

**UNIVERSITATEA BABEȘ-BOLYAI**

**Facultatea de Fizică**

**Domeniul de licență: Fizică**

**Programul de studii: Fizică**

**TABEL PRIVIND INDEPLINIREA INDICATORULUI**

„Cadrele didactice titulare\* au pregătirea inițială, sunt doctori / doctoranzi și cercetează în domeniul în care se includ disciplinele din postul ocupat.”

Nr. crt.	Gradul didactic, numele și prenumele titularului vârsta / vechimea în învățământul superior	Disciplinele din cadrul programului de studii incluse în postul didactic și tipul activității desfășurate (curs, seminar, lucrări, proiect)	Competența cadrului didactic titular în disciplinele din postul didactic			Constatări privind îndeplinirea indicatorului
			Universitatea/facultatea/specializarea absolvită	Specializarea la masterat/doctorat	Numărul de cărți, numărul de lucrări științifice, numărul de brevete în domeniul disciplinelor din postul didactic ** conform Anexelor 5.1, 5.2 etc	
1.	Prof. dr. Nicolae Leopold 51 / 26	Fizica atomului, curs	Universitatea Babeș-Bolyai din Cluj-Napoca / Facultatea de Fizică / Departamentul Fizică Biomoleculară	Doctorat în fizica	teza (A); 1 capitole de carte (B1); 21 lucrări indexate ISI (C1-C4, C9, C10, C20-C32, C50, C59); 5 lucrări în rev. și vol. conf. (D3-D5, D11, D12); 2 brevet de invenție (E2, E3)	îndeplinit
2						
3						
4						
5						

\* Din statul de funcții cumulativ al tuturor disciplinelor și tuturor activităților didactice desfășurate în cadrul programului de studii evaluat.

\*\* Se indică numărul pe următoarele tipuri de lucrări:  
A – teza de doctorat  
B – Cărți și capitole în cărți publicate în ultimii XX ani  
C – Lucrări indexate ISI/BDI publicate în ultimii XX ani

D – Lucrări publicate în ultimii XX ani în reviste și volume de conferințe cu referenți (neindexate); pentru lucrările publicate în volume de conferințe se selectează de maximum 20 articole.  
E – Brevete acordate în întreaga activitate.  
Persoanele incluse în tabelul de mai sus anexează câte o listă de lucrări după modelul de mai jos.

Universitatea

Facultatea

Catedra

**Prof. dr. ..**

Universitatea Babeș-Bolyai din Cluj-Napoca

Facultatea de Fizică

Catedra Fizică Biomoleculară

Prof. dr. Nicolae Leopold

## L I S T A

### lucrărilor științifice în domeniul disciplinelor din postul didactic

#### A. Teza de doctorat

Nicolae Leopold, *New experimental designs for automated surface enhanced Raman scattering investigation of pharmacologically relevant molecules*, May 2004 Universitatea Babeș-Bolyai Cluj-Napoca

#### B. Cărți și capitole în cărți publicate în ultimii 10 ani

1. S. D. Iancu, R. G. Cozan, O. M. Biro, V. Moisoiu and N. Leopold, "Label-free SERS liquid biopsy for medical diagnostics" in *Vibrational Biospectroscopy*, Bayden Wood & Max Diem Eds., Wiley (accepted, April 2026).

