A N E X A 5

UNIVERSITATEA "Babeș-Bolyai" din Cluj-Napoca

Facultatea de *FIZICĂ*
Domeniul de licență: Științe Inginerești Aplicate
Programul de studii: Fizică Tehnologică

TABEL PRIVIND INDEPLINIREA INDICATORULUI

„Cadrele didactice titulare* au pregătirea inițială, 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)	Competența 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. univ. Dr. habil. Zoltán BÁLINT 46 / 20	Metode și tehnici moderne de analiză microscopică / ModernTechniques and Methods of Microscopic Analysis	Universitatea Babeș-Bolyai, Facultatea de Fizică, Specializarea Fizică medicală	Masterat: Biofizică și Fizică medicală Doctorat: Biofizică – Științe medicale teoretice	Teza de doctorat (A), Teza de abilitare;	îndeplinit
		Curs, seminar, laborator			97 lucrări indexate ISI/BDI; 4 brevete	

* 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.

Semnătura
Prof. univ. Dr. habil. Zoltán BÁLINT

A N E X A 5 . 1

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

Universitatea "Babeș-Bolyai" din Cluj-Napoca

Facultatea de Fizică

Departamentul de Fizică Biomoleculară

Prof. univ. Dr. Zoltán BÁLINT

L I S T A
lucrărilor ştiinţifice în domeniul disciplinelor din postul didactic

A. Teza de doctorat

1. „Investigating biological samples with atomic force microscope: from living cells to molecular level", Domeniul: Biofizică – Științe Medicale Teoretice, Unversitatea din Szeged, Ungaria, 03.2007.

B. Cărţi si capitole în cărţi publicate în ultimii 10 ani

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

1. Manole, S., Pintican, R., Budurea, C., Pop, S., Iancu, S. D., Popa, L., Coman, M., Schiau, C., Coman, V., Schiau, S., & **Bálint, Z**. (2025). Increased Left Ventricular Mass Index and Atrial Volume Index Are Associated with Atrial Fibrosis in Patients with Atrial Fibrillation. *Journal of Clinical Medicine*, *14*(18), 6432. https://doi.org/10.3390/jcm14186432
2. Andreea C. Ciobanu, Virgil Sivoglo, Diana Maican, Ferenc Járai-Szabó, **Zoltán Bálint**. Reply to: Correspondence by Kleebayoon and Wiwanitkit. *Technical Innovations & Patient Support in Radiation Oncology*, 2025, 35:100342, ISSN 2405-6324, https://doi.org/10.1016/j.tipsro.2025.100342.
3. Andreea C. Ciobanu, Virgil Sivoglo, Diana Maican, Ferenc Járai-Szabó, **Zoltán Bálint**. Custom-made, 3D-printed bolus cap for a case of scalp metastasis: A single-institution study, *Technical Innovations & Patient Support in Radiation Oncology*, 2025, 35:100332, ISSN 2405-6324, https://doi.org/10.1016/j.tipsro.2025.100332.
4. Andreea C. Ciobanu, Lucian Cristian Petcu, Ferenc Járai-Szabó and **Zoltán Bálint**. 2025. Validation of a 3D printed bolus for radiotherapy: a proof-of-concept study. *Biomedical Physics & Engineering Express*. 2025 Feb 12;11(2). DOI 10.1088/2057-1976/adb15d
5. Telecan, Teodora, Cosmin Caraiani, Bianca Boca, Roxana Sipos-Lascu, Laura Diosan, **Zoltan Balint**, Raluca Maria Hendea, Iulia Andras, Nicolae Crisan, and Monica Lupsor-Platon. 2025. Automatic Characterization of Prostate Suspect Lesions on T2-Weighted Image Acquisitions Using Texture Features and Machine-Learning Methods: A Pilot Study *Diagnostics* 15(1): 106. https://doi.org/10.3390/diagnostics15010106.
6. Orzan Filip , Ștefania D Iancu , Laura Dioșan and **Zoltán Bálint.** 2025. Textural Analysis and Artificial Intelligence as Decision Support Tools in the Diagnosis of Multiple Sclerosis -A Systematic Review. *Front. Neurosci. - Brain Imaging Methods* 18:1457420. doi: 10.3389/fnins.2024.1457420.
7. G.A.M. Salagean, D. Portik, **Z. Bálint**, P. Poortmans. Can the daily position of bolus material influence radiotherapy treatment? 2024. *Reports of Practical Oncology and Radiotherapy*. 29(6):732-739. DOI:10.5603/rpor.104013
8. A.C. Ciobanu, L.C. Petcu, F. Járai-Szabó, **Z. Bálint.** Exploring the impact of filament density on the responsiveness of 3D-Printed bolus materials for high-energy photon radiotherapy. 2024. *Physica Medica* 127(3):104849. DOI: 10.1016/j.ejmp.2024.104849
9. G.A.M. Salagean, K. Varga, **Z. Bálint**, D. Portik. In Vivo Lens Dosimetry in a Case of En Face Electron Adjuvant Radiotherapy for Cutaneous Nasal Bridge Basal Cell Carcinoma: A Case Report. Journal of Medical and Radiation Oncology 2023, IiI, 2, 1 October 2023, 71 - 77 DOI: 10.53011/JMRO.2023.02.09
10. Bianca Boca, Cosmin Caraiani, Teodora Telecan, Roxana Pintican, Andrei Lebovici, Iulia Andras, Nicolae Crisan, Alexandru Pavel, Laura Diosan, **Zoltan Balint**, Monica Lupsor-Platon, Mircea Marian Buruian. MRI-Based

