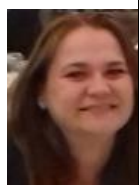


Publication Lists:



Mioara Zagrai

Centre of Advanced Research and Technology for Alternative Energies – CETATEA, National Institute for Research and Development of Isotopic and Molecular Technologies (I.N.C.D.T.I.M.) Cluj-Napoca, Donath Street, No 67 – 103, RO-400293, Cluj-Napoca, Romania.

Total number of publications: 21

Total number of ISI publications: 17

Scientific communications presented at national/international Conferences: 53

Patents: 2

Hirsch index: 8

I. Ph.D Thesis

"*Oxidic Vitreous Systems with Applications for the Environmental Protection*", scientific advisor Prof.dr.chim. Elena Maria PICĂ, 2018 - Environmental Engineering, Technical University, Cluj-Napoca, Romania.

II. Articles (ISI Thomson Reuters)

1. **Mioara Zagrai**, Sergiu Gabriel Macavei, Radu Cristian Gavrea, Adriana Popa, Augusta Adriana Dehelean, Lucian Barbu-Tudoran, Maria - Loredana Soran, 2023. *Evaluation of the physical, thermal and structural properties of copper-lead glass for efficient incorporation of MoO₃*, Journal of Alloys and Compounds, Volume 968, , 172062, ISSN 0925-8388, <https://doi.org/10.1016/j.jallcom.2023.172062>
2. **Mioara Zagrai**, Gabriel Sergiu Macavei, Adriana Popa, Lucian Barbu-Tudoran, Radu Cristian Gavrea, Anca Raluca Mereu, Maria-Loredana Soran, 2023. *Structural, thermal and physical properties of cesium doped molybdenum-copper-lead glass*, Journal of Non-Crystalline Solids, Volume 619, 122577, ISSN 0022-3093, <https://doi.org/10.1016/j.jnoncrysol.2023.122577>
3. Suciu, R.-C, **Zagrai, M.**, Popa, A., Toloman, D., Berghian-Grosan, C., Tudoran, C., Stefan, M. *The Influence of Ag⁺/Ti⁴⁺ Ratio on Structural, Optical and Photocatalytic Properties of MWCNT-TiO₂-Ag Nanocomposites*. Inorganics 2023, 11, 249. <https://doi.org/10.3390/inorganics11060249>
4. Goga, Firuta, Rares Adrian Bortnic, Alexandra Avram, **Mioara Zagrai**, Lucian Barbu Tudoran, and Raluca Anca Mereu. 2022. "*The Effect of Ni²⁺ Ions Substitution on Structural, Morphological, and Optical Properties in CoCr₂O₄ Matrix as Pigments in Ceramic Glazes*" Materials 15, no. 24: 8713. <https://doi.org/10.3390/ma15248713>
5. Rada, Simona, Mihaela Unguresan, **Mioara Zagrai**, and Adriana Popa. 2022. "*Structural, Optical, and Magnetic Studies of the Metallic Lead Effect on MnO₂-Pb-PbO₂ Vitroceramics*" Materials 15, no. 22: 8061. <https://doi.org/10.3390/ma15228061>
6. **Mioara Zagrai**, Sergiu Macavei, Simona Rada, Maria Elena Pică, Stela Maria Pruneanu. Structural and spectroscopic properties of gadolinium-lead-lead dioxide

glasses. *Journal of Non-Crystalline Solids*, Volume 576, 121234, (2022)

