





"Twinning to boost the scientific and innovation capacity of the Universiteti i Tiranes to develop sustainable nanosensors for water pollution detection"

<u>Funding Scheme</u>: Coordination and Support Action <u>Call</u>: HORIZON-WIDERA-2021-ACCESS-02 Date of the latest version of ANNEX I: 28/04/2022

D5.3 Report on Workshops and Conferences during Period 1

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SEN	Sensitive, only for members of the consortium (including the EC)	



SUSNANO's overall aim is to boost the scientific excellence and innovation capacity in sustainable nanosensors for water pollution detection of Universiteti i Tiranes (UT) and its high-quality Twinning partners: Fundació Institut Català de Nanociència i Nanotecnologia, Univerzita Palackého v Olomouci and Intelligentsia Consultants Sàrl. To achieve this aim, SUSNANO will implement a research and innovation strategy over 3 years based upon 5 objectives implemented via 5 corresponding WPs:

Objective 1: Conduct exploratory research on sustainable nanosensors to detect water pollution in Albania

The goal is to develop innovative sustainable nanosensors to detect heavy metals, pesticides and antiobiotics. The validated sensors will be used in field tests to provide an environmental assessment of rivers and lakes in Albania.

Objective 2: Transfer knowledge between experienced researchers (ERs) of UT and the Twinning partners

The goal is to organise short term staff exchanges, trainings and seminars for UT's ER's and the Twinning partners' ERs to complement the preparatory research undertaken in Objective 1.

Objective 3: Enhance career prospects of early-stage researchers (ESRs) of UT and the Twinning partners

The goal is to enhance the career prospects of UT's ESRs and the Twinning partners' ESRs by organising short- and medium-term exchanges, training workshops/seminars, summer schools & joint PhD programme.

Objective 4: Improve UT's management and administrative capacity for European R&D programmes The goal is to improve the skills of UT's Directorate of Scientific Research, Projects and Foreign Relations in proposal preparation, project management and innovation management for European R&D funding programmes.

Objective 5: Raise the research profile of UT and the Twinning partners The goal is to raise the research profile and scientific reputation of UT and the Twinning partners through a comprehensive range of dissemination, exploitation, communication & outreach activities.

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Executive Summary

This report describes the workshops and conferences organised and attended by the consortium partners during Period 1 in the context of WP5 of the SUSNANO project (1st September 2022 – 30th November 2023). During this period, the following events and activities have been organised:

- Two-day Workshop on "NanoAlb Ignite Projects", 14th 15th December 2022
- National Symposium on "Quality and Safety of Bee Products", 10th May 2023
- Workshop on implementation of "NanoAlb Ignite Projects 2022-2023", 5th June 2023
- International Conference "Trends in Nano Technology 2022", 3rd 7th October 2022
- International Conference "nanoBalkan 2023", 16th 20th October 2023.
- 4th International Eurasian Conference on Science, Engineering and Technology, Ankara, Turkey, 14th -16th December 2022.
- Conference Chem2Dmat2023, Bologna Italy, 15th 18th May 2023.
- "Biosensors" Busan South Korea, 5th 8th June 2023.
- Congress on Food Quality and Safety, Health and Nutrition-Nutricon, Ohrid, North Macedonia, 7th – 9th June 2023.
- 2nd International Conference on Water Environmental protection and Sustainable Development, Tirana, Albania, 22nd 23rd September 2023.



1. Workshops

1.1 "NanoAlb Ignite Projects", Acdemy of Science of Albania, 14th – 15th December 2022 The workshop was organized in cooperation with NanoAlb, the Unit of Nanoscience and Nanotechnology next Academy of Science of Albania. The workshop was organized in hybrid form (in person and online through Zoom platform). The members of the scientific groups of NanoAlb from Albania, Kosovo, North Macedonia, ICN2, Italy and Israel participated in the workshop. The participation of NanoAlb members from Kosovo and North Macedonia (travel and accommodation), was financially supported by the Academy of Sciences of Albania. Colleagues of NanoAlb from Barcelona, Italy and Israel joined the workshop online through Zoom platform. Representatives of important institutions (National Environmental Agency and Ministry of Tourism and Environment), GIZ Albania, Huawei Technologies R&D Belgium N.V.,. and private agri-food companies, vineries companies, Deltadent Albania, etc., interested in establishing connections and new collaborations participated in the workshop. About 30 participants were physically present at the workshop and the others were connected online through the Zoom platform.