Radiomics in Bladder Cancer: A Systematic Review and Radiomics Quality Score Assessment. *Diagnostics* 2023, 13(13), 2300; https://doi.org/10.3390/diagnostics13132300

11. Larisa-Gabriela Coroamă, Laura Dioșan, Teodora Telecan, Iulia Andras, Nicolae Crișan, Anca Andreica, Cosmin Caraiani, Andrei Lebovici, **Zoltán Bálint**, Bianca Boca. A light, 3D UNet based architecture for fully automatic segmentation of prostate lesions from T2-MRI images. *Current Medical Imaging* 2023. 20: e220523217208. DOI: 10.2174/1573405620666230522151445
12. Diana M. Coroama, Laura Dioșan, Teodora Telecan, Iulia Andras, Nicolae Crisan, Paul Medan, Anca Andreica, Cosmin Caraiani, Andrei Lebovici, Bianca Boca and **Zoltán Bálint**. Fully automated bladder tumor segmentation from T2 MRI images using 3D U-Net algorithm. *Front. Oncology. Sec. Genitourinary Oncology* 2023. 13:1096136. doi: 10.3389/fonc.2023.1096136
13. Foris V, Kovacs G, Avian A, **Bálint Z**, Douschan P, Ghanim B, Klepetko W, Olschewski A and Olschewski H. Apelin-17 to diagnose idiopathic pulmonary arterial hypertension: A biomarker study. *Front. Physiol.* 2023. 13:986295. doi: 10.3389/fphys.2022.986295
14. Telecan, T.; Andras, I.; Crisan, N.; Giurgiu, L.; Cata, E.D.; Caraiani, C.; Lebovici, A.; Boca, B.; **Bálint, Z.**; Diosan, L.; Lupsor-Platon, M. More than Meets the Eye: Using Textural Analysis and Artificial Intelligence as Decision Support Tools in Prostate Cancer Diagnosis—A Systematic Review. *J. Pers. Med*. 2022, 12, 983. https://doi.org/10.3390/jpm12060983
15. Cosimo Bruni, Mariaelena Occhipinti, Michael Pienn, Gianna Camiciottoli, Maurizio Bartolucci, Silvia Bosello, Christian Payer, **Zoltán Bálint**, Anna Rita Larici, Alessandra Tottoli, Lorenzo Tofani, Enrico De Lorenzis, Gemma Lepri, Silvia Bellando-Randone, Amelia Spinella, Dilia Giuggioli, Francesco Masini, Giovanna Cuomo, Federico Lavoriniw, Stefano Colagrande, Horst Olschewski, Marco Matucci-Cerinic. Lung vascular changes as early biomarkers of systemic sclerosis-related interstitial lung disease. *Rheumatology – (Oxford)* 2022 Jun 16;keac311. doi: 10.1093/rheumatology/keac311.
16. Tudor Moisoiu, Mihnea P. Dragomir, Stefania D. Iancu, Simon Schallenberg, Giovanni Birolo, Giulio Ferrero, Dan Burghelea, Andrei Stefancu, Ramona G. Cozan, Emilia Licarete, Alessandra Allione, Giuseppe Matullo, Gheorghita Iacob, **Zoltán Bálint**, Radu I. Badea, Alessio Naccarati, David Horst, Barbara Pardini, Nicolae Leopold, Florin I. Elec. 2022. Combined miRNA and SERS urine liquid biopsy for the point-of-care diagnosis and molecular stratification of bladder cancer. *Molecular Medicine* – 28, 39; doi.org/10.1186/s10020-022-00462-z
