**Model F17 – Memoriul științific al studentului doctorand**

**MEMORIU ȘTIINȚIFIC**
**Drd. Ana Maria DICU (IVAN)**

**Studii de doctorat**

Perioada: 2021-2026
Conducător științific: Prof. univ. emerit Dr.Ing. **Mărioara ABRUDEANU**
CSI Dr. Ing. **Mariano TARANTINO**
Domeniu: Ingineria Materialelor
Titlul tezei de doctorat: **ADSORPTION OF VOLATILE RADIOTOXIC ELEMENTS IN GENIV-LFR / ADSORBȚIA ELEMENTELOR VOLATILE RADIOTOXICE LA REACTORUL GENIV-LFR**

**Activitate științifică**

**A. Lista de lucrări științifice (articole în reviste sau volume)**

**ARTICOLE ÎN REVISTE COTATE WOS SAU ÎN VOLUME PROCEEDINGS INDEXATE WOS (ISI)**

- ***Lucrări publicate ce conțin rezultate parțiale din cercetările proprii ale tezei de doctorat***

1. **Ivan, A.**, Abrudeanu, M, Arva, M., Enache D., Călin S., Mincu, M., Hororoi, M., *Noble gas transport in argon cover gas conditions for ALFRED lead cooled fast reactor*, accepted for publication in Romanian Journal of Physics, Q2, IF=1.9, **2026** https://rjp.nipne.ro/accpaps/7684185F848FBC39E9757F5D795CE865B995FE51.pdf
2. **Ivan, A.,** Zobnin, V., Eichler, R., Vögele, A., Herrmann, D., Dressler, R., Neuhausen, J. (2026). *Evaporation of tellurium from liquid lead–bismuth eutectic studied by the transpiration method*, Springer – Journal of Radioanalytical and Nuclear Chemistry, Q3, IF: 1.6, **2026,** https://doi.org/10.1007/s10967-026-10858-4
3. **Ivan, A.**, Tarantino, M., Abrudeanu, M., Diaconu, D., Gugiu, D. *Assessment of volatile radionuclide release in the ALFRED lead-cooled fast reactor*, MDPI - Journal of Nuclear Engineering, Vol. 6(3), Issue 36, Q3, IF: 1.2, **2025** https://doi.org/10.3390/jne6030036
4. **Ivan, A**., Abrudeanu, M., Tarantino, M., Gugiu, D., Diaconu, D., Mirita, D.. *Trace-level impurity quantification in lead-cooled fast reactors using ICP-MS: methodology and challenges.* De Gruyter – Reviews in Analytical Chemistry, Vol. 44(1), 20250088, Q2, IF: 3.8, **2025**, https://doi.org/10.1515/revac-2025-0088
5. **Ivan, A**., Hororoi, M., Arva, M., Mincu, M., Corbescu, B., Gugiu, D., Vîlcu, A.. *Experimental facility for noble gas transport in liquid lead*. U.P.B. Scientific Bulletin, Series B, Chemistry and Materials Science, Vol *87*(1), 121–133, Q4, IF:0.3, **2025,** Available online: https://www.scientificbulletin.upb.ro/static/pdfs/fullf57_999284.pdf

- ***Lucrări publicate în timpul tezei de doctorat, colaborări în domeniul materialelor nucleare sau în legătură cu teza***

6. Zobnin, V, **Ivan, A.,** Eichler, R., Vögele, A., Herrmann, D., Talip, Z., Neuhausen, J., *"Speciation of Tellurium During Volatilization from Lead–Bismuth Eutectic and Its Chemical Transport Properties,"* The Journal of Physical Chemistry C, Q3, IF: 3.4**. 2026** https://doi.org/10.1021/acs.jpcc.6c04168.
7. Zivadinovic, I., Neuhausen, J., **Ivan, A.,** Dressler, R., Steinegger, P. (2024). *The influence of impurities on the evaporation behaviour of polonium from liquid Pb–Bi eutectic at high temperatures*. Springer nature - Journal of Radioanalytical and Nuclear Chemistry, Q3, IF: 1.6, **2024,** https://doi.org/10.1007/s10967-024-09823-w

**B. Participări la conferințe/workshop-uri**

1. **Ivan, A**., *Source Term Management,* EAGLES R&D Roadmap Workshop, 3-5 iunie, București, România **2026**

2. **Ivan, A**., Hororoi, M., Arva, M., Mincu, M., Corbescu, B., Gugiu, D., Vîlcu, A. *Experimental facility for noble gas transport in liquid lead*. The 15th Biennial International Conference on Sustainable Development through Nuclear Research and Education, Book of abstracts, 29-31 May, Mioveni, Romania, **2024**
3. **Ivan, A.**, Gugiu, D., Hororoi, M., Mincu, M., Corbescu, B., Vîlcu, A. *Review of experimental studies on the behaviour of volatile elements from lead and LBE*. The 14th Biennial International Conference on Sustainable Development through Nuclear Research and Education, Mioveni, Romania. **2022**
4. **Ivan, A.,** Abrudeanu, M., Gugiu, D., Diaconu, D., Tarantino, M., Grasso, G.. *LFR technology – pillar for sustainable energy*. Proceedings of the International Conference Zilele ASTR, Petroșani, Romania. **2022**
5. **Ivan, A.**, Gugiu, D. *Polonium evaporation in LFR and an experimental device for testing absorbent materials*. The 13th International Conference on Sustainable Development through Nuclear Research and Education, Mioveni, Romania. **2021**
6. M. Nitoi, D. Gugiu, **A. Ivan**, M. Apostol, M. Constantin - RATEN ICN *Contributions to ANSELMUS Project* - The 15th Biennial International Conference on Sustainable Development through Nuclear Research and Education, Book of abstracts, 29-31 May, Mioveni, Romania, **2024**

**C. Proiecte de cercetare științifică**

Membru în echipa de lucru a proiectelor internaționale și naționale:

1. **HORIZON EURATOM Project ANSELMUS - Advanced Nuclear Safety Evaluation of Liquid Metal using Systems** (Septembrie 2022 - octombrie 2026)
    - Work Package 3: Validation of safety systems
    - Main objective (Task 3.2): Detection of fuel cladding defects
    - Sub-task 3.2.2: Investigation of noble gas transport through a molten lead column
2. **4ALFRED** Project *Research activities and experimental infrastructure for demonstration of lead-cooled fast reactor technology (februarie 2025 – februarie 2030)*
    - Responsabil tehnic dezvoltare și implementare instalații experimentale Meltin'Pot dedicate studiului accidentelor severe în sisteme LFR.
3. **HORIZON EUROATOM Project PASCAL - Proof of Augmented Safety Conditions in Advanced Liquid-metal-cooled systems** (1 sept 2022 – 28 februarie 2023)
    - Desfășurare experimente privind evaporarea elementelor radioactive din probe de metale grele lichide.

**D. Stagii de perfecționare**

1. International Atomic Energy Agency (IAEA) Fellowship Training program in nuclear power reactors (FSROM9038, 2105664) 1 September 2022 – 28 February 2023. Research internship at Paul Scherrer Institute (PSI), Villigen, Switzerland
    - Studii privind comportamentul de eliberare a elementelor radioactive din metale grele lichide desfășurate în cadrul proiectului PASCAL

**E. Cursuri de perfecționare**

1. Participare la cursurile PATRICIA Heavy Metal Summer School, organizate de SCK CEN Academy for Nuclear Science and Technology, Mol, Belgia, 4 – 8 Octombrie 2021

Student-doctorand

**Ana Maria DICU (IVAN)**