The objective of the workshop is to show and discuss the most important results of scientific research in NanoAlb groups. A part of the meeting will be dedicated to the implementation of the Ignite Projects 2021-2022 funded by the Academy of Sciences of Albania and the National Agency for Science and Innovation in Albania to support and strengthen cooperation between NanoAlb groups and international partners. The workshop addressed and informed about the ways and possibilities of establishing sustainable and mutually beneficial collaborations between: academia-scientific research-industry.

On the first day of the workshop, the plenary session was organized where the invited professors from Israel, Italy and Spain presented their experience in science and their collaborations with companies and industries. This was a 2-days workshop and on the second day there were references from institutions, universities outside the country and inside the country on important topics for scientific research in our country and NanoAlb that were related also to intellectual property, patents and patenting, start-ups, cooperation with the diaspora, etc.

Workshop

"NanoAlb Ignite Projects",

14th – 15th December 2022

Objectives of the workshop

The objective of the workshop is to show and discuss the most important results of scientific research in NanoAlb groups during 2022. A part of the meeting will be dedicated to the implementation of the Ignite Projects 2021-2022 funded by the Academy of Sciences of Albania and the National Agency for Innovation and Innovation in Albania to support and strengthen cooperation between NanoAlb groups and international partners.

Also, this workshop aims to improve the cooperation of NanoAlb groups with important partners from the industry. The seminar will address and inform about the ways and possibilities of establishing sustainable and mutually beneficial collaborations between: academia-scientific research-industry.

Venue: Academy of Science of Albania, "Alex Buda" Room

Program





10.30 - 11.00	Welcome speech		
	Acad. Skender Gjinushi President of Academy of Science of Albania		
	Acad. Arben Merkoçi Director of NanoAlb, Academy of Science of Albania ICREA Research Professor and Group Leader ICN2		
14 December	Plenary Session Acad. Arben Merkoçi		
11.00 - 11.20	Biomimetic hybrid liposomes produced by microfluidic technique . <i>PhD Nunzio Denora</i> Department of of Pharmacy – Pharmaceutical Sciences, University of Bari "Aldo Moro", Bari, Italy		
11.20 - 11.40	An Albanian-Israel partnership in biosensors: fruits to success. <i>Prof. Robert S. Marks, Israel</i> Ben-Gurion University of the Negev, Israel		
11.40 - 12.00	"Cooking with memory and emotion", <i>Bleri Dervishi</i> , Executive chef of Gzona Restaurant and Founder of Pasta Madre Restaurant, Tirana		
12.00 - 12.30	Coffee break		
	1 st Session - Implementation of Ignite NanoAlb Project Acad. Fetah Podvorica		
12.30 - 12.40	Preparation and characterization of PVA pure electrofiber nanofibers and PVA / MMT matrix to encapsulate an essential oil of Albanian medicinal plant for biomedical applications <i>Prof. Dr. Partisan Malkaj – Project Coordinator</i> Department of Physics Engineering, Faculty of Mathematics Engineering and Physics Engineering, Polytechnic University of Tirana		
12.40 -12.50	Towards the establishment of Biosensors Unit at Group of Molecular Biotechnologies, NanoAlb - Use of whole-cell and electro-chemical biosensors to measure water and soil toxicity in Albanian coastline - <i>Prof. Dr. Ariola Bacu – Group leader</i> Department of Biotechnology, Faculty of Natural Sciences, UT		
12.50 - 13.00	Nanosensor for certification of domestic and imported wines based on their total antioxidants Prof. Dr. Kledi Xhaxhiu- Group leader Department of Chemistry, Faculty of Natural Sciences, UT		
13.00 - 13.10	Think Big-Explore Small: Studying Nano-Bio Interactions Using Toxicological and Computational Approaches		