17. Tudor Moisoiu, Stefania D. Iancu, Dan Burghelea, Mihnea P. Dragomir, Gheorghita Iacob, Andrei Stefancu, Ramona G. Cozan, Oana Antal, **Zoltán Bálint**, Valentin Muntean, Radu I. Badea, Emilia Licarete, Nicolae Leopold, Florin I. Elec. 2022. SERS liquid biopsy profiling of serum for the point-of-care diagnosis of kidney cancer. *Biomedicines* 10(2), 233; doi.org/10.3390/biomedicines10020233
18. Andrei Stefancu, Vlad Moisoiu, Minodora Desmirean, Stefania D Iancu, Adrian B Tigu, Bobe Petrushev, Ancuta Jurj, Ramona G Cozan, Liviuta Budisan, Bogdan Fetica, Andrei Roman, Gina Dobie, Cristina Turcas, Mihnea Zdrenghea, Patric Teodorescu, Sergiu Pasca, Doina Piciu, Delia Dima, **Zoltán Bálint**, Nicolae Leopold, Ciprian Tomuleasa. 2022. SERS-based DNA methylation profiling allows the differential diagnosis of malignant lymphadenopathy. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 264, 120216. doi.org/10.1016/j.saa.2021.120216
19. Simona Manole, Claudia Budurea, Sorin Pop, Alin M. Iliescu, Cristiana A. Ciortea, Stefania D. Iancu, Loredana Popa, Mihaela Coman, Laszlo Szabo, Vasile Coman, **Zoltán Bálint**. 2021. Correlation between Volumes Determined by Echocardiography and Cardiac MRI in Controls and Atrial Fibrillation Patients. *Life* 11(12), 1362; doi.org/10.3390/life11121362
20. Vlad Moisoiu, Stefania D Iancu, Andrei Stefancu, Tudor Moisoiu, Barbara Pardini, Mihnea P Dragomir, Nicolae Crisan, Lucretia Avram, Dana Crisan, Iulia Andras, Daniela Fodor, Loredana F Leopold, Carmen Socaciu, **Zoltán Bálint**, Ciprian Tomuleasa, Florin Elec, Nicolae Leopold. 2021. SERS liquid biopsy: an emerging tool for medical diagnosis. *Colloids and Surfaces B: Biointerfaces*, 208, 112064. doi.org/10.1016/j.colsurfb.2021.112064
21. D. Dumitru, A. Andreica, L. Dioșan, **Z. Bálint**. 2021. A Transfer Learning Approach on the Optimization of Edge Detectors for Medical Images Using Particle Swarm Optimization. *Entropy,* 23(4), 414. doi.org/10.3390/e23040414
22. R.R. Galea, L. Dioșan, A. Andreica, L. Popa, S. Manole, **Z. Bálint**. 2021. Region-of-interest-based cardiac image segmentation with deep learning. *Applied Sciences,* 11, 1965. doi.org/10.3390/app11041965
23. D. Dumitru, A. Andreica, L. Dioșan, **Z. Bálint**. 2020. Robustness analysis of transferable cellular automata rules optimized for edge detection. *Procedia Computer Science* 176, 713-722
24. D. Dumitru, A. Andreica, L. Dioșan, **Z. Bálint**. 2020. Evolutionary curriculum learning approach for transferable cellular automata rule optimization. In: *The Genetic and Evolutionary Computation Conference 2020 – GECCO*. pp.63-64
25. R. Mărginean, A. Andreica, L. Dioșan, **Z. Bálint**. 2020. Butterfly Effect in Chaotic Image Segmentation. *Entropy* 22:1028. doi:10.3390/e22091028
26. R. Mărginean, A. Andreica, L. Dioșan, **Z. Bálint**. 2020. Feasibility of Automatic Seed Generation Applied to Cardiac MRI Image Analysis. *Mathematics.* 8(9):1511. https://doi.org/10.3390/math8091511