#### C. Lucrări indexate ISI/BDI publicate în ultimii 10 ani

- [1] G. Ion, A.M. Chiriac, R.A. Ciceo-Lucacel, V. Moisoiu, A. Stefancu, S.D. Iancu, N. Leopold, *ROLE OF Ca<sup>2+</sup> IN SERS: SURFACE Ag<sup>+</sup> FORMATION AND ANION ADSORPTION – A MECHANISTIC APPROACH*, Romanian Reports in Physics, 78 **2026**.
- [2] S.D. Iancu, V. Moisoiu, B.A. Tigu, A. Stefancu, O.M. Biro, C. Tomuleasa, N. Leopold, *SERS-based detection of DNA methylation for cancer diagnosis: Cation-mediated adsorption to silver nanoparticles*, PLOS ONE, 20 **2025**.
- [3] R.G. Cozan, S. Pop, L.M. Crețu, M. Mocan, D. Andraș, D.A. Maniu, I. Mandrutiu, Z. Barabas-Cuzmici, L. Szabó, S.D. Iancu, N. Leopold, *Surface-enhanced Raman spectroscopy (SERS) metabolite profiling of pleural fluid*, Applied Physics Letters, 127 **2025**.
- [4] A.M. Chiriac, R.A. Ciceo-Lucacel, S.D. Iancu, N. Leopold, *Citrate-reduced silver nanoparticles: Synthesis temperature dependent properties*, Applied Surface Science, 709 **2025**.
- [5] A. Bancos, A. Ivancuta, V. Moisoiu, A.B. Tigu, D. Gulei, M. Nistor, C.S. Moldovan, D. Kegyes, D. Cenariu, M. Zdrenghia, A. Bojan, S.D. Iancu, N. Leopold, G. Ghiaur, H. Bumbea, A. Tanase, H. Einsele, S.O. Ciurea, C. Tomuleasa, *Advances in measurable residual disease assessment for acute myeloid leukemia: from cytogenetics*

- and molecular biology to assessment of the methylation pattern and surface-enhanced Raman scattering as emerging technologies, *Biomarker Research*, 13 **2025**.
- [6] A. Bancos, S.D. Iancu, V. Moisoiu, A. Ghiaur, A.B. Tigu, C. Buran, G. Ion, C. Stancioaica, B. Ionescu, M. Dragomir, C.F. Buldus, D. Cenariu, M. Nistor, D. Kegyes, D. Gulei, N. Leopold, D. Coriu, C. Tomuleasa, *SERS-Based Assessment of DNA Methylation for the Evaluation of Measurable Residual Disease in Acute Promyelocytic Leukaemia*, *Journal of Cellular and Molecular Medicine*, 29 **2025**.
- [7] D. Andras, S.D. Iancu, R.G. Cozan, M. Zetes, G. Crisan, C.F. Buldus, I. Andras, V. Bintintan, G.C. Dindelegan, N. Leopold, *SERS liquid biopsy in colorectal cancer detection and treatment response: Revealing metabolic memory post-radiochemotherapy*, *Nanomedicine: Nanotechnology, Biology, and Medicine*, 68 **2025**.
- [8] D. Andras, R.G. Cozan, D.E. Muresan, V. Moisoiu, G. Crisan, V. Bintintan, G.C. Dindelegan, N. Leopold, S.D. Iancu, *Advancing Breast Cancer Diagnosis: Optimization of Raman Spectroscopy for Urine-Based Early Detection*, *Biomedicines*, 13 **2025**.
- [9] A. Stefancu, J. Gargiulo, G. Laufersky, B. Auguié, V. Chiş, E.C. Le Ru, M. Liu, N. Leopold, E. Cortés, *Interface-Dependent Selectivity in Plasmon-Driven Chemical Reactions*, *ACS Nano*, 17 **2023** 3119-3127.
- [10] M.P. de Almeida, C. Rodrigues, Â. Novais, F. Grosso, N. Leopold, L. Peixe, R. Franco, E. Pereira, *Silver Nanostar-Based SERS for the Discrimination of Clinically Relevant Acinetobacter baumannii and Klebsiella pneumoniae Species and Clones*, *Biosensors*, 13 **2023**.
- [11] V. Coman, V.F. Scurtu, C. Coman, D. Clapa, Ş.D. Iancu, N. Leopold, L.F. Leopold, *Effects of polystyrene nanoplastics exposure on in vitro-grown Stevia rebaudiana plants*, *Plant Physiology and Biochemistry*, 197 **2023**.
- [12] A. Stefancu, L. Nan, L. Zhu, V. Chiş, I. Bald, M. Liu, N. Leopold, S.A. Maier, E. Cortes, *Controlling Plasmonic Chemistry Pathways through Specific Ion Effects*, *Advanced Optical Materials*, 10 **2022**.
- [13] A. Stefancu, 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. Zdrenghea, 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*, 264 **2022**.
- [14] A. Stefancu, O.M. Biro, O. Todor-Boer, I. Botiz, E. Cortés, N. Leopold, *Halide-Metal Complexes at Plasmonic Interfaces Create New Decay Pathways for Plasmons and Excited Molecules*, *ACS Photonics*, 9 **2022** 895-904.
- [15] T. Moisoiu, S.D. Iancu, D. Burghelea, M.P. Dragomir, G. Iacob, A. Stefancu, R.G. Cozan, O. Antal, Z. Bálint, V. Muntean, R.I. Badea, E. Licarete, N. Leopold, F.I. Elec, *SERS Liquid Biopsy Profiling of Serum for the Diagnosis of Kidney Cancer*, *Biomedicines*, 10 **2022**.
- [16] T. Moisoiu, M.P. Dragomir, S.D. Iancu, S. Schallenberg, G. Birolo, G. Ferrero, D. Burghelea, A. Stefancu, R.G. Cozan, E. Licarete, A. Allione, G. Matullo, G. Iacob, Z. Bálint, R.I. Badea, A. Naccarati, D. Horst, B. Pardini, N. Leopold, F. Elec, *Combined miRNA and SERS urine liquid biopsy for the point-of-care diagnosis and molecular stratification of bladder cancer*, *Molecular Medicine*, 28 **2022**.
- [17] L.F. Leopold, C. Coman, D. Clapa, I. Oprea, A. Toma, Ş.D. Iancu, L. Barbu-Tudoran, M. Suciu, A. Ciorîţă, A.I. Cadiş, L.E. Mureşan, I.M. Perhaiţa, L. Copolovici, D.M. Copolovici, F. Copaciu, N. Leopold, D.C. Vodnar, V. Coman, *The effect of 100–200 nm ZnO and TiO<sub>2</sub> nanoparticles on the in vitro-grown soybean plants*, *Colloids and Surfaces B: Biointerfaces*, 216 **2022**.
- [18] S.D. Iancu, R.G. Cozan, A. Stefancu, M. David, T. Moisoiu, C. Moroz-Dubenco, A. Bajcsi, C. Chira, A. Andreica, L.F. Leopold, D. Eniu, A. Staicu, I. Goidescu, 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**.
- [19] D.C. Bocsa, C. Socaciu, S.D. Iancu, M.A. Pelea, R.I. Gutiu, N. Leopold, D. Fodor, *Stage related metabolic profile of the synovial fluid in patients with acute flares of knee osteoarthritis*, *Medicine and Pharmacy Reports*, 95 **2022** 438-445.