	PhD. Ledia Vasjari – Project Coordinator Department of Biology, Faculty of Natural Sciences, University of Tirana.
13.10 - 13.20	Development of a new electrochemical sensor for the determination of hydroxy methyl furfural for honey quality control. <i>Prof.Ass.Dr. Liridon Berisha- Project Coordinator</i> Department of Chemistry, Faculty of Mathematical and Natural Sciences, University of Prishtina
13.20 - 14.20	Lunch
	2 nd session –Reseach in NanoAlb Groups- Prof. Dr. Valbona Aliko
14.20-14.30	Nanobiomaterials and Tissue Engineering Research Group Assoc. Prof. Dr. Albana Halili – Group leader Department of Technology and Business, Faculty of Economics, Technology and Innovation, Western Balkans University
14.30-14.40	Nanoengineering and biomaterials research group <i>Prof. Dr. Bashkim Ziberi – Group leader</i> Department of Physics, Faculty of Mathematics and Natural Sciences, University of Tetova
14.40-14.50	Materials characterization/modification and ceramics group Assoc. Prof. Dr. Aranit Reka – Group leader Department of Chemistry, Faculty of Natural Sciences and Mathematics, University of Tetova
14.50-15.00	Textile and Fashion Department activities related to NanoAlb <i>Prof. Assoc. Dr. Ilda KAZANI –Group leader</i> Department of Textile & Fashion, Faculty of Mechanical Engineering, Polytechnic University of Tirana, Albania
15.00-15.10	Surface modification of materials with nanometric organic layers <i>Acad. Fetah Podvorica- Group leader</i> Department of Chemistry, Faculty of Mathematical and Natural Sciences, University of Prishtina
15.10-15.20	Nanotechnology in pharmaceuticals and medicine <i>Dr. Kleva Shpati - Group leader</i> , Department of Pharmacy, Faculty of Medical Science , Albanian University; Albania University of Medicine , Faculty of Medicine, Tirana Albania
15.20-15.30	Electrochemical (bio)sensors based on heterogeneous carbon materials <i>Dr. Albana Veseli- Group leader</i> Department of Chemistry, Faculty of Mathematical and Natural Sciences, University of Prishtina, Kosovo
15.30-15.40	Nanobased drug delivery systems: development and characterization Prof.Ass.Dr. Mimoza Basholli- Group leader Department of Pharmaceutical Technology and Drug Analysis, Faculty of Medicine, UP





15.40-15.50	Pharmaceutical technology : pharmtech group <i>Prof. Dr. Ledjan Malaj- Group leader</i> Department of Pharmacy, Faculty of Medicine, University of Medicine, Tirana, Albania
15.50-16.00	Enviromental research group <i>Prof. Dr. Sonila Duka Group leader</i> Department of Chemistry, Faculty of Natural Sciences, University of Tirana, Albania
16.00-16.20	Coffee break Prof. Dr. Bashkim Ziberi
16.20-16.30	Sustainable, nanostructured building materials group <i>Prof. Dr. Arjan Korpa Group leader</i> Department of Chemistry, Faculty of Natural Sciences, University of Tirana, Albania
16.30-16.40	Nanomaterials in environmental protection group Dr. Sonila Vito- Group leader Department of Industrial Chemistry, Faculty of Natural Sciences, University of Tirana
16.40-16.50	In vitro plant biotechnology and physiology group <i>Prof. As. Dr. Valbona Sota- Group leader</i> Department of Biotechnology, Faculty of Natural Sciences, University of Tirana, Albania
16.50-17.00	Nanotoxicity & Biomarkers of Effects <i>Prof. Dr. Valbona Aliko- Group leader</i> Department of Biology, Faculty of Natural Sciences, University of Tirana, Albania
17.00-17.10	Digital solutions in health & therapeutics group <i>Prof.As. Dr. Kreshnik Hoti – Group leader</i> Division of Pharmacy, Faculty of Medicine, University of Prishtina, Kosovo
17.10-17.20	Nanotechnology methods for increasing crop performance and diagnostics related to agriculture <i>Prof. Dr. Magdalena Cara-Group leader</i> Department of Plant Protection, Faculty of Agriculture and Environment, Agricultural University of Tirana, Albania
17.20-17.30	Nanotechnology in natural products Dr. Entela Hodaj –Group leader Department of Chemistry, Faculty of Biotechnology and Food, AUT, Albania
17.30-17.40	Nano, micro natural materials and their industrial applications group <i>Prof. Dr. Enkeleda Beqiraj</i> Department of Earth Sciences, Faculty of Geology and Mining, Polytechnic University of Tirana, Albania
17.40-17.50	Sensors and biosensors using nanomaterials <i>Prof. Dr. Majlinda Vasjari Group leader</i> Department of Chemistry, Faculty of Natural Sciences, University of Tirana, Albania
17.50- 18.00	Design and synthesis of anticancer drugs research group <i>Prof. Dr. Ahmed Jashari - Group leader</i>





Department of Chemistry, Faculty of Mathematics and Natural Sciences, University of Tetova

