

Universitatea Națională de Știință și Tehnologie Politehnica București

Facultatea de Inginerie Chimică și Biotehnologii

**Centrul de Cercetări pentru Protecția Mediului și Tehnologiilor Ecologice
CPMTE**

Colectiv Carbochimie

<https://upb-cpmte.ro/>

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1. Activitatea de cercetare științifică și publicistică (2014-2023)

Premiul Academiei Române, Gheorghe Munteanu-Murgoci 2020:
Georgeta Predeanu: *Coals of Romania - Geology, petrology, and use.*

Lucrări științifice elaborate și publicate:

- 1 carte (co-autor);
- 71 lucrari publicate, din care:
- 31 in reviste cotate ISI (din care în 2023 în revista *Journal of Energy Storage* cu factor Impact 9.3)
- 40 in alte reviste/ISI proceedings/Conference proceedings cu comitet de program, cu ISSN/ISBN;
- 2 cereri de brevet elaborate, în curs de evaluare;
- **Proiecte relevante de cercetare:**
6 proiecte, din care: 5 internaționale/ 1 proiect POC.

Georgeta Predeanu: Director proiect/Responsabil proiect UPB (2015-2025):

POC 2014 – 2020, Contract nr. 386/390062/4.10.2021 MySMIS: 120696 ” Valorificarea inovativa si integrata a deseurilor biopolimerice prin procese de sinteza inteligente în camp de microunde cu obținerea de materiale carbonice pentru aplicații de nișă” – 4WasteUpgrade”.

EU-RFCS (SUPERCOAL): Coal liquid based upgraded carbon materials for energy storage.

H2020 ERA-NET/ERA-MIN (RAREASH): Assessment of possible recycling directions of heavy & rare metals recovered from combustion waste products.

H2020 ERA-NET/ERA-MIN (CHARPHYTE): Coal char as a substituting material of natural graphite in green energy technologies

H2020 ERA-NET/ERA-MIN (DEASPHOR): Design of a product for SUBSTITUTION of phosphate rocks

H2020 ERA-NET/ERA-MIN (PHIGO): Thermal Processing of P-rich ashes aiming for HIGH-GRADE PHOSPHORUS Products.

Alte activități (Georgeta Predeanu):

- **Reprezentantul României** în Grupul Consultativ pentru Cărbune (CAG), Fondul de Cercetare pentru Cărbune și Oțel, **COMISIA EUROPEANA**, Directoratul General Cercetare și Inovare, (RFCS http://cordis.europa.eu/coal-steel-rtd/manage_en.html) 2011-2019;
- Inițierea și coordonarea celei de-a 69-a Conferințe Internaționale a Comitetului Internațional de Petrografie a Cărbunilor și Materialului Organic (ICCP2017 www.iccop.org), 3-9 septembrie **2017** desfășurată sub auspiciile Academiei Române și sub înaltul patronaj al Domnului Acad. Bogdan Simionescu.
- **Guest Editor:**
2023: Special Issue [Ash as a Potential Source of Secondary Raw Materials: Advances in Characterization, Recovery and Applications](#), MDPI.
2019: Special Issue *The 69th ICCP Meeting “Advances in applied Coal and Organic Petrology”* Symposium. International Journal of Coal Geology. DOI: [10.1016/j.coal.2019.02.002](https://doi.org/10.1016/j.coal.2019.02.002)
2017: Series of publications by the German Society for Geosciences (SDGG)/Schriftenreihe der Deutschen Gesellschaft für Geowissenschaften Heft 92, 2017. **Predeanu G.**, Popa M.E., **Mihalache R.D.**, Mariș I., Kus I., Ghiran M.D. Publisher Schweizerbart Science Publishers, Stuttgart, 2017. ISBN 978-3-510-49239-8. ISSN 1860-1782. 156 pp.

Membru al Asociațiilor Profesionale (Georgeta Predeanu):

- **Membru plin** al International Committee of Coal and Organic Petrology (ICCP, www.iccop.org)

Competențe profesionale care acoperă profilul Petrografia Carbunilor, Petrografia Materialului dispersat în rocile Sursă petrolieră, Petrografia Materialelor Carbonice, Coordonator Grup de Lucru „Microscopia materialelor Carbonice” (2008-prezent), grup cu o largă reprezentare internațională. Membru în alte 4 grupuri de lucru ale ICCP.