- [20] A. Stefanu, S. Lee, L. Zhu, M. Liu, R.C. Lucacel, E. Cortés, N. Leopold, *Fermi Level Equilibration at the Metal-Molecule Interface in Plasmonic Systems*, Nano Letters, 21 **2021** 6592-6599.
- [21] A. Stefanu, S.D. Iancu, N. Leopold, *Selective Single Molecule SERRS of Cationic and Anionic Dyes by Cl- and Mg<sup>2+</sup> Adions: An Old New Idea*, Journal of Physical Chemistry C, 125 **2021** 12802-12810.
- [22] 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 mg<sup>2+</sup> adions*, Romanian Reports in Physics, 73 **2021**.
- [23] V. Moisoiu, V. Sas, A. Stefanu, S.D. Iancu, A. Jurj, S. Pasca, S. Iluta, A.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**.
- [24] 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, 208 **2021**.
- [25] 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, 60 **2021** 12681-12684.
- [26] C. Turcas, V. Moisoiu, A. Stefanu, A. Jurj, S.D. Iancu, P. Teodorescu, S. Pasca, A. Bojan, A. Trifa, S. Iluta, A.A. Zimta, B. Petrushev, M. Zdrenghia, H. Bumbea, D. Coriu, D. Dima, N. Leopold, C. Tomuleasa, *SERS-Based Assessment of MRD in Acute Promyelocytic Leukemia?*, Frontiers in Oncology, 10 **2020**.
- [27] I.S. Tódor, O.T. Marişca, D. Rugină, Z. Diaconeasa, L.F. Leopold, C. Coman, E. Antonescu, L. Szabó, S.D. Iancu, Z. Bálint, N. Leopold, *Photothermal property assessment of gold nanoparticle assemblies obtained by hydroxylamine reduction*, Colloid and Polymer Science, 298 **2020** 1369-1377.
- [28] G.F. Ştiufiuc, V. Toma, M. Buse, R. Mărginean, G. Morar-Bolba, B. Culic, R. Tetean, N. Leopold, I. Pavel, C.M. Lucaciu, R.I. Ştiufiuc, *Solid plasmonic substrates for breast cancer detection by means of SERS analysis of blood plasma*, Nanomaterials, 10 **2020** 1-15.
- [29] 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, 72 **2020**.
- [30] V. Moisoiu, M. Badarinza, A. Stefanu, S.D. Iancu, O. Serban, N. Leopold, D. Fodor, *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, 235 **2020**.
- [31] L.F. Leopold, O. Marişca, I. Oprea, D. Rugină, M. Suciu, M. Nistor, M. Tofană, N. Leopold, C. Coman, *Cellular internalization of beta-carotene loaded polyelectrolyte multilayer capsules by Raman mapping*, Molecules, 25 **2020**.
- [32] S.D. Iancu, C. Albu, L. Chiriac, R. Moldovan, A. Stefanu, V. Moisoiu, V. Coman, L. Szabo, N. Leopold, Z. Bálint, *Assessment of gold-coated iron oxide nanoparticles as negative T2 contrast agent in small animal MRI studies*, International Journal of Nanomedicine, 15 **2020** 4811-4824.
- [33] Z. Diaconeasa, I. Ştirbu, J. Xiao, N. Leopold, Z. Ayvaz, C. Danciu, H. Ayvaz, A. Stănilă, M. Nistor, C. Socaciu, *Anthocyanins, vibrant color pigments, and their role in skin cancer prevention*, Biomedicines, 8 **2020**.
- [34] L. Avram, S.D. Iancu, A. Stefanu, V. Moisoiu, A. Colnita, D. Marconi, V. Donca, E. Buzdugan, R. Craciun, N. Leopold, N. Crisan, I. Coman, D. Crisan, *SERS-based liquid biopsy of gastrointestinal tumors using a portable raman device operating in a clinical environment*, Journal of Clinical Medicine, 9 **2020**.
- [35] A. Stefanu, M. Badarinza, V. Moisoiu, S.D. Iancu, O. Serban, N. Leopold, D. Fodor, *SERS-based liquid biopsy of saliva and serum from patients with Sjögren's syndrome*, Analytical and bioanalytical chemistry, 411 **2019** 5877-5883.