Closure of the first day of workshop

15 December	3 rd Session –NanoAlb & Industry Prof. Dr. Kledi Xhaxhiu
09.00 - 09.20	Technology transfer models and venturing from a TTO perspective <i>Andrés Cano De La Fuente</i> Business Developmen, ICN2 and Graphene Flagship, Barcelona, Spain Business and Innovation department at Institut Català de Nanociència i Nanotecnologia (ICN2).
09.20 - 09.40	How can novel Emerging Memory Technology overcome Security and Cybersecurity challenges in a digitalized world Marinela Barci - Principal Engineer Huawei Technologies R&D Belgium N.V.
09.40 - 10.00	Sustainable development through knowledge exchange with the Albanian scientific diaspora Suela Kalia – Advisor, Programme Migration&Diaspora, GIZ Albania
10.00 - 10.20	NanoHealthCare Therapy the innovative regenerative therapy for cells nutritions Jorida Jubani Deltadent, Albania
10.20 - 10.40	10 Years of innovation in material sciences. <i>Pablo Pomoposiello Miravent - Head of Business Development @ ICN2</i> Business and Innovation department at Institut Català de Nanociència i Nanotecnologia (ICN2)
10.40 - 11.20	Coffee break
11.20 - 11.40	Representative from Blessed Investment Company To be confirmed
11.40 - 12.00	Nanophysics outgassing and diffusion measurement Sefer Avdiaj- Group leader Department of Chemistry, Faculty of Mathematical and Natural Sciences, University of Prishtina
12.00 - 12.20	Materials science - nanochemistry research group Avni Berisha- Group leader Department of Chemistry, Faculty of Mathematical and Natural Sciences, University of Prishtina.
12.20 - 13.20	Lunch
12.40 - 13.00	Representative from Industry



13.20 - 13.40To be confirmedRepresentative from Industry
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14.00 - 15.00

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Closure of the Workshop

List of participant

1 Person	J	Annual Workshop NanoALB 2022 14 - 15 dhjetor 2022, ora 09.30		90
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Photos





















1.2 National Symposium on "Quality and Safety of Bee Products", 10th May 2023

The National Symposium "Quality and Safety of Bee Products" was organized at the Academy of Sciences of Albania on 10th May 2023. This activity was organized in collaboration with the NanoAlb Unit at the Academy of Sciences of Albania, the Agricultural University of Tirana, the Ministry of Agriculture and Rural Development (MBZHR), National Environmental Agency, Ministry of Tourism and Environment, and private agri-food companies, and the National Federation of Beekeepers of Albania (FKBSH), AKU, FAO.

The objectives of the Symposium was to highlight the scientific research at the country level, the study of honey plants in the country, the physico-chemical characterization of some of the bee products, and of course the creation of standards in this sector. The techniques of analysing food products, especially in the last two decades, have undergone a massive transition from physico-chemical ones, to sophisticated instrumental methods that allow a more complete knowledge and a better characterization of food products, in level of macro and microelements. The development of alternative methods through the use of electrochemical sensors based on the principles of nanotechnology and nanomaterials is related to very important advantages in this direction.

The symposium was organized in the form of presentations by various specialists, with scientific contributions published in different fields but related in different ways with bee products and the use of bee products as a bioindicator of environmental pollution. The application of biosensors for measuring quality and safety indicators related to food products is of great interest nowadays. Development of a sensor for quantitative determination of hydroxymethylfurfural (HMF) in honey is an indicator of the freshness of honey. A practical presentation of HMF assessment in routine control of Honey samples using the developed electro-chemical sensor was demonstrated.

Part of the symposium was a pannier market where participating companies presented their products.

NATIONAL SYMPOSIUM « QUALITY AND SAFETY OF BEE PRODUCTS »

May 10, 2023

AGENDA

09:30	REGISTRATION OF PARTICIPANTS				
10:00	WELCOME AND OPENING SPEECH				
	Prof. Dr. Skënder GJINUSHI, President of the Academy of Sciences of Albania				
	Prof. Dr. Fatbardh SALLAKU, Rector of the Agricultural University of Tirana (UBT)				
	Representatives from the Ministry of Agriculture and Rural Development (MBZHR).				
	Representative from the FAO office for Albania				
	Representatives from GIZ				