În prezent sunt **singurul cercetător petrograf activ din Romania, cu experiență amplă și dovedită la nivel internațional** privind studiul unei game largi și variate de materii prime și materiale din domeniile geologic, minier, energetic, chimic care pot fi analizate prin microscopie optică (cu ajutorul microscopului OLYMPUS din cadrul UPB-CPMTE) în scopul găsirii unor căi de valorificare a acestora.

LISTA DE PUBLICATII:

Cărți:

1. Popa, M.E., **Predeanu, G.**, Ghiran, M.D., Mariș, I., Pirnea, R., 2017. *Pliocene Coals and Neogene Formations of the Prahova County: Field Trip Guide*. Ed. Universitatii Bucuresti, 66 pp., ISBN 978-606-16-0905-5 (în Engleză).

Articole în Reviste Stiintifice (cotate ISI):

1. Santos A.C., Badenhorst C., Bialecka B., Cameán I., Guedes A., Moreira K., **Predeanu G.**, Suárez-Ruiz I., Wagner N., Valentim B. *Graphitization of coal char: microstructural and microtextural transformations*. International Journal of Coal Geology, **2023**, in press.
2. Moysowicz A., González Z., Melendi-Espina S., Acevedo B., **Predeanu G.**, Axinte S.M., Fernández J.J., Granda M., Minta D., Moysowicz A., Gryglewicz G. *Hydrothermal nitrogen doping of anthracene oil-derived activated carbons for wide voltage asymmetric capacitors*. Journal of Energy Storage **60**, **2023**, 106704, <https://doi.org/10.1016/j.est.2023.106704>
3. **Predeanu G.**, **Slăvescu V.**, **Drăgoescu M.F.**, **Bălănescu N.M.**, Fiti A., **Meghea A.**, Samoila P., Harabagiu V., Ignat M., **Manea-Saghin A.M.**, **Vasile B.S.**, **Badea N.** *Green Synthesis of Advanced Carbon Materials Used as Precursors for Adsorbents Applied in Wastewater Treatment*. Materials **2023**, **16**, 1036. <https://doi.org/10.3390/ma16031036>
4. Ghiran M.D., Popa M.E., Mariș I., **Predeanu G.**, Gheorghe S., Bălănescu N.M. *Thermal Maturity and Kerogen Type of Badenian Dispersed Organic Matter from the Getic Depression, Romania*. Minerals **2023**, **13**, 202. <https://doi.org/10.3390/min13020202>
5. Enache A.C., Samoila P., Cojocaru C., Apolzan R., **Predeanu G.**, Harabagiu V. *An Eco-Friendly Modification of a Walnut Shell Biosorbent for Increased Efficiency in Wastewater Treatment*. Sustainability **2023**, **15**, 2704. <https://doi.org/10.3390/su15032704>
6. Condurache B.C., Cojocaru C., Samoila P., Cosmulescu S.F., **Predeanu G.**, Enache A.C., Harabagiu V. *Oxidized Biomass and Its Usage as Adsorbent for Removal of Heavy Metal Ions from Aqueous Solutions*. Molecules **2022**, **27**, 6119, 1-19. <https://doi.org/10.3390/molecules27186119>
7. Fahimi, A.; Bontempi, E.; Fiameni, L.; Guedes, A.; Guimarães, R.; Moreira, K.; Santos, A.C.; Valentim, B.; **Predeanu, G.**; Bălănescu, M., Olgun H., Boiron M.C., Cathelineau M. *Incineration of Aviary Manure: The Case Studies of Poultry Litter and Laying Hens Manure*. Waste and Biomass Valorization, **2022**, volume 13, 3335–3357.