27. I.Sz. Tódor, O.T. Marişca, D. Rugină, Z. Diaconeasa, L. F. Leopold, C. Coman, E. Antonescu, L. Szabó, S.D. Iancu, **Z. Bálint**, N. Leopold. 2020. Photothermal property assessment of gold nanoparticle assemblies obtained by hydroxylamine reduction. *Colloid and Polymer Science*. 298: 1369–1377. https://doi.org/10.1007/s00396-020-04721-5
28. S.D. Iancu, C. Albu, L. Chiriac, R. Moldovan, A. Stefancu, V. Moisoiu, V. Coman, L. Szabo, N. Leopold, **Z. Bálint**. 2020. Assessment of gold-coated iron oxide nanoparticles as negative T2 contrast agent in small animal MRI studies. *International Journal of Nanomedicine*. 15:4811—4824. https://doi.org/10.2147/IJN.S253184
29. A. Stefancu, V. Moisoiu, C. Bocsa, **Z. Bálint**, D. T. Cosma, I. A. Veresiu, V. Chis, N. Leopold and F. Elec. 2018. SERS-based quantification of albuminuria in the normal-to-mildly increased range. *Analyst* 143:5372-5379. doi:10.1039/C8AN01072B
30. V. Biasin, M. Wygrecka, T. Bärnthaler, K. Jandl, P. Jain, **Z. Bálint**, G. Kovacs, G. Leitinger, D. Kolb-Lenz, K. Kornmueller, F. Peters, K. Sinn, W. Klepetko, A. Heinemann, A. Olschewski, C. Becker-Pauly, G. Kwapiszewska. 2018. Docking of meprin α to heparan sulphate protects the endothelium from inflammatory cell extravasation. *Thrombosis and Haemostasis* - 118(10): 1790-1802. doi: 10.1055/s-0038-1670657
31. Fazakas C, Nagaraj C, Zabini D, Vegh GA, Marsh LM, Wilhelm I, Krizbai IA, Olschewski H, Olschewski A and **Bálint Z**. 2018. Rho-kinase inhibition ameliorates dasatinib-induced endothelial dysfunction and pulmonary hypertension. *Frontiers in Physiology* 9:537. https://doi.org/10.3389/fphys.2018.00537
32. Pienn M, Burgard C, Payer C, Avian A, Urschler M, Stollberger R, Olschewski A, Olschewski H,. Johnson T, Meinel FG, **Bálint Z**. 2018. Healthy Lung Vessel Morphology Derived From Thoracic Computed Tomography. *Frontiers in Physiology* 9:346. doi: 10.3389/fphys.2018.00346
33. Payer C, Pienn M, **Bálint Z**, Shekhovtsov A, Talakic E, Nagy E, Olschewski A, Olschewski H, Urschler M. 2016. Automated integer programming based separation of arteries and veins from thoracic CT images. *Medical image analysis* 34:109-122. doi: 10.1016/j.media.2016.05.002.
34. Foris V, Kovacs G, Marsh LM, **Bálint Z**, Tötsch M, Avian A, Douschan P, Ghanim B, Klepetko W, Olschewski A, Olschewski H. 2016. CD133+ cells in pulmonary arterial hypertension. *Eur Respir J*. 2016 Aug;48(2):459-69. doi: 10.1183/13993003.01523-2015.
35. Kovacs G, Kleinschek D, Kwapiszewska G, **Bálint Z**, Olschewski H and Olschewski A. 2016 [Research in Austria - the Ludwig Boltzmann Institute for Lung Vascular Research]. Pneumologie 70(5):331-335. doi: 10.1055/s-0042-104767
36. Jandl K, Stacher E, **Bálint Z**, Sturm E, Maric J, Peinhaupt M, Luschnig P, Aringer I, Fauland A, Konya V, Dahlen SE, Wheelock CE, Kratky D, Olschewski A, Marsche G, Schuligoi R, Heinemann A. 2016. Activated prostaglandin D2 receptors on macrophages enhance neutrophil recruitment into the lung. *Journal of Allergy Clinical Immunology* 137(3): 833-843.

