highly active catalyst in an aldol condensation reaction Tomasz Kondratowicz University of Pardubice Czech Republic</p>
	<p style="text-align: center;">Magnetoplasmonic nanoparticles for biomedical application Viktoria Varga University of Szeged Hungary</p> <p style="text-align: center;">Influence of the phases with low or negative linear thermal expansion coefficients on the porous mullite ceramics Ludmila Mahnicka-Goremikina Institute of Materials and Surface Engineering Latvia</p>
11:30-12:00	<p style="text-align: center;">Coffee-break POSTERS SESSION-2</p>
12:00 – 13:45	<p style="text-align: center;">Protease decoration of the nanoemulsions: A tentative approach to enhance the oral bioavailability Arshad Mahmood Al Ain University, Abudhabi campus, Abudhabi United Arab Emirates</p>

	<p align="center">Layered silicates – versatile multipurpose materials Wojciech Stawinski Łukasiewicz Research Network, PORT Polish Center for Technology Development Poland</p>
	<p align="center">Synthesis of PdAu Nanosheets for Visible Light-Driven Catalysis Eadaoin Casey University College Cork Ireland</p>
	<p align="center">Polyoxometalates@Carbon-Based Composites as Efficient Electrocatalysts for the Oxygen Reduction Reaction Hugo Duarte Capela Novais Teixeira Universidade do Porto – Faculdade de Ciências Portugal</p>
	<p align="center">Optimization of a Protocol for the Synthesis of Cellulose Nanostructured Sponges for contaminated site remediation Milvia Elena Di Clemente Politecnico di Bari Italy</p>
	<p align="center">Multiscale Process Modeling Analysis for the prediction of Composite Strength Allowable Gregory M Odegar Michigan Technological University United States</p>
13:45-15:15	LUNCH
15:15-20:30	<p>ROME TOURISTIC BUS, DURATION 1h30 MIN (when you wish, an individual ticket for each attendant) Ticket delivery for each registered attendant: Thursday, 26th July from 9:30 to 13:15 at Registration Desk</p>
21:00-22:30	<p>VATICAN NIGHT TOUR (Ask for the Meeting Point at the registration Desk)</p>

Oral communications
(12 minutes for presentation + 3 minutes for questions)
Wednesday, 27th July 2022

SCHEDULE	MAIN ROOM
08:45-11:00	<p>Factors affecting the internal stresses and heat resistance of carbon-containing refractories produced in solid-phase combustion mode. Sanat Tolendiuly Almaty University of Power Engineering Kazakhstan</p>
	<p>Hybrid cellulose acetate reverse osmosis membranes with zwitterionic functionality: permeability and fouling properties Selda Erkok-Ilter Sabanci University Turkey</p>
	<p>Carbon nitride-based photocatalytic materials Elisenda Pulido Melián University of Las Palmas de Gran Canaria Spain</p>
	<p>Bio-based Nanopesticides- A green approach towards sustainable agriculture Asma Noshad Lund University Sweden/Bacha Khan University Pakistan Sweden</p>
	<p>Functionalized 3D printed scaffolds for craniomaxillofacial applications: the SISMAT project Ilaria Cacciotti University of Rome Niccolo Cusano Italy</p>
	<p>Avocado by-products as a source for new materials in food packaging. An example of the circular economy approach Alfonso Jiménez University of Alicante Spain</p>
11:00-11:30	<p>Coffee-break POSTERS SESSION-3</p>
11:30 – 13:00	<p>Direct growth of 2D materials heterostructures based on pulsed laser deposition of solid oxide precursors Denys Miakota Technical University of Denmark Denmark</p>