8. Fiameni L., Assi A., Fahimi A., Bruno V., Moreira K., **Predeanu G.**, **Slăvescu V.**, **Vasile B.Ș.**, Nicoară A.I., Borgese L., Boniardi G., Turolla A., Canziani R. and Bontempi E. *Simultaneous amorphous silica and phosphorus recovery from rice husk poultry litter ash*. RSC Advances, **2021**, **11**, 8927-8939.
9. Laura Fiameni, Ario Fahimi, Claudio Marchesi, Giampiero Pasquale Sorrentino, Alessandra Zanoletti, Karen Moreira, Bruno Valentim, **Georgeta Predeanu**, Laura Eleonora Depero, Elza Bontempi. *Sustainability analysis supported by a statistical approach to evaluate a zero-waste recovery process: the case of rice husk poultry litter ash for phosphorous and silica recovery*. Materials **2021**, **14**, 6297, 1-14.
10. Diana M.Fernandes, Víctor K.Abelkader Fernández, Charlotte Badenhorst, Barbara Bialecka, Alexandra Guedes, **Georgeta Predeanu**, Ana Cláudia Santos, Bruno Valentim, Nicola Wagner, Cristina Freire. *Coal chars recovered from fly ash as promising electrocatalysts for oxygen reduction reaction*. International Journal of Hydrogen Energy, **Volume 46, Issue 70**, 11 October **2021**, 34679-34688. <https://doi.org/10.1016/j.ijhydene.2021.08.009>
11. **Predeanu, G.**; **Slăvescu, V.**; **Bălănescu, M.**; **Mihalache, R.D.**; **Mihaly, M.**; **Marin, A.C.**; **Meghea, A.**; Valentim, B.R.; Guedes, A.; **Abagiu, A.T.**; Popescu, L.G.; **Manea-Saghin, A.M.**; **Vasile, B.Ș.**; **Drăgoescu, M.F.** *Coal bottom ash processing for capitalization according to circular economy concept*. Minerals Engineering **2021**, **170**, 107055, doi:10.1016/j.mineng.2021.107055.
12. González Z., Acevedo B., **Predeanu G.**, Axinte, S.M., **Drăgoescu M.F.**, **Slăvescu V.**, Fernandez J.J., Granda M., Gryglewicz G., Melendi-Espina S. *Graphene materials from microwave-derived carbon precursors*. Fuel Processing Technology, **2021**, **217**, 106803 <https://doi.org/10.1016/j.fuproc.2021.106803>
13. Fiameni L., Assi A., Fahimi A., Bruno V., Moreira K., **Predeanu G.**, **Slăvescu V.**, **Vasile B.Ș.**, Nicoară A.I., Borgese L., Boniardi G., Turolla A., Canziani R. and Bontempi E. *Simultaneous amorphous silica and phosphorus recovery from rice husk poultry litter ash*. RSC Advances, **2021**, **11**, 8927-8939. <https://doi:10.1039/d0ra10120f>
14. Badenhorst C., Santos C., Lázaro-Martínez J., Bialecka B., Cruceru M., Guedes A., Guimarães R., Moreira K., **Predeanu G.**, Suárez-Ruiz I., Cameán I., Valentim B., Wagner N. *Assessment of Graphitized Coal Ash Char Concentrates as a Potential Synthetic Graphite Source*. Minerals, **2020**, **10**, 986, 1-28; doi:10.3390/min10110986.