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

- Reviste

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- Selecţie cu maximum 20 lucrări în volume de conferinţe

1. The Effect of Filament Density on the Build-Up Region Responsiveness of 3D Printed Boluses in High-Energy Photon Radiotherapy. A.C. Ciobanu, M. Dumitru, L. Rebegea, F. Járai-Szabó, Z. Bálint. 2023. International Journal of Radiation Oncology - Biology - Physics (IJROBP). Volume 117, Issue 2, Supplement, 1 October 2023, Page e657
2. Concentration dependent effect of bivalent cations on the stability of double-stranded DNA fragments. Lugojanu, Maria; Iancu, Stefania; Leopold, Nicolae; Balint, Zoltan. Jul 2023 | EUROPEAN BIOPHYSICS JOURNAL WITH BIOPHYSICS LETTERS 52(S1):S92-S92
3. Daily Bolus Position Variability with Dosimetric Implications in Adjuvant Breast Cancer Radiotherapy. G.A.M. Salagean, K. Varga, L. Kun-Balint, D. Cojocaru, R. Neag, M. Cojocaru-Laboncz, A. Cudlici, C. Duran, Z. Balint, D. Portik. PO-2306 ESTRO2023. May 2023. Radiotherapy and Oncology. 182(S1):S2073-S2074
4. Effect of the combined use of proton radiation and AraC on morphological changes and apoptosis in the liver of rats. Ignat, E; Severiukhin, Y; (...); Pasca, H. Jul 2021 | EUROPEAN BIOPHYSICS JOURNAL WITH BIOPHYSICS LETTERS 50 (SUPPL 1) , pp.175-175
5. Age-related changes in lung vessel morphology in healthy men and women. Pienn, M; Burgard, C; (...); Balint, Z. Oct 2017 | WIENER KLINISCHE WOCHENSCHRIFT 129 (19-20) , pp.756-756