	<p>Synthesis of magnetic carbon nanotubes using polyolefins as carbon source Adriano dos Santos Silva Instituto Politecnico de Bragança Portugal</p>
	<p>Influence of Silica Nanoparticles on the Polyurethane Based Direct to Metal (DTM) Nanocomposite Coatings SUKANYA GANGOPADHYAY Institute of Chemical Technology India</p>
	<p>Preparation and structural characterization of glasses in the Li₂O-V₂O₅-MoO₃-B₂O₃ system Margarita Milanova Institute of Electrochemistry and Energy Systems Bulgaria</p>
<p>13:00-14:30</p>	<p><i>CLOSING COCKTAIL and MUSIC CHAMBER CONCERT Flute and Piano Duet</i></p>

POSTER SESSIONS

POSTER SESSION 1 Monday, 25th July, 2022 11:30-12:00			
TITLE	AUTHOR	ID	TOPIC
Plant extract influence on bioglass properties in vitro studies	Paulina Kapusniak	131	1
Method of forming metal expansion joint element using laser assisted ramping heating and mechanical forcé	Hubert Danielewski	84	1
Time-resolved photoconductivity of graphene-based gas sensors	Andrea Casotto	137	1
Sprayable Ti3C2 MXene Hydrogel for Wound Healing and Skin Cancer Therapy	Hyeongtaek Park	118	1
Designing the nature-inspired universal ligands for surface modification of MXenes	Seongmin Park	96	1
High-Strength Ti3C2Tx MXene Film with X-linkable Ligand	Soyeon Kim	92	1
Highly Soluble Hole Transporting Materials based on Asymmetric Phenyl naphthalene Core for OLEDs	Jaekyum Kim	93	1
Ligand-functionalized organic MXene inks showing high electrical conductivity, excellent oxidation resistance, and facile printability	Hansol Kang	95	1
Preparation of Organic Dispersible MXene Through Catechol-based Ligand Functionalization	Byungin Kang	97	1
Surface functionalization of MXenes with natural organic ligands	Hyeonji Lee	102	1
Molecular Design for Highly Efficient and Pure Deep Blue Color Dopant for OLEDs Based on Pyrene core	Heetae Yang	94	1
Synthesis of MXene using an organic etching method for the improved oxidation stability and dispersibility in organic solvents	Jiyeong Kim	98	1
Improvement of Piezoelectric response in KNN-based Ceramics. A point of view of intrinsic and extrinsic contributions.	Johana Yaquelyn Gallardo	146	1
Surface functionalized N-TiO2/C nanocomposites derived from MOF with enhanced photocatalytic H2 generation	Yongde Xia	130	1
Surface and mechanical properties of photoactive mussels inspired antibacterial polymer coatings	Rayna Bryaskova	141	1

Natural Dyes Based High-Performance All-Photonic Devices	Haitham Al-tameemi	18	2
Natural Dyes Extracted from Hibiscus Sabdariffa for All-Photonic Applications	Haitham Al-tameemi	17	2
High performance Protecting Optical Sensor of MgO/PVA Freestanding Nanocomposite Film for All-Nanophotonic Devices	Haitham Al-tameemi	58	3
Modal analysis of Pre-Tensile-Loaded Composite Plate	Saad Alsarayefi	75	1
Biodegradable maxillofacial fixation systems: design, realization via Fused Deposition Modeling and characterization	Francesco Canigiula Ceccarelli	131	1
Dexamethasone-loaded PCL and PLA microspheres as Drug Delivery Systems for oral cavity cancer treatment	Alessia D'Andrea	132	1
Surface Modification of Mxene with Organic Ligands for High-Performing Lithium Ion Batteries	Eunji Park	99	1
POSTER SESSION 2 Tuesday, 26th July, 2022 11:30-12:00			
TITLE	AUTHOR	ID	TOPIC
Influence of the orientation of a fabric being formed with a tool having an angle of attack of 60°	Aghiles KHRIS	108	1
Materials properties after mechanically assisted laser forming hybrid method in metal expansion joints manufacturing proces	Piotr Kurp	86	1
Antimicrobial effect on photoreactive nanocomposite thin films	Agota Imre-Deak	122	1
Design of integrated flexible plasmonic device for real-time Metal Enhanced Fluorescence biosensing	Ilinca Teodora Muresan	85	1
All-optical Limiters Based on Natural Dyes Extracted from Tea Leaves	Maha Alhamadani	25	1
Synthesis of ZnO-NPs obtained through a green route	Paola Andrea Arciniegas	50	1
ZnO- NPs obtained by green route: Effect on the nasal ciliary ultrastructure of the Mus musculus biomodel	María Mercedes Ramirez de Valdenebro	51	2
Preliminary study of the effect of ZnO-NPs on the respiratory nasal epithelium of the Mus musculus biomodel	Lyda Patricia Mosquera Sanchez	52	2
Comparison of the effects of laser removal of coatings with different lasers devices	Szymon Tofil	53	2
Methanol Decomposition Reactions over Boron-Doped Graphene Supported Ru-Pt Catalyst	Jemal Yimer Damte	59	2

