A N E X A 5

UNIVERSITATEA BABEŞ-BOLYAI
Facultatea de Fizică
Domeniul de licenţă: Ştiinţe Inginereşti Aplicate
Programul de studii: Fizică Tehnologică

TABEL PRIVIND INDEPLINIREA INDICATORULUI

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

Nr. crt.	Gradul didactic, numele şi prenumele titularului vârsta / vechimea în învăţământul superior	Disciplinele din cadrul programului de studii incluse în postul didactic şi tipul activităţii desfăşurate (curs, seminar, lucrări, proiect)	Competenţa cadrului didactic titular în disciplinele din postul didactic			Constatări privind îndeplinirea indicatorului
			Universitatea/ facultatea/ specializarea absolvită	Specializarea la masterat/ doctorat	Numărul de cărţi, numărul de lucrări ştiinţifice, 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 Babeş-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. şi vol. conf. (D3-D5, D11, D12); 2 brevet de invenţie (E2, E3)	îndeplinit
2						
3						
4						
5						

* Din statul de funcţii cumulativ al tuturor disciplinelor şi tuturor activităţilor didactice desfăşurate în cadrul programului de studii evaluat.

** Se indică numărul pe următoarele tipuri de lucrări: A – teza de doctorat B – Cărţi şi capitole în cărţi publicate în ultimii XX ani C – Lucrări indexate ISI/BDI publicate în ultimii XX ani	D – Lucrări publicate în ultimii XX ani în reviste şi volume de conferinţe cu referenţi (neindexate); pentru lucrările publicate în volume de conferinţe 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.

A N E X A 5 . 1

(*Pentu următoarele cadre didactice se adaugă Anexele 5.2, 5.3. etc.*)

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 ştiinţifice 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. Cărţi si capitole în cărţi publicate în ultimii 10 anii

1. 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 anii

[1] G. Ion, A.M. Chiriac, R.A. Ciceo-Lucacel, V. Moisoiu, A. Stefancu, S.D. Iancu, N. Leopold, *ROLE OF Ca^{2+} IN SERS: SURFACE Ag^{+} 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. Creţu, M. Mocan, D. Andraş, 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**.

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[5] A. Bancos, A. Ivancuta, V. Moisoiu, A.B. Tigu, D. Gulei, M. Nistor, C.S. Moldovan, D. Kegyes, D. Cenariu, M. Zdrenghea, 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*

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[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**.

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[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.

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[29] A. Stefancu, 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. Stefancu, 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**.

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[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**.

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D. Lucrări publicate în ultimii 10 anii în reviste şi volume de conferinţe cu referenţi (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

- Selecţie cu maximum 20 lucrări în volume de conferinţe

3. Nicolae Leopold Generation of SERS active sites for anionic analytes by Ag+, Ca2+, Pb2+ and Al3+ 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.
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E. **Brevete obţinute în întreaga activitate**

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Data: **Semnătura:**