Curriculum vitae

PERSONAL INFORMATION

Andra-Sorina Tatar

Cluj-Napoca (Romania)

+40740473888

tatar.andra@yahoo.com, andra.tatar@itim-cj.ro

WORK EXPERIENCE

05/2022–present **Project Director**

@ National Institute for Research & Development of Isotopic & Molecular Technologies (INCDTIM), Project PN-III-P1-1_1-TE-2021-0234, Cluj-Napoca (Romania)

Project title: *Gold nanourchin (GNU)-based SERS microfluidic immunosensor for the early detection of Alzheimer's Disease (AD) relevant biomarkers*

03/2022–present **Research Assistant**

@ INCDTIM, Project PN-III-P4-ID-PCE-2020-1607, Cluj-Napoca (Romania)

Project title: *Active tuning of plasmon resonances in gold nanoparticle arrays on elastomeric substrates for ultrasensitive dual MEF/SERS biosensing*

09/2020–10/2021 **Project Director**

@ Interdisciplinary Research Institute in Bio-Nano-Sciences (ICI-BNS), Babes-Bolyai University (UBB), Project PN-III-P1-1.1-PD-2019-0387, Cluj-Napoca (Romania)

Project title: *Development of SERS-active, NIR-responsive urchin-like gold nanoagents (GNUs) for stimuli-triggered theranostic applications against hematological malignancies*

04/2020–06/2021 **Project Director**

@ Babes-Bolyai University, Young Researchers' Grants, Project GTC:31369, Cluj-Napoca (Romania)

Project title: *Development of Smart Nanosystems for the Targeted Delivery and Controlled Release of Hydrophobic Molecules*

01/2020–12/2021 **Research Assistant**

@ ICI-BNS, UBB, Project PN-III-P1-1.1-TE-2016-0919, Cluj-Napoca (Romania)

Project title: *Nanoparticulate Systems for the Identification of Oncogenes and Delivery of Tumor Inhibitors: New Strategies for Individualized Treatment of B-lineage Leukemias*

12/2018–12/2021 **Research assistant**

@ ICI-BNS, UBB, Project PN-III-P4-ID-PCCF-2016-0142, Cluj-Napoca (Romania)

Project title: *New Targeted Optical Imaging NanoProbes for NIR Real-Time Image-Guided Surgery of Ovarian Cancer*

10/2018–12/2018 **Research Assistant**

@ ICI-BNS, UBB, Project PN-III-P3-3.1-PM-RO-FR-2016-0053, Cluj-Napoca (Romania)

Project title: *Development of a highly sensitive and specific nanobiosensor based on surface enhanced vibrational spectroscopy dedicated to the* in vitro *protein detection and disease diagnosis*

10/2015–12/2017 **Research Assistant**

@ ICI-BNS, UBB, Project PN-II-RU-TE-2014-4-2426, Cluj-Napoca (Romania)

Project title: *Implementation of multifunctional nanomaterials for the early detection and treatment of Acute Lymphoblastic Leukemia using non-invasive techniques*

03/2016–05/2016 **Research Assistant**

@ ICI-BNS, UBB, Project 15-SEE-PC-RO-CLUJNAP03, Cluj-Napoca (Romania)

Project title: *Nanotechnology approach in Acute Myeloid Leukemia management*

EDUCATION AND TRAINING

10/2015–06/2019 **PhD in Physics**
@ Faculty of Physics, Babes-Bolyai University, Cluj-Napoca (Romania)
Thesis title: *Antibody-targeted plasmonic nanoparticles for potential theranostic applications in Acute Lymphoblastic Leukemia*

10/2012–07/2015 **Bachelor of Science (BS): Physics**
@ Faculty of Physics, Babes-Bolyai University, Cluj-Napoca (Romania)
Thesis title: *Conjugation of gold nanoparticles with Tyrosine Kinase Inhibitors for applications against Acute Myeloid Leukemia*

10/2012–07/2014 **Master of Science (MS): Molecular Biotechnologies**
@ Faculty of Biology and Geology, Babes-Bolyai University, Cluj-Napoca (Romania)
Thesis title: *FT-IR spectroscopy for evaluation of DNA extraction yield from archaeological samples*

10/2009–07/2012 **Bachelor of Science (BS): Biochemistry**
@ Faculty of Biology and Geology, Babes-Bolyai University, Cluj-Napoca (Romania)
Thesis title: *Antimicrobial effect of Silver Nanoparticles*

PERSONAL SKILLS

Mother tongue(s): Romanian

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C2	C2	C2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages - Self-assessment grid

Other skills and competencies

- dexterity and fast-learning in the lab, acquired by working with multiple research groups:
  - isotropic and anisotropic nanoparticle synthesis and characterization (UV-Vis-NIR, fluorescence, and Raman/SERS spectroscopies, DLS and zeta-potential measurements)
  - nanoparticle bio-functionalization (polymeric molecules, targeting ligands, reporter dyes)
  - Raman/SERS mapping
  - cancer cell culture, viability assays, cell fixation, cellular imaging
  - DNA extraction, PCR, electrophoresis, bacterial cell culture
- writing thoroughly documented reports and papers
- relevant digital skills (research databases, bioinformatics tools, Office tools, ImageJ, Origin)
- communication skills obtained and developed through • oral presentations; • participation at scientific conferences; • involvement in public events for raising scientific awareness; • team-work
- organizational skills developed and broadened by • rational time-management of workload most notably while simultaneously doing the MSc and BSc (2012-2014) or working on multiple projects (2015-2018; 2020-ongoing); • team-work with lab colleagues
- patience and attention to detail

Scholarship

- 1 year Postdoctoral Researcher Entrepreneur Scholarship, Project POCU/380/6/13/123886; Project title: *Entrepreneurship for innovation through doctoral and postdoctoral research:* July 2020 - June 2021

  Research project title: *Development of a sandwich-type SERS immuno-nanosensor for the detection of biomarkers in liquid samples*

Practice stages

- Research collaboration with the Institute of Molecules and Materials of Le Mans (IMMM), Le Mans, France, in the group of Prof. Dr. Marc Lamy de la Chapelle, October-November 2018
- Training on WITec Raman microscope (WITec GmbH, Ulm, Germany), at The Leibniz Institute of Photonic Technology (IPHT), Jena, Germany, under the supervision of Dr. Dana Cialla-May, October 2016
- Research collaboration with the Centre for Cancer Biomarkers (CCBIO), University of Bergen, Bergen, Norway, 22-29 March 2016

Courses and Training Schools

- 14th International Summer Schools on Nanosciences & Nanotechnologies, Organic Electronics and Nanomedicine, 4-11 July 2020, Thessaloniki, Greece
- COST Training School "Cutting Edge Approaches for the Risk Assessment and Management of Nano-(bio)materials: From the Lab to the Market", 8-11 April 2019, Trieste, Italy
- International School of Biophysics “Imaging for Biomedical Applications”, 5-7 September 2018, Bucharest, Romania
- COST Raman4Clinics Summer School: Clinical Biophotonics, 29 May - 1 June 2016, Jena, Germany