

PERSONAL INFORMATION

Ștefania-Dana Iancu



📍 Cluj-Napoca, (Romania)

✉ stefania.iancu@ubbcluj.ro

WORK EXPERIENCE

02/03/2021–Present

Research assistant

Babes-Bolyai University, Cluj-Napoca (Romania)

Assessment of genomic DNA methylation by Surface-enhanced Raman scattering

01/10/2021–01/03/2022

Associate teacher

Technical University, Cluj-Napoca (Romania)

General physics laboratory

08/10/2018–30/09/2020

Research assistant

University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca (Romania)

Raman mapping on vegetal tissue for the localisation of internalized nanoparticles

01/02/2018–31/08/2020

Research assistant

IMOGEN Medical Research Institute, County Clinical Emergency Hospital, Cluj-Napoca

Synthesis of core-shell Fe₃O₄@Au nanoparticles as potential MRI contrast agents <https://imatfib.ro/>

01/10/2017–01/07/2020

Volunteer

Student Association of the Physics Faculty, Cluj-Napoca

- volunteer at 'The Saturday of Experiments' 2016, 2017, 2019

- volunteer at 'The Researchers Night' 2018

- member in the organizing committee of various events with aim of popularizing science

09/01/2017–21/02/2018

Employee

Stratec Biomedical Company

software testing of medical instruments

01/05/2012–01/03/2013

Volunteer

Center of inclusive education "Bradet", Bradet (Romania)

2011–2012

Volunteer

Hospice, Casa Sperantei, Brasov

fundraising

EDUCATION AND TRAINING

01/10/2020–Present

Phd

Babeș-Bolyai University, Cluj-Napoca (Romania)

Faculty of Physics, Department of Biophysics and Medical Physics

Phd topic: The application of Surface-enhanced Raman scattering and machine learning algorithms in the medical field

Teaching: Atomic physics laboratories, Numerical process modelling laboratories

01/08/2018–01/07/2020

Master

Babeş-Bolyai University, Cluj-Napoca (Romania)

Master study: Biophysics and Medical Physics

Bachelor thesis: *Gastrointestinal cancer detection based on liquid biopsy analysed by SERS*

01/10/2015–04/07/2018

Bachelor

Babeş-Bolyai University, Cluj-Napoca (Romania)

Bachelor study: Medical Physics

Bachelor thesis: *Raman and fluorescence mapping for lipofuscin and norbixin distribution in retinal epithelial cells*

15/09/2007–15/06/2015

Baccalaureate

National College "Dr. Ioan Mesota", Brasov (Romania)

I attended the courses of a German bilingual class for natural sciences

PERSONAL SKILLS

Mother tongue(s) Romanian

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
German	C1	C1	C1	C1	C1
Deutsches Sprachdiplom					
English	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills - good communication skills

Organisational / managerial skills -leadership course Leadership Autentic 2012

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem-solving
Independent user	Independent user	Basic user	Basic user	Basic user

[Digital skills - Self-assessment grid](#)

Atestat de competente digitale, nivel avansat

Driving licence B

ADDITIONAL INFORMATION

Honours and awards 4th place on the innovation contest from Medicine University "Iuliu Hatieganu" with the project "Orientation electronic device" (2016)

Seminars Schaefer SouthEast Europe

Participation at workshop ' Atomic Force microscopy applications in material science and biomedical research' (2017)

- Courses**
- Member of the The International Society for Clinical Spectroscopy starting with 2022.
 - International CLIRSPEC/CLIRPath-AI Summer School 2022 (12-15 July Windermere, UK)
 - Interdisciplinary digital summer school on mining biological data (BioSpec Norway research group 15-20 Iunie 2020)
 - Palliative care course Casa Sperantei Hospice, Brasov (Romania)