7. **Mioara Zagrai**, Ramona-Crina Suci, Simona Rada, M.E. Pică, Stela Pruneanu. *Structural and optical properties of Eu³⁺ ions in lead glass for photonic applications*, *Journal of Non-Crystalline Solids*, 569, 120988 (2021)
8. Adriana Dehelean, Simona Rada, **Mioara Zagrai**, Ramona Suci & Csilla Molnar (2021) *Concentration Dependent Spectroscopic Properties of Terbium Ion Doped Lead-Borate Glasses and Vitroceramics*, *Analytical Letters*, 54:1-2, 88-97, DOI: [10.1080/00032719.2020.1723614](https://doi.org/10.1080/00032719.2020.1723614)
9. **M. Zagrai**, M. Unguresan, S. Rada, J. Zhang, M. Pica, E. Culea. *Local structure in gadolinium-lead-borate glasses and glass-ceramics*. *Journal of Non-Crystalline Solids*, 546, 120259, (2020)
10. Marius Rada, Jing Zang, Wu Zhongua, **Mioara Zagrai**, Lidia Margerusan and Simona Rada, 2018. "*Spectroscopic characterization of dental composed of yttrium-stabilized zirconium*", *Analytical Letters* (Print ISSN: 0003-2719), Vol. 51, No.16, pp. 2542-2548.
11. Simona Rada, **Mioara Zagrai**, M. Rada, Livia Magerusan, Adriana Popa, Ramona Suci, Macavei and Maria Suci, 2018. "*Structure, electrochemical characterization and the role of copper oxide in lead-lead dioxide glasses and vitroceramics*", *Journal of Non-Crystalline Solids* (ISSN: 0022-3093), Vol. 491, pp. 55-63.
12. Sergiu Macavei, Marius Rada, **Mioara Zagrai**, Simona Rada, Victor Bodnarchuk, Radu Balan and Raul Erhan, 2018. "*Spectroscopic Characterization of a Lead-Lead Dioxide Automobile Battery*", *Analytical Letters* (Print ISSN: 0003-2719, Online ISSN:1532-236X), Vol. 51, No.17, pp. 2673-2683.
13. Rada, M., **Zagrai, Mioara**, Rada, Simona, Bot, A. and Culea, E., 2017. "*Effects on the characteristics of bonding and local structure in molybdenum-lead-lead dioxide glasses and vitroceramics*", *Journal of Alloys and Compounds* (ISSN: 0925-8388), Vol.705, pp.327-332.
14. Simona Rada, **Mioara Zagrai**, M. Rada, E. Culea, L. Bolundut, Mihaela Ligia Unguresan and Elena Maria Pica, 2016. "*Spectroscopic and electrochemical investigations of lead-lead dioxide glasses and vitroceramics with applications for rechargeable lead acid batteries*", *Ceramics International* (ISSN: 0272-8842), Vol.42, No.3, pp.3921-3929.
15. **Mioara Zagrai**, Loredana Rus, Simona Rada, S. Stan, M. Rada, L. Bolundut, Elena Maria Pica and E. Culea, 2014. "*Lead metallic-lead dioxide glasses as alternative of immobilization of the radioactive wastes*", *Journal of Non-Crystalline Solids* (ISSN: 0022-3093), Vol. 405, No.1. pp.129-134.
16. Simona Rada, Loredana Rus, M. Rada, **Mioara Zagrai**, E. Culea and T. Rusu, 2014. "*Compositional dependence of structure, optical and electrochemical properties of antimony (III) oxide doped lead glasses and vitroceramics*", *Ceramics International*, 40, No.10, 15711-15716.
17. M. Rada, L. Bolundut, Maria Pica, **Mioara Zagrai**, Simona Rada and E. Culea, 2013. "*Mixed ionic-electronic conduction and electrochemical behavior of the lead and*

molybdenum ions in the lead-molybdate-germanate glasses", *Journal of Non-Crystalline Solids*, 365, 105-111.

III. Articles (non-ISI)

1. **Mioara Zagrai**, Elena Maria Pică, E. Culea, L. C. Bolunduț, N. Dura, Loredana Rus, and Simona Rada, 2014. "Imobilization of the radioactive wastes in vitreous systems on the base of lead", *Știință și Inginerie* (ISSN: 2067-7138), Editura AGIR, București, România, An XIV, Vol.26, pp.215-222.
2. Loredana Rus, T. Rusu, E. Culea, L. Bolunduț, P. Pășcuță, Elena Maria Pică, **Mioara Zagrai**, L. Pop and Simona Rada, 2014. "The recycling of the wastes provided of auto batteries in lead glasses", *Știință și Inginerie* (ISSN: 2067-7138), Editura AGIR, București, România, An XIV, Vol.26, pp.199-208.
3. L.C. Bolunduț, Loredana Rus, E. Culea, Elena Maria Pică, **Mioara Zagrai** and Simona Rada, 2014. "New types of glass as potential sensors to determine the nitrates anions from water", *Știință și Inginerie* (ISSN: 2067-7138), Editura AGIR, București, România, An XIV, Vol.26, pp.209-214.
4. **Mioara Zagrai**, Nicolae Dura, Vasile Pop, Simona Rada, Elena Maria Pică, Marius Rada, and Eugen Culea, 2015. "Înglobarea deșeurilor pe bază de plumb în sticle telurate", *Știință și Inginerie* (ISSN: 2067-7138), Editura AGIR, București, România, Vol.28, pp. 539-548.