Polyurethane Nanocomposites with Magnetic Properties	Rata Delia	64	2
Drug loaded chitosan-based nano /microspheres for the treatment of lung infections	Anca Niculina Cadinoiu	65	2
Grafted Copolymers Based on Gellan and N-vinylimidazole for Immobilization and Release of Triazole Derivatives	Anca Niculina Cadinoiu	66	2
The application of multi-walled carbon nanotubes as sorbents in passive samplers for monitoring micropollutants of the aquatic environment	Klaudia Godlewska	74	2
Design and sythesis of bio - inspired antibacterial polymer coatings for medical applications	Nikoleta Filipova	81	2
Selection of best suitable eco-friendly organic and in-organic refrigerants for food storage in suparmarkets	Basma Souayeh	166	2
Development of polysaccharide systems for the absorption of heavy metals	Marianna Messina	133	1
Biopolymers combined with waste products: a promising alternative for food packaging systems	Erika Lunetta	134	1
Reuse of coffee ground extracts in food packaging	Marianna Gallo	135	1
POSTER SESSION 3 Wednesday, 27th July, 2022 11:00-11:30			
TITLE	AUTHOR	ID	TOPIC
New polymeric microcapsules based on chitosan and poly(vinyl alcohol) with potential applications in pulmonary infections	Rata Delia	114	2
Manufacturing technology of refractory from ferrochrome waste	Sergey Fomenko	121	2
Heterogenous silica-supported catalysts for the depolymerization of PET post-consumer waste	Rachel Breen	126	2
Alky ester or carboxylic acid functional cyclopolymer derived membranes for water treatment applications	Selda Erkoc-Ilter	140	2
Electrochemical behavior study of anticorrosion coating based on a conductive polyaniline/lignine polymer	Boudieb Naima	104	3
Preparation and Characterization of a Nickel-based Catalyst Supported by Silica Promoted by Cerium for the Methane Steam Reforming Reaction	Ali Zazi	158	3
Machine learning as an efficient tool for defining the molecular weight (MW) of fibrillar biomaterials by means of dynamic rheometry.	Karina Carla Nuñez Carrero	161	3
Polymeric Membranes for Enhanced Detection in Wearable Technologies	Roberto Delgado-Rivera	62	3
DNA Detection on a 3D-printed Nanocarbon Electrode	Jyoti	155	3
Opportunity on the rheology of concrete based on limestone and siliceous SCM admixture	Ilham Aguida Bella	129	4
Promising Novel Barium Carbonate One-Dimensional Nanostructures and their Sensing Application: Preparation and characterization	Nagih Shaalan	34	4
Green multifunctional multi-core shell magnetic nanocarriers for controlled release of doxorubicin	Adriano dos Santos Silva	139	4

High harmonic generation on graphene quantum dots with collective scattering of electrons	Armenuhi Ghazaryan	07	4
Laser induced high-order wave mixing and multiparticle interaction in graphene quantum dots	Khachik Sedrakian	24	4
Development of antimicrobial and self-cleaning glazes for sanitaryware industry	Luca Lazzarini	136	4
Design and realization of optimal 3D printed scaffolds for cranio/maxillofacial applications by combining physico-chemical and biological aspects	Valerio Papa	137	4