15. Fahimi A., Bilo F., Assi A., Dalipi R., Federici S., Guedes A., Valentim B., Olgun H., Ye G., Bialecka B., Fiameni L., Borgese L., Cathelineau M., Boiron M.C., **Predeanu G.**, Bontempi E. *Poultry litter ash characterization and recovery*. Waste Management 111 (2020) 10–21.
16. Misz-Kennan M., Kus J., Flores D., Avila C., Buckun Z., Choudhury N., Christanis K., Joubert J., Kalaitzidis S., Karayigit A.I., Malecha M., Marques M., Martizzi P., O'Keefe J., Pickel W., **Predeanu G.**, Pusz S., Ribeiro J., Rodrigues S., Singh A.K., Suarez-Ruiz I., Sýkorová I., Wagner D., Zivotic D. *Development of a petrographic classification system for organic particles affected by self-heating in coal waste. (An ICCP Classification System, Self-heating Working Group – Commission III)*. International Journal of Coal Geology, 220, 2020, 103411, <https://doi.org/10.1016/j.coal.2020.103411>.
17. **Predeanu G.**, Axinte S.M., **Drăgoescu M.F.**, González Z., Álvarez P., Granda M., Menéndez R., Fiti A., Acevedo B., Melendi-Espina S., Gryglewicz G., Fernández J.J., **Slăvescu V.** *Microwave heating as a novel route for obtaining carbon precursors from anthracene oil*. Fuel Processing Technology 192, 2019, 250–257.
18. Valentim B., **Abagiu T.A.**, Anghelescu L., Flores D., French D., Goncalves P., Guedes A., Ribeiro J., Popescu L.G., **Predeanu G.**, **Slăvescu V.**, Ward C. *Assessment of landfilled Oltenia lignite bottom ash (Romania) as a source of rare earth elements*. Special Issue of Minerals (Trace elements and minerals in coal and coal combustion residues). International Journal of Coal Geology 201, 2019, 109–126.
19. **Predeanu G.**, Popa M.E., Littke R. *Editorial of the Special Issue: The 69th ICCP Meeting “Advances in applied Coal and Organic Petrology” Symposium*. International Journal of Coal Geology 207, 2019, 73–74.
20. Popa M.E., **Predeanu G.** *Coals of Romania-Geology, petrology, and use*. International Journal of Coal Geology 200 (2018) 103–122.
21. Anastasiu N., Simionescu B.C., Popa M.E., Mihai M., Rusu R.D., **Predeanu G.** *Romanian coal reserves and strategic trends*. International Journal of Coal Geology 198, 2018, 177–182.
22. Valentim B., Bialecka B., Gonçalves P., Guedes A., Guimarães R., Cruceru M., Moszko J.K., Popescu L.G., **Predeanu G.**, Santos C. S. *Undifferentiated inorganics in coal fly ash and bottom ash: calcispheres, magnesiocalcispheres, and magnesiapheres*. International Journal of Coal Geology, Special Issue of Minerals (Trace elements and minerals in coal and coal combustion residues) Minerals 2018, 8, 140.
23. Suárez-Ruiz I., Valentim B., Borrego A.G., Bouzinos A., Flores D., Kalaitzidis S., Malinconico M.L., Marques M., Misz-Kennan M., **Predeanu G.**, Montes J.R., Rodriguez S., Siavalas G., Wagner N. *Development of a petrographic classification of fly-ash components from coal combustion and co-combustion. (An ICCP Classification System, Fly-Ash Working Group – Commission III.)* International Journal of Coal Geology 183, 2017, 188-203.
24. Sereanu V., Feraru L., **Predeanu G.**, **Meghea A.** *Microstructure, and chemical characterization of Rapana Thomasiana shell*. U.P.B. Sci. Bull., Series B, Vol. 79, Iss. 1, 81-92 (2017), ISSN 1454 – 2331.
25. **Predeanu G.**, Popescu L. G., **Abagiu T. A.**, **Panaiteescu C.**, Valentim B., Guedes A. *Characterization of bottom ash of Pliocene lignite as ceramic composites raw material by petrographic, SEM/EDS and Raman microspectroscopical methods*, International Journal of Coal Geology 168, 2016, 131–145.
26. Mihăiescu D.C., **Panaiteescu C.**, **Predeanu G.** *Petrographic assessing of combustion waste products quality resulting from Berbești lignite burning in Govora power plant*, Revista de Chimie, 66, 6, 2015, 874-878.
27. **Predeanu G.**, Mihăiescu D.C., **Panaiteescu C.** *Morphology, structure, and composition of some technological wastes released from blast furnace operation*, Revista de Chimie, 66, 4, 2015, 570-574.
28. **Predeanu G.**, **Panaiteescu C.**, **Bălănescu M.**, Bieg G., Gómez Borrego A., Diez M. A., Kwiecińska B., Marques M., Mastalerz M., Misz-Kennan M., Pusz S., Suárez Ruiz I., Rodriguez S., Singh A. K., Varma A., Zdravkov A., Životić D. *Microscopically characterization of carbon materials derived from coal and petroleum and their interaction phenomena on making steel electrodes, anodes and cathodes blocks*, International Journal of Coal Geology, 139, 2015, 63-79.
29. Mihăiescu D.C., **Panaiteescu C.**, **Predeanu G.** *Petrographic assessing of combustion waste products quality resulting from Berbești lignite burning in Govora power plant*, Revista de Chimie, 66, 6, 2015, 874-878.
30. **Predeanu G.**, Mihăiescu D.C., **Panaiteescu C.** *Morphology, structure, and composition of some technological wastes released from blast furnace operation*, Revista de Chimie, 66, 4, 2015, 570-574.
31. Mihăiescu D. C., **Predeanu G.**, **Panaiteescu C.** *Characterization of some blast furnace waste dusts*. UPB Scientific Bulletin, Series B: Chemistry and Materials Science, 76, issue 1, 2014, 227-234. Editura Politehnica Press ISSN: 1454-2331.

