



Alexandra Falamas

Nationality: Romanian

Date of birth:

Email address: afalamas@gmail.com

Address: 67-103 Donat Str., 400293 Cluj-Napoca (Romania)

WORK EXPERIENCE

Scientific Researcher II

National Institute for Research and Development of Isotopic and Molecular Technologies, INCDTIM [Jun 2021 – Current]

City: Cluj-Napoca

Country: Romania

Research area:

- Molecular sensors development based on enhanced Raman scattering and/or fluorescence enhancement using metallic and semiconducting nanostructures with controlled optical properties;
- Investigation of ultrafast photoinduced processes in molecular and biomolecular samples using time-resolved molecular spectroscopy.

Scientific Researcher III

INCDTIM [Jun 2015 – Jun 2021]

City: Cluj-Napoca

Country: Romania

Research area:

- Developing and implementing spectroscopic tools for ultra-sensitive and non-invasive diagnosis of oral cancer;
- Investigation of ultrafast photoinduced processes in molecular and biomolecular samples using time-resolved molecular spectroscopy.

Project director:

1. "Photoinduced ultrafast dynamics in hybrid metal-ZnO nanomaterials designed for amplified fluorescence and SERS performance" (ZnOFluoSERS) – PN-III-P1-1.1-TE-2019-1141;
2. "Raman spectroscopy applied for ultra-sensitive diagnosis of saliva and radiotherapy treatment monitoring of oral cancer" (RAMSES) – PN-III-P1-1.1-PD-145/2018.

Key research person:

1. "Developing photosensitive materials based on phycobiliproteins extracted from cyanobacteria for solar cells applications", project component of TehnoBioMed project PN-III-P1-1.2-PCCDI-2017.

Team member:

1. "Photochemical behavior of some polydopamine-based nanostructures" - PN-III-P4-ID-PCE-2020-0770;
2. "Nanostructured microfluidic analytical platform for dual SERS-electrochemical detection of emerging environmental pollutants" (Polsens) - NO Grant – Collaborative Research Projects - RO-NO-2019-0517;
3. "Nanostructured plasmonic platform for dual electrochemical/SERS detection of environmentally persistent pharmaceutical pollutants (PharmExER)" - PN-III-P2-2.1-PED-2019-5473.

Scientific Researcher

INCDTIM [Jun 2013 – Jun 2015]

City: Cluj-Napoca

Country: Romania

Researcher Assistant

Babes Bolyai UNIVERSITY, Faculty of Physics [May 2009 – Jan 2012]

City: Cluj-Napoca

Country: Romania

Team member:

"Cancer diagnostic and monitoring using ultrasensitive Raman spectroscopy techniques" PN-II-PCE-ID-2284 No. 537/2009.

EDUCATION AND TRAINING

PhD in Physics

Babes Bolyai University, Faculty of Physics [Oct 2009 – Feb 2013]

Address: 1 M. Kogalniceanu Street, 400084 Cluj-Napoca (Romania)

<https://www.ubbcluj.ro/ro/>

Field(s) of study: Physics

Thesis: Raman spectroscopy applied for the investigation of biological systems

Major contributions:

- *Completing the first molecular structure elucidation of betulin, an anticancer natural agent extracted from autochthonous flora;*
- *In vivo diagnosis of mice skin cancer using micro-Raman spectroscopy and monitoring the effectiveness of the locally applied treatment based on the natural compound betulin;*
- *Achieving molecular fingerprint of cancerous tissue using incubated nanosensors;*
- *Monitoring the intra-cellular distribution of nucleic acids specific Raman biomarkers characteristic to the differentiation process of stem cells.*

Masters of Science in Biophysics and Medical Physics Diploma

Babes Bolyai University, Faculty of Physics [Oct 2008 – Feb 2010]

Address: (Romania)

Bachelor of Science in Physics Engineering

Babes Bolyai University, Faculty of Physics [Oct 2003 – Jun 2008]

Address: (Romania)

POSTGRADUATE RESEARCH

Ph.D. visiting student

[Jan 2012 – Oct 2012]

Biophotonics Group of dr. Ioan Notingher at the Faculty of Physics and Astronomy, Nottingham University, UK

Erasmus student

[Feb 2009 – Sep 2009]

Spectroscopy and Imaging Department of Prof. Dr. Jürgen Popp at the Institute for Photonics Technologies (IPHT), Jena, Germany

LANGUAGE SKILLS

Mother tongue(s): **Romanian**

Other language(s):

English

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

German

LISTENING B1 READING B1 WRITING B1

SPOKEN PRODUCTION B1 SPOKEN INTERACTION B1

ORGANISATIONAL SKILLS

Organizer of the first scientific café in Cluj-Napoca

www.facebook.com/cafescicluj