IV. Scientific communications (select) presented at national/international Conferences

1. **Mioara Zagrai**, Gabriel Sergiu Macavei, Adriana Popa, Maria Loredana Soran. Glass for radioactive waste management. Book of abstract: " 32nd International Conference on Ecology & Safety, pp 35, Burgas, Bulgaria, 14-17.08.2023; **Oral presentation.**
2. **Mioara Zagrai**, Gabriel Sergiu Macavei, Adriana Augusta Dehelean, Maria Loredana Soran, Simulated radionuclides incorporation in lead based glass structure. Book of abstract: The 25nd International Conference "Materials, Methods & Technologies", pp 47, Burgas, Bulgaria, 17-20.08.2023; **Oral presentation.**
3. **M Zagrai**, G S Macavei, C Leostean and M L Soran, The influence of cations on molybdate species distributions in molybdenum-copper-lead glass. Book of abstract: The 14th International Conference "Processes in Isotopes and Molecules – PIM 2023", 19-22 September 2023, Cluj-Napoca, Romania, Poster T3-23, pg.116
4. C R Gavrea, and **M Zagrai**, Effect of Sr²⁺ ions on the physical, optical and structural features on molybdenum-copper-lead glass, Book of abstract: The 14th International Conference "Processes in Isotopes and Molecules – PIM 2023", 19-22 September 2023, Cluj-Napoca, Romania, Poster T3-6, pg. 99
5. **M. Zagrai**, G. S. Macavei, R. Gavrea, A.D. Dehelean, A. Popa, M. L. Soran, Design and formulation of the copper-lead dioxide glass systems for efficient incorporation of MoO₃,

the IV International Scientific Forum “Nuclear science and Technologies”, 26 – 30 September 2022, Republic of Kazakhstan, Almaty.

6. **M. Zagrai**, R. C. Suciu, S. Macavei, A. Popa, S. Rada, A. Dehelean and S. Pruneanu Structural Evolution and Physical, Optical and Electrochemical Properties of Manganese Ions in Lead Glass. Book of abstract, Processes in Isotopes and Molecules, 13th International Conference, 22-24 September 2021, Cluj-Napoca, Romania, Poster T3-24, pp.7
7. **M Zagrai**, M Rada, R C Suciu, S Macavei, M E Pica, S Rada and A Bot, 2019. "Glass-ceramic electrodes for electrochemical energy storage". 12th International Conference Processes in Isotopes and Molecules (PIM), Book of Abstracts, September 2019, Cluj - Napoca, Romania, 2019, POSTER T3-25, pp.77.
8. **Mioara Zagrai**, Simona Rada, Ramona Suciu, Marius Rada, Adrian Bot , 2018. "Spectroscopic and electrochemical properties on the lead- lead dioxide-manganese dioxide vitrocereamics," Book of Abstract: XXIInd National Conference with International Participation New Cryogenic and Isotope Technologies for Energy and Environment 24–26 October 2018, Băile Govora, România, POSTER, MSEE 23- P 174.
9. **Mioara Zagrai**, Simona Rada, Marius Rada, Eugen Culea, Maria Suciu, Ramona Suciu and Adriana Bot. 2018. "Structural Studies of Zirconia Ceramics for Dental Applications", S1 P15, Book of Abstract: 18th International Balkan Workshop on Applied Physics - Section 1 - MATERIALS PHYSICS, IBWAP 2018, 10-13 July, Constanța, România. POSTER, P13, pp. 42.
10. **Zagrai Mioara**, Dehelean Adriana, Rada Simona, Pica Elena Maria and Culea Eugen, 2018. "Structural and optical properties of the gadolinium-lead-borate glasses and vitrocereamics", Fifth Edition of International Conference on Analytical and Nanoanalytical Methods for Biomedical and Environmental Sciences, "IC-ANMBES 2018", 23-25 mai, Braşov, România, POSTER.
11. **Mioara Zagrai**, S. Rada, M. Rada, A. Pengfei, J. Zhang, R. C. Suciu, E.M Pică and E. Culea, 2018. "Imobilizarea deşeurilor radioactive în sticle pe bază de plumb-dioxid de plumb și valorificarea produşilor pentru proprietăți fotoluminescente", SIMTECH, Ediția a 8-a, 31 mai 2018, Universitatea Tehnică din Cluj-Napoca, România, Carte de rezumate, Sesiunea de Comunicări Științifice studențești "SIMTECH", 2018. Prezentare orală, pp.12
12. **Mioara Zagrai**, M. Suciu, A. Popa, S. Rada, R. C. Suciu, M. Rada, A. Bot and S. Macavei, 2017. "Evaluating the lead affinity of V2O5 additives used in spent lead acid battery recycling", 11th International Conference Processes in Isotopes and Molecules (PIM), Book of Abstracts, September 2017, Cluj - Napoca, Romania, 2017, POSTER T4-53, pp.94
13. **Mioara Zagrai**, M. Rada, R. C. Suciu, S. Macavei, S. Rada and A. Bot, 2017. "Structure and Electrochemical Performances of the of The Electrodes Obtained by the Recycling of Lead Acid Batteries and the Addition of Vanadium (V) Oxide", S5 P31, Book of Abstract: 17th International Balkan Workshop on Applied Physics and Materials Science – Section 5 - ENGINEERING AND INDUSTRIAL PHYSICS, IBWAP 2017, 11-14 July, Constanța, România, POSTER, pp.181.
14. **Mioara Zagrai**, N. Dura, V. Pop, Simona Rada, Elena Maria Pică, M. Rada and E.