- Conferences**
- S.D. Iancu**, V. Moisoiu, A.B. Tigu, A.M.Chiriac et al., *Malignant DNA detection based on the adsorption affinity to silver nanoparticles*, 17th National Conference of Biophysics with International Participation, 23-25 September 2022, Târgu Mureş, oral presentation.
 - SD Iancu**, R Cozan, N Leopold, *Surface-enhanced Raman spectroscopy and machine learning analysis of biofluids for cancer screening* 18th Annual conference of the Metabolomics Society 2022, 19-23 June 2022, Valencia, poster presentation.
 - S.D. Iancu**, V. Moisoiu, A. Stefanu, A. Biriş , O. Chakirou, C. Coman, L.F. Leopold, L. Szabo, Z. Bălint, N. Leopold *Raman and fluorescence mapping for lipofuscin and norbixin distribution in retinal epithelial cells*, poster presentation at the international conference 'Biomedical Photonics', Montpellier 2018.
 - S.D. Iancu**, V. Moisoiu, A. Stefanu, A. Biriş, L. Szabo, Z. Bălint, N. Leopold *Iron Oxide-Gold Nanoparticles Functionalised with Glucose as Potential Superparamagnetic Contrast Agents*, oral presentation at the National Biophysics Conference, Bucharest 2018.
 - S.D. Iancu**, Andrei Stefanu, Vlad Moisoiu, Zoltán Bălint, Loredana F. Leopold, Nicolae Leopold *THE ROLE OF Ag⁺, Ca²⁺, Mg²⁺, Pb²⁺, Al³⁺ ADIONS FOR SERS OF ANIONIC SPECIES*, poster presentation at the international conference 'Raman Fest 2019', Oxford 2019.
 - C. Budurea, S. Pop, A. Iliescu, **S.D. Iancu**, V. Coman, S. Manole, M.Coman, L. Popa, C. Ciortea, Z. Bălint *Validarea volumului atriei stâng măsurat cu ecocardiografie, față de metoda standard (IRM) la pacienți cu fibrilație atrială și martori sănătoși* Conferința Națională de cardiologie 2019.
 - S Pop, C Budurea, A M Iliescu, **S D Iancu**, V Coman, S Manole, M Coman, C Ciortea, Z Balint *P352 Global myocardial wall strain decreases in patients with atrial fibrillation: a pilot cohort study* European Heart Journal - Cardiovascular Imaging, Volume 21, Issue Supplement_1, January 2020.
 - C. Budurea, S. Pop, A. Iliescu, **S. D. Iancu**, V. Coman, S. Manole, M. Coman, C. Ciortea, Z. Bălint *Validation of echocardiography-based determination of left atrial volume against the gold standard, magnetic resonance imaging, in healthy volunteers and patients with atrial fibrillation* Sesiune Rapide Fire - Congres National Cardiologie 18-21 Septembrie 2019 Sinaia, Romania.
 - P Sorin, C Budurea, A Iliescu, **S Iancu** *Clinical database of patients with atrial fibrillation, the imATFIB study* Biomedical and Imaging Approaches in the Management of Atrial Fibrillation, 7-9 Noiembrie 2019, Cluj-Napoca, Romania.
 - S.D. Iancu**, A. Stefanu, L.F. Leopold, N. Leopold *The Role of Ag⁺, Ca²⁺, Mg²⁺, Pb²⁺, or Al³⁺ Adions in the Surface-enhanced Raman Scattering (SERS) of Organic Acids* oral presentation, National Online Conference of Biophysics 2020.
 - S.D. Iancu**, A. Stefanu, N. Leopold, L. F. Leopold *Detection of TiO₂ Nanoparticles in Soybean Plant by VIS-NIR Hyperspectral Imaging* poster presentation poster presentation National Online Conference of Biophysics 2020.
 - S. D. Iancu**, A. Stefanu, R.G. Cozan, N. Leopold *Selective SERS detection of anionic and cationic analytes from their mixture* International Conference Interfaces-From new materials to life science-Structure, Interactions, Dynamics and Activity 2021.
- Publications**
- N. Leopold, A. Stefanu, K. Herman, I. Todor, **S.D. Iancu**, V. Moisoiu, L.F. Leopold *The role of adatoms in chloride-activated colloidal silver nanoparticles for surface-enhanced Raman scattering enhancement*, Beilstein Journal of Nanotechnology, 9, 2236, 2018.
 - A. Stefanu, **S.D. Iancu**, V. Moisoiu, N. Leopold *Specific and selective SERS active sites generation on silver nanoparticles by cationic and anionic adatoms*, Romanian Reports in Physics, 70, 509, 2018.

V. Moisoiu, A. Socaciu, A. Stefanu, **S.D. Iancu**, I. Boros, C. Alecsa, C. Rachieriu, A.R. Chiorean, D. Eniu, N. Leopold, C. Socaciu, D.T. Eniu *Breast Cancer Diagnosis by Surface-Enhanced Raman Scattering (SERS) of Urine*, Applied Sciences, 9, 806. 2019.

Stefanu, A., M. Badarinza, V. Moisoiu, **S. D. Iancu**, O. Serban, N. Leopold, and D. Fodor. 'SERS-based liquid biopsy of saliva and serum from patients with Sjogren's syndrome', *Anal Bioanal Chem*, 1618-2650, 2019.