- [36] V. Moisoiu, A. Stefancu, 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*, Analytical and bioanalytical chemistry, 411 **2019** 7907-7913.
- [37] V. Moisoiu, A. Stefancu, D. Gulei, R. Boitor, L. Magdo, L. Raduly, S. Pasca, P. Kubelac, N. Mehterov, V. Chiş, M. Simon, M. Muresan, A.I. Irimie, M. Baciut, R. Stiufiuc, I.E. Pavel, P. Achimas-Cadariu, C. Ionescu, V. Lazar, V. Sarafian, I. Notingher, N. Leopold, I. Berindan-Neagoe, *SERS-based differential diagnosis between multiple solid malignancies: Breast, colorectal, lung, ovarian and oral cancer*, International Journal of Nanomedicine, 14 **2019** 6165-6178.
- [38] V. Moisoiu, A. Socaciu, A. Stefancu, S.D. Iancu, I. Boros, C.D. 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 (Switzerland), 9 **2019**.
- [39] O.T. Marişca, N. Leopold, *Anisotropic gold nanoparticle-cell interactions mediated by collagen*, Materials, 12 **2019**.
- [40] L.F. Leopold, D. Rugină, I. Oprea, Z. Diaconeasa, N. Leopold, M. Suciuc, V. Coman, D.C. Vodnar, A. Pinteau, C. Coman, *Warfarin-capped gold nanoparticles: Synthesis, cytotoxicity, and cellular uptake*, Molecules, 24 **2019**.
- [41] S.D. Iancu, A. Stefancu, V. Moisoiu, L.F. Leopold, N. Leopold, *The role of Ag<sup>+</sup>, Ca<sup>2+</sup>, Pb<sup>2+</sup> and Al<sup>3+</sup> adions in the SERS turn-on effect of anionic analytes*, Beilstein Journal of Nanotechnology, 10 **2019** 2338-2345.
- [42] C.D. Hosu, V. Moisoiu, A. Stefancu, E. Antonescu, L.F. Leopold, N. Leopold, D. Fodor, *Raman spectroscopy applications in rheumatology*, Lasers in Medical Science, 34 **2019** 827-834.
- [43] M.P. de Almeida, N. Leopold, R. Franco, E. Pereira, *Expedite SERS fingerprinting of Portuguese white wines using plasmonic silver nanostars*, Frontiers in Chemistry, 7 **2019**.
- [44] C.D. Bocsa, V. Moisoiu, A. Stefancu, L.F. Leopold, N. Leopold, D. Fodor, *Knee osteoarthritis grading by resonant Raman and surface-enhanced Raman scattering (SERS) analysis of synovial fluid*, Nanomedicine: Nanotechnology, Biology, and Medicine, 20 **2019**.
- [45] A. Stefancu, V. Moisoiu, R. Couti, I. Andras, R. Rahota, D. Crisan, I.E. Pavel, C. Socaciu, N. Leopold, N. Crisan, *Combining SERS analysis of serum with PSA levels for improving the detection of prostate cancer*, Nanomedicine, 13 **2018** 2455-2467.
- [46] A. Stefancu, V. Moisoiu, C. Bocsa, Z. Bálint, D.T. Cosma, I.A. Veresiu, V. Chiş, N. Leopold, F. Elec, *SERS-based quantification of albuminuria in the normal-to-mildly increased range*, Analyst, 143 **2018** 5372-5379.
- [47] A. Stefancu, 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 **2018**.
- [48] R.M. Pop, I.C. Puia, A. Puia, V.S. Chedea, N. Leopold, I.C. Bocsan, A.D. Buzoianu, *Characterization of Trametes versicolor: Medicinal mushroom with important health benefits*, Notulae Botanicae Horti Agrobotanici Cluj-Napoca, 46 **2018** 343-349.
- [49] A.C. Mot, C. Bischin, G. Damian, A.A.A. Attia, E. Gal, N. Dina, N. Leopold, R. Silaghi-Dumitrescu, *Fe(III) – Sulfide interaction in globins: Characterization and quest for a putative Fe(IV)-sulfide species*, Journal of Inorganic Biochemistry, 179 **2018** 32-39.
- [50] N. Leopold, A. Stefancu, K. Herman, I.S. Tódor, 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 **2018** 2236-2247.
- [51] A. Jurj, L. Pop, B. Petrushev, S. Pasca, D. Dima, I. Frinc, D. Deak, M. Desmirean, A. Trifa, B. Fetica, G. Gafencu, S. Selicean, V. Moisoiu, W.T. Micu, C. Berce, A. Sacu, A. Moldovan, A. Colita, H. Bumbea, A. Tanase, A. Dascalescu, M. Zdrenghia, R. Stiufiuc, N. Leopold, R. Tetean, E. Burzo, C. Tomuleasa, I. Berindan-Neagoe, *Exosome-carried microRNA-based signature as a cellular trigger for the evolution of chronic*