	Moderator Prof.Dr. Majlinda Vasjari		
11:00	OVERVIEW OF BEEKEEPING AND THE PRODUCTION OF ITS PRODUCTS		
	Dr. Vitor MALUTAJ, President of the National Federation of Beekeepers of Albania (FKBSH)		
11:20	INNOVATIVE METHODS OF BEEKEEPING		
	Prof. Dr. Lumturi SENA, Agricultural University of Tirana UBT		
11:40	TREATMENT OF BEE DISEASES AND THE PRESENCE OF RESIDUES IN ITS PRODUCTS		
	Dr. Pëllumb ALEKSI, Director of the Food Safety and Veterinary Institute (ISUV)		
12:00	CHARACTERIZATION OF HONEY PRODUCED IN DIFFERENT REGIONS OF ALBANIA		
	Dr. Elona SHAHU, Food Safety and Veterinary Institute ISUV		
12:20	COFFEE BREAK		
	Moderator: Dr. Fatjon HOXHA		
12:40	QUALITY AND SAFETY OF BEE PRODUCTS: CURRENT LEGISLATION & STANDARDS		
	Prof. Dr. Renata KONGOLI, Agricultural University of Tirana, UBT		
13:00	CONTAMINATION OF BEE PRODUCTS		
	Dr. Kastriot KORRO, Agricultural University of Tirana UBT		
13:20	DEVELOPMENT OF A NEW ELECTROCHEMICAL SENSOR FOR THE DETERMINATION OF "HMF" FOR HONEY QUALITY ASSESSMENT		
	Prof. As. Nevila Broli, SUSNANO, NanoAlb-ASH, University of Tirana.		
13:40	CLASSIC PHYSICO-CHEMICAL METHODS AND SOPHISTICATED INSTRUMENTAL METHODS IN ASSESSING THE NATURALITY OF HONEY.		
	Dr. Fatjon HOXHA, Agricultural University of Tirana UBT		
14:00	POSSIBLE POTENTIAL OF ENTERING THE EUROPEAN MARKET OF BEE PRODUCTS		
	Prof. Dr.Halim Hyseni, Ministry of Agriculture and Rural Development		
14:20	LUNCH BREAK		
15:00	GEOGRAPHICAL INDICATORS: THE CASE OF CHESTNUT HONEY IN THE AREA OF REÇ AND TROPOJA		
	Dr. Shpresim DOMI, Agricultural University of Tirana, UBT		
15:20	THE ROLE OF MICROSCOPIC EXAMINATION IN THE EVALUATION OF UNIFLOREAL HONEY		
	Prof. Asoc. Blerina PUPULEKU, "Aleksandër Xhuvani" University, Elbasan.		
15:40	EVALUATION OF THE PRESENCE OF ANTIBIOTICS IN FOOD PRODUCTS WITH NANOSENSORS		
	Prof. Dr. Majlinda Vasjari, USNANO, NanoAlb-ASH, University of Tirana		
16:00	Conclusions		





List of participants

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1.3 Workshop on implementation of "NanoAlb Ignite Projects 2022-2023", 5th June 2023

The purpose of this workshop is to present the work done during the 1-year period in the implementation of "NanoAlb Ignite Projects 2022-2023" in the field of nanoscience and nanotechnology (Academy of Sciences of Albania). The main goal is to promote collaborations between research groups from the NanoAlb community and further with other national and international institutions, with the aim of facilitating the exchange of knowledge between scientists working in different fields and exploring new synergies in the field of nanoscience, nanotechnology that relate to important applications in health, materials science, environment, food safety, as well as agricultural applications. In this workshop the project coordinators presented the implementation of the projects, the activities carried out, the results achieved and the continuity not only in their full realization but also on other joint collaborations within the framework of national and international calls.

Program

080.30 - 09.00	Registration of Participants
09.00 - 09.20	Welcome speech
	Acad. Skënder Gjinushi
	President of the Academy of Sciences of Albania
	Acad. Arben Merkoçi
	Coordinator of NanoAlb, Academy of Sciences of Albania
	ICREA Professor, Catalan Institute of Nanoscience and Nanotechnology, Barcelona,
	Spain.
09.20 - 09.40	Think Macro-Explore Nano: Studying Nano-Bio Interactions Based on
	Toxicological and Computational Approaches
	PhD. Ledia Vasjari
	Project coordinator
	Department of Biology, Faculty of Natural Sciences, University of Tirana.



09.40 - 10.00	Towards the establishment of the Biosensors Unit at the Molecular Biotechnologies Group, NanoAlb - The use of whole-cell and electrochemical biosensors for measuring water and soil toxicity in the Albanian coastline <i>Prof. Dr. Ariola Bacu</i> Project coordinator Department of Biotechnology, Faculty of Natural Sciences, University of Tirana
10.00 -10.20	Preparation and characterization of pure PVA nanofibers-electrofibers and PVA/MMT matrix to encapsulate essential oil of Albanian medicinal plants for biomedical applications <i>Prof. Dr. Partizan Malkaj</i> Project coordinator Department of Physical Engineering, Polytechnic University of Tirana.
10.20 - 10.40	Coffee break
10.40 - 11.00	Development of a new electrochemical sensor for the determination of hydroxy methyl furfural for honey quality control.
	Prof.Ass.Dr. Liridon Berisha Project coordinator Department of Chemistry, Faculty of Mathematics and Natural Sciences, University of Pristina
11.00 - 11.20	Nanosensor for the certification of local and imported wines based on the level of their antioxidants. <i>Prof. Dr. Kledi Xhaxhiu</i> Project coordinator SUSNANO member, Department of Chemistry, Faculty of Natural Sciences, University of Tirana.
11.20-11.40	Conclusions and closing of the Workshop