V. Moisoiu, A. Stefanu, **S. D. Iancu**, T. Moisoiu, L. Loga, L. Dican, C. D. Alecsa, I. Boros, A. Jurj, D. Dima, C. Bagacean, R. Tetean, E. Burzo, C. Tomuleasa, F. Elec, N. Leopold *SERS assessment of the cancer-specific methylation pattern of genomic DNA: towards the detection of acute myeloid leukemia in patients undergoing hematopoietic stem cell transplantation*, *Anal Bioanal Chem*, 7907-7913, 2019.

Iancu, S. D.; Stefanu, A.; Moisoiu, V.; Leopold, L. F.; Leopold, N. *The role of Ag⁺, Ca²⁺, Pb²⁺ and Al³⁺ adions in the SERS turn-on effect of anionic analytes*, Beilstein J. Nanotechnol. 2338–2345, 2019.

Pop S., Budurea C., Iliescu A.M., **Iancu S.D.**, Coman V., Manole S., Coman M., Ciortea C., Balint Z. *Global myocardial wall strain decreases in patients with atrial fibrillation: a pilot cohort study* European Heart Journal - Cardiovascular Imaging, Volume 21, Issue Supplement_1, January 2020.

Avram, L.; **Iancu, S.D.**; Stefanu, A.; Moisoiu, V.; Colnita, A.; Marconi, D.; Donca, V.; Buzdugan, E.; Craciun, R.; Leopold, N.; Crisan, N.; Coman, I.; Crisan, D. *SERS-Based Liquid Biopsy of Gastrointestinal Tumors Using a Portable Raman Device Operating in a Clinical Environment*. J. Clin. Med. 2020, 9, 212.

A. Stefanu, **S.D. Iancu**, L. F. Leopold, N. Leopold *Contribution of chemical interface damping to the shift of surface plasmon resonance energy of gold nanoparticles*, Romanian Reports in Physics, 402, 2020.

Moisoiu V., Badarinza M., Stefanu A., **Iancu S.D.**, Serban O., Leopold N., Fodor D., *Combining surface-enhanced Raman scattering (SERS) of saliva and two-dimensional shear wave elastography (2D-SWE) of the parotid glands in the diagnosis of Sjögren's syndrome*, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 235, 2020, ISSN 1386-1425.

Tódor I.S., Marişca O.T., Rugină D., Zorița Diaconeasa Z., Leopold L.F., Coman C., Antonescu E., Szabó L., **Iancu S.D.**, Bálint Z., Leopold N. *Photothermal property assessment of gold nanoparticle assemblies obtained by hydroxylamine reduction*. Colloid Polym Sci, 2020.

Iancu SD, Albu C, Chiriac L, Moldovan R, Stefanu A, Moisoiu V, Coman V, Szabo L, Leopold N, Bálint Z. *Assessment of Gold-Coated Iron Oxide Nanoparticles as Negative T2 Contrast Agent in Small Animal MRI Studies*. Int J Nanomedicine. 2020;15:4811-4824.

Turcas C., Moisoiu V., Stefanu A., Jurj A., **Iancu S.D.**, Teodorescu P., Pasca S., Bojan A., Trifa A., Iluta S., Zimta A.A., Petrushev B., Zdrenghia M., Bumbea H., Coriu D., Dima D., Leopold N., Tomuleasa C. *SERS-Based Assessment of MRD in Acute Promyelocytic Leukemia?* Front. Oncol., 29 June 2020.

A. Stefanu, **S.D. Iancu**, V. Coman, L.F. Leopold, N. Leopold, *Tuning the potential of nanoelectrodes to maximum: Ag and Au nanoparticles dissolution by I-adsorption via Mg²⁺ adions*, Romanian Reports in Physics 73, 501. 2021.

V. Moisoiu, V. Sas, A. Stefanu, **S. D. Iancu**, A. Jurj, S. Pasca, S. Iluta, A. Zimta, A. B. Tigu, P. Teodorescu, C. Turcas, C. Blag, D. Dima, G. Popa, S. Arghirescu, S. Man, A. Colita, N. Leopold, C. Tomuleasa *SERS-based evaluation of the DNA methylation pattern associated with progression in clonal leukemogenesis of Down syndrome*, Frontiers in Bioengineering and Biotechnology, 9, 2021.

A. Stefanu, **S.D. Iancu**, N. Leopold, *Selective Single Molecule SERRS of Cationic and Anionic Dyes by Cl⁻ and Mg²⁺ Adions: An Old New Idea*, The Journal of Physical Chemistry C, 2021.

M. Lehene, D. Plesa, S. Ionescu-Zinca, **S. D. Iancu**, N. Leopold, S. V. Makarov, A. M.V. Brânzanic, R. Silaghi-Dumitrescu *Adduct of Aquacobalamin with Hydrogen Peroxide*, Inorganic Chemistry, 2021.