*lymphocytic leukemia into Richter syndrome*, Critical Reviews in Clinical Laboratory Sciences, 55 **2018** 501-515.

[52] A. Cristea, A. Baricz, N. Leopold, C.G. Floare, G. Borodi, I. Kacso, S. Tripon, P.A. Bulzu, A.Ş. Andrei, O. Cadar, E.A. Levei, H.L. Banciu, *Polyhydroxybutyrate production by an extremely halotolerant Halomonas elongata strain isolated from the hypersaline meromictic Fără Fund Lake (Transylvanian Basin, Romania)*, Journal of Applied Microbiology, 125 **2018** 1343-1357.

[53] A.C. Mot, M. Pârvu, A.E. Pârvu, O. Roşca-Casian, N.E. Dina, N. Leopold, R. Silaghi-Dumitrescu, C. Mircea, *Reversible naftifine-induced carotenoid depigmentation in Rhodotorula mucilaginosa (A. Jörg.) F.C. Harrison causing onychomycosis*, Scientific Reports, 7 **2017**.

[54] R. Luchian, E. Vințeler, C. Chiş, M. Vasilescu, N. Leopold, J.P. Prates Ramalho, V. Chiş, *Conformational Preference and Spectroscopical Characteristics of the Active Pharmaceutical Ingredient Levetiracetam*, Journal of Pharmaceutical Sciences, 106 **2017** 3564-3573.