Culea, 2015. "The integrated of the lead wastes in tellurate glasses", A XV-a Conferință Internațională multidisciplinară- "Profesorul Dorin PAVEL- fondatorul hidroenergeticii românești" 5-6 iunie, Sebeș, România. Prezentare orală.

15. **Mioara Zagrai**, Loredana Rus, L. Bolunduț, Simona Rada, Elena Maria Pică and E. Culea, 2014. "The Immobilization of Radioactive Wastes in the Lead Glasses", 10th Edition of International Conference: ELSEDIMA "Environmental Legislation, Safety Engineering and Disaster Management" 18th-19th September, "Babeș Bolyai" University of Cluj-Napoca, România. POSTER.
16. **Mioara Zagrai**, Elena Maria Pică, E. Culea, L. C. Bolunduț, N. Dura, Loredana Rus, and Simona Rada, 2014. "Imobilization of the radioactive wastes in vitreous systems on the base of lead", A XIV-a Conferință Internațională multidisciplinară - "Profesorul Dorin PAVEL- fondatorul hidroenergeticii românești" 6-7 iunie, Sebeș, România. Prezentare orală.
17. **Mioara Zagrai**, Elena Maria Pică, E. Culea, L. C. Bolunduț, Loredana Rus, Simona Rada and P. Pășcuță, 2014. "Electrochemical characterization and structure of lead-germanate glasses doping with Li_2CO_3 , MoO_3 , WO_3 and Bi_2O_3 ", S1 P12, Book of Abstract: 14th International Balkan Workshop on Applied Physics and Materials Science - Section 1 - MATERIALS PHYSICS, IBWAP 2014, 02-04 July, Constanța, România. POSTER, P12.
18. **Mioara Zagrai**, Loredana Rus, E. Culea, Elena Maria Pică, N. Dura, L. Bolunduț, Simona Rada, V. Dan and A. Bot, 2013. "Sticle pe bază de trioxid de gadoliniu-plumb-dioxid de plumb ca alternativă la imobilizarea deșeurilor radioactive", 9th National Symposium with International Participation "ENVIRONMENT AND PROGRESS" 25 October, "Babeș Bolyai" University of Cluj Napoca, România. POSTER.
19. **Mioara Zagrai**, M. Rada, Ramona Chelcea, Simona Rada, P. Pascuta, V. Dan and E. Culea, 2011. "Structural Role of Europium Ions in Lead-Borate Glasses Inferred from Spectroscopic and DFT Studies", The 4th International Conference Advanced Spectroscopies an Biomedicak and Nanostructured Systems (BIONANOSPEC), September 2-7, "Babeș - Bolyai" University of Cluj-Napoca, Romania. POSTER, PN38.

V. Patents:

1. "Procedeu de preparare a ceramicilor zirconia parțial stabilizate cu alți oxizi", RADA Simona, **ZAGRAI Mioara**, RADA Nicolae Marius, CULEA Eugen, MANOLE Marius, HENDEA Radu. *OSIM, RO* 132713, **29.04.2022**.
2. "Procedeu de producere a unor placute metalice din $\text{Pb-PbO}_2\text{-CuO}$ prin valorificarea electrozilor unor baterii auto uzate", RADA Simona, **ZAGRAI Mioara**, RADA Nicolae Marius, CULEA Eugen, BOT Adrian, *OSIM, RO* 132873, **28.04.2023**.