



Denisse-Iulia Bostiog

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ABOUT ME

I have a profound passion for advancing scientific knowledge through innovative research. Throughout my academic journey, I have developed a strong foundation in nanoparticle functionalization, proteomics, and advanced analytical techniques.

Experienced in utilizing advanced data processing techniques for accurate and reliable analysis.

Demonstrated ability to tackle complex research problems and develop innovative solutions.

Maintained rigorous documentation and ensured high standards of accuracy in all experimental procedures.

WORK EXPERIENCE

Research Assistant in Chemistry

Institute of Macromolecular Chemistry Petru Poni [01/05/2022 – 31/12/2023]

City: Iasi | Country: Romania

„Versatile molecular vectors for the transport and delivery of genes and drugs in the fight against cancer (TM-Vector)”

I successfully functionalized gold nanoparticles, showcasing their versatility in drug delivery, gene delivery, radiotracers for SPECT and PET imaging and antioxidant activities.

Research Assistant in Chemistry

Institute of Macromolecular Chemistry Petru Poni [13/01/2024 – Current]

City: Iasi | Country: Romania

“Intelligent systems for cancer diagnosis and treatment (IntelDots)”

Research Assistant in Chemistry

Institute of Macromolecular Chemistry Petru Poni [06/06/2024 – Current]

“Multifunctional hybrid 3D architectures based on hollow GaN nano-micro-tetrapods for advanced applications at Petru Poni Institute of Macromolecular Chemistry (MultiPodGaN)”

EDUCATION AND TRAINING

PhD. in Chemistry

“Petru Poni” Institute of Macromolecular Chemistry [01/11/2021 – Current]

City: Iasi | Country: Romania

I developed expertise in establishing a comprehensive protocol for synthesizing polymer-coated gold nanoparticles and systematically functionalizing them to serve as nonviral vectors. Additionally, I utilized physicochemical methods for rigorous characterization and data processing, contributing to the publication of research articles.

SENSORFINT Third Training School

Poznań University of Economics and Business (PUEB), Institute of Quality Science Poznań [03/07/2024 – 05/07/2024]

City: Poznan | Country: Poland

Introduction to NIR, MIR and fluorescence spectroscopy.
Key aspects in the development of applications.
Spectral data processing: calibration and validation.
Applications of spectral sensors in food applications.
Practical sessions for spectra collection with different spectroscopic techniques.
Practical sessions for data processing.

MSCA-SE 2021: Marie Skłodowska-Curie Actions - Staff Exchange (SE)

Estonian University of Life Sciences (EMU) [30/09/2023 – 30/10/2023]

City: Tartu | Country: Estonia

Analysis of the volatile organic compounds emitted by extracellular vesicles for disease diagnosis using **High-performance liquid chromatography (HPLC)**.

Master degree

Alexandru Ioan Cuza University of Iasi [30/09/2019 – 31/05/2021]

City: Iasi | Country: Romania | Field(s) of study: Chemistry of pharmaceutical and cosmetic products | Thesis: Proteomics - a multidisciplinary approach for the identification of proteins in biological samples.

The study involved the isolation of vimentin from U87 tumor cell culture, followed by the separation of vimentin using SDS-PAGE one-dimensional gel electrophoresis technique. Subsequently, the analysis was conducted using solid phase laser-assisted matrix desorption ionization (MALDI-TOF).

Bachelor degree

Alexandru Ioan Cuza University of Iasi [30/09/2016 – 09/06/2019]

City: Iași | Country: Romania | Field(s) of study: Technological biochemistry | Thesis: Methods for protein quantification

I employed two spectral techniques, UV-Vis spectroscopy and fluorescence spectroscopy, to meticulously examine the interaction between bovine serum albumin (BSA) and eosin Y.

Inspector in the science and safety of work

Alexandru Ioan Cuza University of Iasi [02/02/2020 – 15/02/2020]

City: Iasi | Country: Romania

Level I and level II psychopedagogical module

Alexandru Ioan Cuza University of Iasi [30/09/2016 – 30/04/2021]

Perform a+, 5th Edition

Antibiotice [30/09/2020 – 31/10/2020]

City: Iasi | Country: Romania

LANGUAGE SKILLS

Mother tongue(s): Romanian

Other language(s):

English

LISTENING B2 READING B2 WRITING B2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

Spanish

LISTENING B1 READING A2 WRITING A1

SPOKEN PRODUCTION A1 SPOKEN INTERACTION A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

ImageJ software / Microsoft Office / Origin Pro / Good knowledge of software for the processing of molecular structures (ChemDraw).

DRIVING LICENCE

Driving Licence: AM

Driving Licence: B1

Driving Licence: B

PUBLICATIONS

[2023]

Multilayer gold nanoparticles as non-viral vectors for targeting MCF-7 cancer cells.