List of participants

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2. International Conference(s) organised by SUSNANO Consortium Partners

2.1 International Conference "Trends in Nano Technology 2022", 3rd – 7th October 2022

TNT2022 have been organized in Tirana (Albania) for the 2nd year in a row in particular to launch a new conference series denominated nanoBalkan. This high-level scientific meeting TNT series aims to present a broad range of current research in Nanoscience and Nanotechnology as well as related policies or other kind of initiatives such as NanoAlb. TNT events have demonstrated that they are particularly effective in transmitting information and establishing contacts among workers in this field.

On the occasion of TNT2022 several specific sessions on hot topics were organised:

- 1. "Graphene and 2DM" one-day Symposium;
- 2. Meet Editors of Biosensors and Bioelectronics journal, etc.
- 3. School of nanobiosensors 2022 was organized by ICN2 representatives, SUSNANO Partner. <u>School_Program.pdf (tntconf.org)</u>
- 4. Satelit workshop 3rd Workshop Cooperation event between Albania, Japan and Spain 3d_Workshop_Nanotechnologies_Albania_Japan_Spain.pdf (tntconf.org)
- 5. Training workshop: Practical advice on how to write Horizon Europe grant proposals were organized by SUSNANO project. <u>Program_of_Training_Workshop.pdf (tntconf.org)</u>
- 6. SUSNANO kick-off meeting <u>ICT Networking for Overcoming Technical and Social Barriers</u> in Instrumental Analytical Chemistry Education (tntconf.org)

NanoAlb & Academy of Science of Albania in collaboration with SUSNANO Albanian Team were local organiser of this Conference contributing to ensure all needed infrastructure, welcoming the participants and best hospitality. The conference was attended by 250 participants (www.tntconf.org/2022/participants.php)

SUSNANO representatives contributed with oral presentation on this international conference:

- 1. Michal Otyepka: "Unraveling Secrets of Photoluminescence of Carbon Dots by Computational Chemistry"
- 2. Valbona Aliko: "Molecular docking approach to elucidate potential genotoxic impact of copper engineered nanoparticles (CuO NP) upon red blood cells"
- 3. Majlinda Vasjari: "Surfactant modified carbon based platform for imunosensor development"
- 4. Kledi Xhaxhiu: "Elastic composite photo-chromatic sensors with micro and nano mixed valence inorganic fillers"
- 5. Ledia Vasjari: "Assessment of metal compounds potential to induce DNA breaks"
- 6. Alma Shehu: "Study on the distribution of ground level PM concentrations of urban air in most frequented places of Tirana City"
- 7. Nevila Broli: "Application of nanostructured carbon based voltammetric sensorsfor antibiotics analysis in real matrixes: pharmaceutical tablets, milk and environmental water"

Msc students also contributed in the conference with posters presentations:

- 1. Lueda Kulla: "Development of ferritin electrochemical immunosensor based on modified GCE platform"
- 2. Ondesa Zhupa: "Development of CPE modified with MWCNT for determination of azithromycin"





Website link to conference: <u>https://tntconf.org/2022/about.php</u> Conference programme <u>www.tntconf.org/2022/program.php</u> Number of participants 250 participants(<u>www.tntconf.org/2022/pdf_documentation.php</u>)



2.2 International Conference "nanoBalkan 2023", 16th – 20th October 2023

The 1st edition of the nanoBalkan International Conference (NB2023) was organised in Tirana, Albania, from 16th - 20th October 2023. This new high-level scientific meeting aims to present a broad range of current research in Nanoscience and Nanotechnology as well as related policies or other kind of initiatives such as NanoAlb.

The nanoBalkan2023 structure followed the same fundamental features of the previous events organised in Albania 2 years in a row, providing a unique opportunity for broad interaction.

The participation is very high scientific level. The Nobel Prize Kostya Novoselov (NUS, Singapore), had two plenary talks, one on "*AI for materials design*" and the second one *on*" *2D materials and van der Waals heterostructures: research and applications*".

SUSNANO project was co-organiser and one of the main sponsor of the Conference. SUSNANO organized during the conference the workshop on: Sustainable nanotech-based biosensors.