[55] L.F. Leopold, I.S. Tódor, Z. Diaconeasa, D. Rugină, A. Ştefancu, N. Leopold, C. Coman, *Assessment of PEG and BSA-PEG gold nanoparticles cellular interaction*, Colloids and Surfaces A: Physicochemical and Engineering Aspects, 532 **2017** 70-76.

[56] N.E. Dina, H. Zhou, A. Colniţă, N. Leopold, T. Szoke-Nagy, C. Coman, C. Haisch, *Rapid single-cell detection and identification of pathogens by using surface-enhanced Raman spectroscopy*, Analyst, 142 **2017** 1782-1789.

[57] N.E. Dina, A. Leş, A. Baricz, T. Szöke-Nagy, N. Leopold, C. Sârbu, H.L. Banciu, *Discrimination of haloarchaeal genera using Raman spectroscopy and robust methods for multivariate data analysis*, Journal of Raman Spectroscopy, 48 **2017** 1122-1126.

[58] A. Colniţă, N.E. Dina, N. Leopold, D.C. Vodnar, D. Bogdan, S.A. Porav, L. David, *Characterization and discrimination of gram-positive bacteria using raman spectroscopy with the aid of principal component analysis*, Nanomaterials, 7 **2017**.

[59] O.M. Buja, O.D. Gordan, N. Leopold, A. Morschhauser, J. Nestler, D.R.T. Zahn, *Microfluidic setup for on-line SERS monitoring using laser induced nanoparticle spots as SERS active substrate*, Beilstein Journal of Nanotechnology, 8 **2017** 237-243.

[60] C. Bischin, A. Mot, A. Stefancu, N. Leopold, D. Hathazi, G. Damian, R. Silaghi-Dumitrescu, *Chlorite reactivity with myoglobin: Analogy with peroxide and nitrite chemistry?*, Journal of Inorganic Biochemistry, 172 **2017** 122-128.

[61] A.S. Andrei, M.R. Pausan, T. Tamas, N. Har, L. Barbu-Tudoran, N. Leopold, H.L. Banciu, *Diversity and biomineralization potential of the epilithic bacterial communities inhabiting the oldest public stone monument of Cluj-Napoca (Transylvania, Romania)*, Frontiers in Microbiology, 8 **2017**.

[62] N.E. Dina, C.M. Muntean, N. Leopold, A. Fălămas, A. Halmagyi, A. Coste, *Structural changes induced in grapevine (Vitis vinifera L.) DNA by femtosecond laser pulses: A surface-enhanced Raman spectroscopic study*, Nanomaterials, 6 **2016**.

#### **D. Lucrări publicate în ultimii 10 anii în reviste și volume de conferințe cu referenți (neindexate)**

##### **- Reviste**

1. N.E.D. Mircescu, C.M. Muntean, N. Leopold, *Discrimination of grapevine genomic DNA using surface-enhanced raman spectroscopy and PCA*, NATO Science for Peace and Security Series B: Physics and Biophysics, Place Published, 2017, pp. 499-500
2. Dina, N. E., A. Colnita, **N. Leopold** and C. Haisch, *Rapid single-cell detection and identification of bacteria by using surface-enhanced Raman spectroscopy*, Proceedings Paper,

Conference: 26th Anniversary World Congress on Biosensors (Biosensors 2016), Gothenburg, SWEDEN, MAY 25-27, **2016** Book Series: Procedia Technology, Volume: 27, Pages: 203-207, Edited by: A. Turner and A. Tang Publisher, Elsevier Science Bv Amsterdam, Netherlands, 2017, Accession Number: WOS:000419272600088