6. Targeting Tmem16a Might Represent A Novel Reverse Remodeling Therapy In Pulmonary Arterial Hypertension. Olschewski, A; Papp, R; (...); Olschewski, H. International Conference of the American-Thoracic-Society (ATS) 2017 | AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE 195
7. Reduced Venous Vessel Density In Pre-Capillary Pulmonary Hypertension. Pienn, M; Payer, C; (...); Balint, Z. International Conference of the American-Thoracic-Society (ATS). 2016 | AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE 193
8. Regional differences in lung vessel morphology from thoracic CT images. Payer, C; Pienn, M; (...); Balint, Z. Oct 2015 | WIENER KLINISCHE WOCHENSCHRIFT 127 (19-20) , pp.812-812
9. Denoising algorithm for quantitative assessment of thoracic dual-energy computed tomography images. Pienn, M; Bredies, K; (...); Balint, Z Oct 2015 | WIENER KLINISCHE WOCHENSCHRIFT 127 (19-20) , pp.815-815
10. Pulmonary arterial tortuosity as a non-invasive diagnostic tool for pulmonary arterial hypertension. Pienn, M; Payer, C; (...); Balint, Z. Oct 2015 | WIENER KLINISCHE WOCHENSCHRIFT 127 (19-20) , pp.822-822
11. CD133 positive progenitor cells are potential biomarkers for pulmonary arterial hypertension. Foris, V; Kovacs, G; (...); Olschewski, H. Oct 2014 | WIENER KLINISCHE WOCHENSCHRIFT 126 (19-20) , pp.677-677
12. Lung volume histogram parameters correlate with lung function in patients with pulmonary hypertension. Wurm, M; Pienn, M; (...); Balint, Z. Oct 2014 | WIENER KLINISCHE WOCHENSCHRIFT 126 (19-20) , pp.678-679
13. Comparison Of Quantitative Lung Vessel Tortuosity And Echocardiography For Non-Invasive Detection Of Pulmonary Hypertension. Balint, Z; Pienn, M; (...); Olschewski, H. 2014 | AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE 189
14. Npy/npy1r Mediated Vasoconstrictory And Proliferative Effects In Pulmonary Hypertension. Crnkovic, S; Egemnazarov, B; (...); Kwapiszewska, G. 2014 | AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE 189
15. Quantification Of Lung Vessel Tortuosity In Pulmonary Hypertension Patients. Pienn, M; Helmberger, M; (...); Balint, Z. 2014 | AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE 189.
16. Inflammatory Markers In Chronic Thromboembolic Pulmonary Hypertension (cteph). Zabini, D; Heinemann, A; (...); Olschewski, A. 2014 | AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE 189

E. Brevete obţinute în întreaga activitate

1. M. Pienn, H. Olschewski, G. Kovacs, **Z. Bálint**. Erfahren und Vorrichtung zur detektion einer Pulmonalen Hypertonie basierend auf Impedanzkardiogrammen – Method and device for detecting a pulmonary hypertension based on impedance cardiograms. Patent Application No. AT 518396/2017 filed 5th August 2016, issued 15th October 2017. PCT/AT2017/060198 filed 4th August 2017. Published: 8th February 2018 No.: WO/2018/023146.

2. M. Pienn, **Z. Bálint**, H. Olschewski, R. Stollberger, G. Kovacs. *Methode z. Nichtinvasiven Diagnose von Pulmonaler Hypertonie* – Patent Application No. AT 512393/2013 filed 29th June 2012, issued 13th August 2013; PCT/AT2013/050127 filed 25th June 2013.

M. Pienn, **Z. Bálint**, H. Olschewski, R. Stollberger, G. Kovacs. *Method for Processing Images of Pulmonary Circulation and Device for Performing the Method* – Patent Publication No. US 2015/0206303-A1, issue date 23rd July 2015.

M. Pienn, **Z. Bálint**, H. Olschewski, R. Stollberger, G. Kovacs. *Methode z. Nichtinvasiven Diagnose von Pulmonaler Hypertonie* – Patent Application No. EU 13737520.0 filed 19th December 2014; EU Patent 2867856 issue date 6th May 2015.

3. SD Iancu, A. Stefancu, V. Moisoiu, L. Szabo, N. Leopold, **Z. Bálint**. *Procedeu de obtinere de nanoparticule cu miez de magnetita si invelis de aur stabilizate cu glucoza*. Patent Application 2019-09-16 Priority to ROA201900571A, 2020-07-30 - Publication of RO134304A0 – Brevet Nr. 134304, BOPI nr.11, 28.11.2025.

4. R. Marginean, L. Diosan, A. Andreica, L. Popa, S. Manole, L. Szabo, **Z. Bálint**. *Dispozitiv pentru detectarea si localizarea automata a fibrozei pe imagini de IRM cardiac*, Patent Application - 2020-09-02 - Priority to RO202000551A, 2021-09-30 - Publication of RO135197A0

Data: 08.01.2026 **Semnătura:**