SUSNANO project enabled financially the participation of 8 distinguished personalities in the field of nanoscience, nanotech based sensors: Prof. Josef Wang, Prof. Martin Pumera, Prof. Jean-Jacques Toulmé, Prof. Sibel A. OZKAN, Prof. Mamas Prodromidis, Prof. Fabiana Arduini, Prof. Antonella Macagnano and Prof. Can Dincer.

NanoAlb & Academy of Science of Albania in collaboration with SUSNANO Albanian Team were local organiser of this Conference contributing to ensure all needed infrastructure, welcoming the participants and best hospitality. The conference was attended by 250 participants (www.nanobalkanconf.com/2023/participants.php).

On the occasion of nanoBalkan2023 several specific sessions on hot topics will be organised:

1. "Graphene and 2DM" one-day Symposium,

2. "Nanobiosensor School" <u>School_Program.pdf (nanobalkanconf.com)</u>

NanoBiosensors School nanoBalkan2023 abstracts book 2023.pdf (nanobalkanconf.com)

3. "Satellite Workshop - Project Management " <u>Satellite_Workshop_Project_Managemen.pdf</u> (nanobalkanconf.com)

4. "Satellite Workshop NETPORE"

https://www.nanobalkanconf.com/2023/FILES/Netpore_Workshopnp.pdf

5. "1st Satellite Workshop Albania-Italy-Spain on nanomedicine"

1st Workshop Italy Spain Albania.pdf (nanobalkanconf.com)

6. "4th Satellite Workshop - Cooperation event between Albania, Japan and Spain",

<u>4th_Workshop_Nanotechnologies_Albania_Japan_Spain.pdf (nanobalkanconf.com)</u>

7. "Sustainable nanotech-based biosensors"

https://www.nanobalkanconf.com/2023/FILES/Susnano_Workshop.pdf

SUSNANO representatives contributed with oral/presentation in the plenary sessions and /or in the specific sessions or satellite workshops:

- 1. Michal Otyepka Graphene Functionalization for Sensing
- 2. Petr Jakubec: presentation about Czech Advanced Technology and Research Institute (CATRIN)
- 3. Majlinda Vasjari- Modification of carbon based sensors with rGO doped with metal nanoparticles
- 4. Kledi Xhaxhiu The Ex-situ Electrochemical Determination of Bioactive Compounds: The Influence of Surface and Nano-modifiers
- 5. Lueda Kulla Development of GCE modified with graphene derivatives for detection of paraquat
- 6. Ana Ameda Electrochemical determination of heavy metals using hybrid nanosheets of Au@rGO
- 7. Sadik Cenolli Electrochemical detection of azithromycin based on modified carbon paste electrode
- 8. David Panáček: "Graphene Nanobeacons with High-Affinity Pockets for Combined, Selective and Effective Decontamination and Reagentless Detection of Heavy Metals".
- 9. Martin-Alex Nalepa: "Click and detect: Versatile ampicillin aptasensor enabled by click chemistry on a graphene–alkyne derivative"
- 10. Ruslán Alvarez-Diduk "Laser-Scribed rGO Electrodes Decorated with Metal Nanoparticles: Fabrication and Sensing Applications" ICN2 Invited Nanobiosensors school
- 11. Gabriel Maroli (ICN2, Spain) Enhancing Resistive Humidity Sensors with rGO Resistors for Thermal Compensation.

SUSNANO team members also contributed with poster presentations.





Abstracts book: www.nanobalkanconf.com/2023/index.php

- Website link to conference <u>www.nanobalkanconf.com/2023/about.php</u>
- Conference programme <u>www.nanobalkanconf.com/2023/program.php</u>
- Number of participants <u>www.nanobalkanconf.com/2023/pdf_documentation.php</u>







3. International Conference(s) attended by SUSNANO Consortium Partners

3.1 4th International Eurasian Conference on Science, Engineering and Technology, Ankara, Turkey, 14th – 16th December 2022

The 4th International Eurasian Conference on Science, Engineering and Technology (EurasianSciEnTech 2022) was organized ONLINE on December 14-16, 2022. The aim objective of "EurasianSciEnTech 2022" was to bring together leading academicians, researchers, scholars as well as industrial professionals from all over the world to exchange and share their experiences and research results about all aspects of Science, Engineering and Technology and discuss the practical challenges encountered and the solutions adopted.

This conference was attended online from the SUSNANO Albanian team members and contributed with an oral presentation:

1. Nevila Broli (UT), "Electrochemical sensor based on graphene oxide modified glassy carbon electrode for azithromycin determination".