**- Selecție cu maximum 20 lucrări în volume de conferințe**

3. Nicolae Leopold Generation of SERS active sites for anionic analytes by Ag<sup>+</sup>, Ca<sup>2+</sup>, Pb<sup>2+</sup> and Al<sup>3+</sup> adions SERS Round Table, on-line conference, 26-27 October 2020, oral presentation
4. Stefania D. Iancu , Ramona G. Cozan, Loredana F. Leopold , Andrei Stefancu, Nicolae Leopold, SERS switch-on effect by specific adsorption of cationic and anionic analytes to silver nanoparticles, Interfaces International Conference From new materials to life science – Structure, Interactions, Dynamics and Activity September 21st – September 25th 2021, Santa Margherita (CA), Sardinia, Italy, Book of Abstract p.O11, oral presentation.
5. Nicolae Leopold, Stefania D. Iancu, Andrei Stefancu, SERS switch on/off mediated by adions, 11th International Conference on Advanced Vibrational Spectroscopy (ICAVS), 23rd-26th August 2021, Krakow Poland, oral presentation.
6. Andrei Stefancu, Stefania D. Iancu, Nicolae Leopold, T6-I: The role of adsorbed ions (adions) at metal molecule interface in plasmonic nanoparticles, 12th International Conference on Physics of Advanced Materials (ICPAM), 24-30 September, 2021, Sant Feliu de Guixols, Spain, Book of Abstracts p.282-283, invited oral presentation. (invited presentation)
7. Nicolae Leopold, Stefania D. Iancu, Ramona G. Cozan, SERS liquid biopsy: an emerging tool for medical diagnosis, 12th International Conference on Clinical Spectroscopy, Dublin, June 19-23 2022, oral presentation.
8. Nicolae Leopold, Stefania D. Iancu, Ramona G. Cozan, Alexandra M. Chiriac, Alexandru S. Chis, Georgiana Ion, Ciprian G. Grigoroaea, Loredana F. Leopold, Andrei Stefancu, Vlad Moisoiu, SERS liquid biopsy for medical diagnosis, 17th National Conference of Biophysics with International Participation, 23-25 September 2022, Târgu Mureș, Romania, oral presentation
9. Nicolae Leopold, Stefania D. Iancu, Andrei Stefancu, Vlad Moisoiu, Teodora Telecan, Iulia Andras, Nicolae Crisan, SERS analysis of urine for prostate cancer detection, 12th International Conference on Advanced Vibrational Spectroscopy (ICAVS12) 27th August – 1st September 2023 Krakow, Poland, oral presentation
10. Nicolae Leopold, Stefania D. Iancu, David Andras, SERS serum biopsy for colorectal cancer detection and radiochemotherapy treatment evaluation, 13th International Conference on Clinical Spectroscopy, June 2-6, 2024, Ioannina, Greece, oral presentation
11. A. Stefancu, S. Lee, Z. Li, M. Liu, R. Ciceo-Lucacel, N. Leopold, E. Cortes, Metal-molecule charge transfer through Fermi level equilibration in plasmonic systems, 2021 Conference on Lasers and Electro-Optics Europe and European Quantum Electronics Conference, CLEO/Europe-EQEC 2021, 2021.

12. A. Stefancu, S. Lee, Z. Li, M. Liu, R. Ciceo-Lucacel, N. Leopold, E. Cortes, Metal-molecule charge transfer through Fermi level equilibration in plasmonic systems, Optics InfoBase Conference Papers, 2021
13. Cristea, A.; Leopold, N.; Floare, C. G.; Bulzu, P. A.; Banciu, H. L., Sugarcane molasses as an alternative cheap carbon source for polyhydroxybutyrate production by *Halomonas elongata* 2FF under non-sterile conditions. *FEBS Open Bio* **2018**, *8*, 180-180

**E. Brevete obținute în întreaga activitate**

1. 1. N. Leopold, L.F. Leopold, C. Coman, S.D. Iancu, A. Stefancu, *Procedeu de detecție a nanoparticulelor de TiO<sub>2</sub>, ZnO și Ag în matricea vegetală prin microscopie în câmp întunecat cuplată cu imagistică hiperspectrală (Vis-NIR)*, CBI A 2020 00821, data de depozit 10.12.2020
2. N.E. Dina, A. Colnita, S.D. Marconi, T. Szoke-Nagy, A.R. Gherman, N. Leopold, A. Stefancu, *Procedeu de detecție prin spectroscopie Raman Amplificată de suprafață (SERS) într-un sistem de curgere microfluidic utilizând un spot de argint ca substrat amplificator SERS*, RO134258 (B1) — 2024-07-30
3. Nicolae Leopold, *Nanoparticule de argint acoperite cu ioni de clor, procedeu de preparare și utilizare a acestora ca substrat pentru amplificarea radiației împrastiate Raman*, OSIM 291/ 15.05.2017

**Data:**

**Semnătura:**