Craciun Bogdan-Florin, Clima Lilia, **Bostiog Denisse Iulia**, Silion Mihaela, Calin Manuela, Peptanariu Dragos, Pinteala Mariana

Biomaterials Advances, 144, 213201

[2024]

Radiolabeled multi-layered coated gold nanoparticles as potential biocompatible PET/SPECT tracers.

Uritu, C.M., Al-Matarneh, C.M., **Bostiog, D.I.**, Coroaba, A., Ghizdovat, V., Filipiuc, S.I., Simionescu, N., Stefanescu, C., Jalloul, W., Nastasa, V. and Tamba, B.I.

Journal of Materials Chemistry B, 12(15), pp.3659-3675.

[2024]

Multi-shell gold nanoparticles functionalized with methotrexate: a novel nanotherapeutic approach for improved antitumoral and antioxidant activity and enhanced biocompatibility

Bostiog, D.I., Simionescu, N., Coroaba, A., Marinas, I.C., Chifiriuc, M.C., Pircalabioru, G.G., Maier, S.S., and Pinteala, M.

Drug Delivery, 31, 2388624

[2024]

Binary and Ternary Inclusion Complexes of Niflumic Acid: Synthesis, Characterization, and Dissolution Profile

Bouchehou, Z., Hadj Ziane-Zafour, A., Lupascu, F.G., Profire, B.S., Nicolescu, A., **Bostiog, D.I.**, Doroftei, F., Dascalu, I.A., Varganici, C.D., Pinteala, M. and Profire, L.

Pharmaceutics, 16, 1190. <https://doi.org/10.3390/pharmaceutics16091190>

CONFERENCES AND SEMINARS

[28/05/2021] "Dunarea de Jos" University of Galati, Romania

Sustainable foods for a safety future: a healthy and quality life vision "Proteomics - multidisciplinary procedures for prolamins identification."

[05/11/2021] Institute of Macromolecular Chemistry Petru Poni, Iasi, Romania

SCIEX-ANTISEL Mass Spectrometry

[21/04/2022 – 29/04/2022] Mugla, Turkey

7th International Congress on Biomaterials and Biosensors (BIOMATSEN) "Investigations on the layer by layer multi-shell gold nanoparticles functionalization for the development of effective non-viral gene vectors."

[08/09/2022 – 15/09/2022] Dubrovnik, Croatia.

14th International Conference on Physics of Advanced Material (IPCAM-14) "Multi-shell gold nanoparticles functionalized with methotrexate for targeted therapy of breast cancer."

[02/03/2023 – 05/03/2023] Iasi, Romania

XXXIIIth edition of the International Congress of "Apollonia" University of Iasi "By promoting excellence, we prepare the future" "Methotrexate-functionalized multi-shell gold nanoparticles for drug delivery applications".

[04/06/2023 – 07/06/2023] Montpellier, France

12th International Symposium on Polyimides & High Performances Materials aka STEPI12 "Innovations in Cancer Imaging and Therapy: The Role of Nanoparticles and Radiotracers".

[11/09/2024 – 13/09/2024] Iasi, Romania

30th edition of PolyChar World Forum on Advanced Materials (PolyChar'30) "Obtaining and comprehensive analysis of polymeric-based carbon nanostructures".

VOLUNTEERING

[31/10/2020 – 30/04/2021] Institute of Macromolecular Chemistry Petru Poni

Chemist G-Quartet Hydrogels for effective cell growth application.

[30/09/2016 – 30/04/2019] Alexandru Ioan Cuza University of Iasi

Voluntary I undertook responsibilities encompassing managerial, organizational, relational, and psychological support.

OTHER SKILLS

Other skills

- Data analysis of Scanning Transmission Electron Microscopy (STEM) and Transmission Electron Microscopy (TEM)
- Data analysis and Instrument Operation of Dynamic and Electrophoretic Light Scattering (DLS)
- Data analysis and Instrument Operation of UV-Visible Spectrophotometry (UV-Vis)
- Data analysis and Instrument Operation of Fourier-Transform Infrared Spectroscopy (FTIR) and Attenuated Total Reflectance FTIR (ATR-FTIR)
- Data analysis and operation of Sodium dodecyl-sulfate polyacrylamide gel electrophoresis (SDS-Page)
- Data analysis and operation of Enzymatic Digestion Techniques
- Documentation procedures
- Protocol Optimization
- Chemical synthesis and analysis
- Supramolecular Chemistry
- Inorganic Chemistry
- Polymer Chemistry
- Chemistry Education
- Data analysis
- Gene therapy
- Drug delivery
- Nanomaterials
- Easily adaptable
- Team work
- Data Entry