Website link to conference: https://www.eurasianscientech.org

3.2 Conference Chem2Dmat2023, Bologna Italy, 15th – 18th May 2023

The chem2Dmat2023 International Conference was organised in-person (Bologna, Italy: May 15-18, 2023). This 4th edition covered all areas related to 2D materials' chemistry spanning their synthesis as well as their functionalization, using covalent and non-covalent approaches, for composites, foams and coatings, membranes, (bio-)sensing, (electro- and photo-)catalysis, energy conversion, harvesting and storage, electronics, nanomedicine, biomaterials, with sessions on the following themes:

- Synthesis, processing and multiscale characterization
- Bottom-up growth
- Covalent and non-covalent functionalization
- Synthetic two-dimensional materials
- Design of 3D functional materials from layered systems

The conference was attended by one of the UPO team members who contributed with an oral presentation:

1. Michal Otyepka (UPO), "Graphene derivatives for electrochemical biosensing".

Website link to conference: https://www.chem2dmatconf.org

3.3 "Biosensors", Busan, South Korea, 5th – 8th June 2023

<u>Biosensors 2023</u>, the 33rd Anniversary World Congress on Biosensors Conference, was held from the 5th to the 8th June 2023 in Busan, South Korea. It brought together the biosensor community for a four-day event filled with insightful discussions, innovative research presentations, and engaging poster sessions. The conference, organized and sponsored by Elsevier/Biosensors & Bioelectronics, showcased the latest advancements in biosensor technologies and their applications in various fields.

This edition of the largest and most well-established event in the biosensor industry was co-chaired by Prof. Arben Merkoçi. Additionally, numerous members from his group, including doctoral students and postdoctoral researchers, made valuable contributions through oral presentations and poster sessions.



1. Ruslán Alvarez (ICN2), "One step production of graphene-based hybrid nanostructures for sensing and biosensing applications".



Website link to conference: <u>https://www.elsevier.com/events/conferences/all/anniversary-world-congress-on-biosensors</u>

3.4 Congress on Food Quality and Safety, Health and Nutrition-Nutricon, Ohrid, North Macedonia, 7th – 9th June 2023.

NUTRICON Congress series is the largest multidisciplinary world platform dedicated to: Food Quality and Safety, Health and Nutrition. NUTRICON is bringing together the scientific and expert work of: nutritionists, human medicine and dental doctors, food technologists and engineers, chemists, microbiologists, veterinarians, agricultural engineers, economists, etc. connected with food, to gain comprehensive insight and understanding of today's food quality, safety, health, and nutrition issues. Each the congress have around 200 participants from all over the world.

This Congress is organized in cooperation with: European Hygienic Engineering and Design Group (EHEDG), Global Harmonization Initiative (GHI), European Chemical Society (EuChemS), Black Sea Association of Food Science and Technology (B-FoST), the Journal of Hygienic Engineering and Design, and Nutrients.

SUSNANO experts from Albania contributed in this congress with poster presenting the work done in the frame of the project SUSNANO relating with antibiotic determination using modified CPEs.

- 1. Nevila Broli (UT), "A selective voltammetric sensor based on graphene oxide modified carbon paste electrode for the determination of azithromycin",
- 2. Sadik Cenolli (UT), "Determination of antibiotics with carbon paste electrodes modified with nanomaterials",
- 3. Majlinda Vasjari (UT), "Electrochemical determination of azithromycin based on CNT modified CPE".

Photos: <u>https://www.facebook.com/media/set/?set=a.1633551577141162&type=3</u>





3.5 2nd International Conference on Water Environmental protection and Sustainable Development, Tirana, Albania, 22nd – 23rd September 2023

Academy of Sciences of Albania in collaboration with the University of Tirana, the Agricultural University of Tirana, the EBTNA-Euro Biotech Thematic Network Association, the Cost Action EPICATCH, the COST Action 18238 Ocean4Biotech, the University Ben Gurion of Negev, Izrael, and the University of Ioannina, Greece, organize the 2nd International Conference on Water Environmental Protection and Sustainable Development-WEPSD", on September 22-23, 2023, in Tirana, Albania as an opportunity for researchers and lecturers from universities, institutions, businesses, and other private and public agencies to share and discuss practices, innovations, research initiatives, and problematics related to water environmental protection and sustainable development.

The conference was attended by SUSNANO representatives and contributed with oral two presentations:

- 2. Alma Shehu (UT), "Assessment of the chemical status of Vjosa river catchment due to heavy metals distribution in surface water",
- 3. Majlinda Vasjari (UT), "Monitoring and evaluation of water quality of Vjosa river and its tributaries".

Website link to conference: <u>https://en.ata.gov.al/2023/09/22</u>