V. Moisoiu, **S. D. Iancu**, A. Stefanu, T. Moisoiu, B. Pardini, M. P. Dragomir, N. Crisan, L. Avram, D. Crisan, I. Andras, D. Fodor, L. F. Leopold, C. Socaciu, Z. Bálint, C. Tomuleasa, F. Elec, N. Leopold *SERS liquid biopsy: an emerging tool for medical diagnosis*, Colloids and Surfaces B: Biointerfaces, 112064, 2021.

A. Stefanu, V. Moisoiu, M. Desmirean, **S. D. Iancu**, A. B. Tigu, B. Petrushev, A. Jurj, R. G. Cozan, L. Budisan, B. Fetica, A. Roman, G. Dobie, C. Turcas, M. Zdrenghia, P. Teodorescu, S. Pasca, D. Piciu, D. Dima, Z. Bálint, N. Leopold, C. Tomuleasa *SERS-based DNA methylation profiling allows the differential diagnosis of malignant lymphadenopathy*, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 120216, 2021.

S. Manole, C. Budurea, S. Pop, A.M. Iliescu, C.A. Ciortea, **S.D. Iancu**, L. Popa, M. Coman, L. Szabó, V. Coman, Z. Bálint. Life; Basel Vol. 11, Iss. 12, 2021.

S.D. Iancu, R.G. Cozan, A. Stefanu, M. David, T. Moisoiu, C. Moroz-Dubenco, A. Bajcsi, C. Chira, A. Andreica, L. F. Leopold, D. Eniu, A. Staicu, I. Goiescu, C. Socaciu, D. T. Eniu, L. Diosan, N. Leopold,

SERS liquid biopsy in breast cancer. What can we learn from SERS on serum and urine?, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 273, 2022.

Stefancu, A.; Moisoiu, V.; Desmirean, M.; **Iancu, S.D.**; Tigu, A.B.; Petrushev, B.; Jurj, A.; Cozan, R.G.; Budisan, L.; Fetica, B., et al. SERS-based DNA methylation profiling allows the differential diagnosis of malignant lymphadenopathy. *Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy* 2022, 264.

Scurtu, V.F.; Clapa, D.; Leopold, L.F.; Ranga, F.; **Iancu, Ş.D.**; Cadiş, A.I.; Coman, V.; Socaci, S.A.; Moş, A.C.; Coman, C. Gadolinium Accumulation and Toxicity on In Vitro Grown *Stevia rebaudiana*: A Case-Study on Gadobutrol *International Journal of Molecular Sciences* 2022, 23,.

Leopold, L.F.; Coman, C.; Clapa, D.; Oprea, I.; Toma, A.; Iancu, Ş.D.; Barbu-Tudoran, L.; Suci, M.; Ciorîţă, A.; Cadiş, A.I., et al. The effect of 100–200 nm ZnO and TiO₂ nanoparticles on the in vitro-grown soybean plants. *Colloids and Surfaces B: Biointerfaces* 2022, 216, doi:10.1016/j.colsurfb.2022.112536.

Burghilea, D.; Moisoiu, T.; Ivan, C.; Elec, A.; Munteanu, A.; **Iancu, Ş.D.**; Truta, A.; Kacso, T.P.; Antal, O.; Socaci, C., et al. The Use of Machine Learning Algorithms and the Mass Spectrometry Lipidomic Profile of Serum for the Evaluation of Tacrolimus Exposure and Toxicity in Kidney Transplant Recipients. *Biomedicines* 2022.

Bocsa, D.C.; Socaci, C.; **Iancu, S.D.**; Pelea, M.A.; Gutiu, R.I.; Leopold, N.; Fodor, D. Stage related metabolic profile of the synovial fluid in patients with acute flares of knee osteoarthritis. *Medicine and Pharmacy Reports* 2022, 95, 438-445.

Moisoiu, T., Dragomir, M.P., **Iancu, S.D.**, et al. Combined miRNA and SERS urine liquid biopsy for the point-of-care diagnosis and molecular stratification of bladder cancer. *Molecular Medicine* 28, 39 2022.

Fellowships

2019: Traineeship Erasmus fellowship at Technische Universität Chemnitz, Germany

Synthesis of silver nanotriangles for reproducible Surface-enhance Raman scattering applications

2018-2019: Performance fellowship obtained from the Babeş-Bolyai University:

SERS Detection and Analysis of Amino Acids and Carboxylic Organic Acids

2018-2019: Member of College for Advanced Performance studies at the Babeş-Bolyai University:

Multiplex Lab-on-a-Chip-SERS for liquid biopsy

2019-2020: Member of College for Advanced Performance studies at the Babeş-Bolyai University:

Cancer detection using SERS spectroscopy