Articole în alte Reviste Științifice (ISSN)

32. Angheliescu, L., Abagiu, T., Cruceru, M., Valentim, B., Diaconu, B., **Predeanu, G.**, 2017. *Obtaining thermal insulating refractory products using ash from thermal coal containing residual coal*. International Journal of Power Systems, vol. 2, pp. 14-20.
33. Angheliescu, L., Abagiu, T., Cruceru, M., Valentim, B., **Predeanu, G.**, Diaconu, B., **Slăvescu, V.**, 2017. *Utilization of Coal-Fired Ash Waste in the Production of Heat-Resistant Refractory Products*, International Journal of Environmental Science, vol. 2, pp. 272-277.
34. Cruceru, M., Valentim, B., **Predeanu, G.**, Abagiu, T.A., **Slăvescu, V.**, Angheliescu, L., 2017. *Concentration of the residual carbon from bottom ash by particle size separation*, International Journal of Geology, vol. 11, pp. 1-7.
35. Cruceru, M., Valentim, B., Angheliescu, L., Barbara, B., Freire, C., Lazaro Martinez, J., **Predeanu, G.**, Wagner, N., Santos, C., Abagiu, T., 2017. *Preconcentration techniques for residual coal from bottom ash. Part 2 – Results and discussion*. Annals of the "Constantin Brancusi" University - Engineering, Targu Jiu, 2, 15-20.
36. Cruceru, M., Valentim, B., Barbara, B., Freire, C., Lazaro Martinez, J., **Predeanu, G.**, Wagner, N., Santos, C., Abagiu, T., Angheliescu, L., 2017. *Pre concentration techniques for residual coal from bottom ash. Part 1 – Methodology and procedures*. Annals of the "Constantin Brancusi" University - Engineering, Targu Jiu, 2, 9-14.
37. **Predeanu G.** In memoriam - Profesor Emerit Cornelia PANAITESCU, Buletinul S. Ch. R. Nr. XXVI, 3/2019, 4-10. ISSN 2066-2971.

Articole în Conference Proceedings (ISI Proceedings/Comitet de Program)

38. **Predeanu G, Slăvescu V, Drăgoescu M.F.**, Samoilă P, Fiti A. *Microscopic assessment of some biomass chars*. Joint 74th Annual Meeting and Symposium of the International Committee for Coal and Organic Petrology and 39th TSOP Meeting. Symposium Organic Petrology in the Energy Transition Era: Challenges ahead. Bulletin of the Geological Society, Special Publication No. 12, 2023, ISBN 978-960-98709-9-3, ISSN 2945-1418. pp. 72.
39. **Predeanu G.**, Wojtaszek-Kalaitzidi M., Suárez Ruiz I., **Bălănescu M.**, Gómez Borrego A., Diez M. A., Garcia L., Ghiran M. D., Hackley P., Kalaitzidis S., Kus J., Mancisidor D., Mastalerz M., Misz-Kennan M., Pusz S., Rodriguez S., Siavalas G., Singh A. K., Tomillo P., Varma A., Zdravkov A., Životić D. *Microscopic characterization of carbon materials derived from coal and biomass and their interaction phenomena in making high grade products*. Joint 74th Annual Meeting and Symposium of the International Committee for Coal and Organic Petrology and 39th TSOP Meeting. Symposium Organic Petrology in the Energy Transition Era: Challenges ahead. Bulletin of the Geological Society, Special Publication No. 12, 2023, ISBN 978-960-98709-9-3, ISSN 2945-1418. pp. 73.
40. **Predeanu G., Slăvescu V., Manea-Saghin A-M., Meghea A., Bălănescu N.M.** *Innovative recycling of biopolymeric wastes for environmental application*. Proceedings of 23rd International Multidisciplinary Scientific GeoConference SGEM 2023, Vol. 23, Issue 4.1, 1-8, Publisher STEF92 Technology, ISBN 978-619-7603-59-0, ISSN 1314-2704, 1-10 July 2023. In: DOI: [10.5593/sgem2023/4.1/s18.21](https://doi.org/10.5593/sgem2023/4.1/s18.21).
41. **Predeanu G., Slăvescu V., Drăgoescu M.F., Bălănescu M., Abagiu T.A., Manea-Saghin A-M.**, Samoilă P. Harabagiu V., Cosmulescu F. *Pyrolysis of lignocellulosic waste, a process to obtain suitable precursors for making carbon sorbents*. 22nd Romanian International Conference on Chemistry and Chemical Engineering Sinaia, ROMANIA - September 7 – 9, 2022.
42. Santos A.C, Badenhorst C., Bialecka B., Guedes A., **Predeanu G.**, Wagner N., Valentim, B. *Graphitization of coal chars 2022*. 73 Annual Meeting and Symposium of the International Committee for Coal and Organic Petrology. Recent trends on coal utilization for sustainable development and energy security, Abstract Volume, September, 18-25 Sept. 2022, New Delhi, India, 7-9.
43. **Predeanu G., Slăvescu V., Manea-Saghin A-M**, Cosmulescu F., Fiti A., Harabagiu V., Samoilă P. *Assessment of porosity developed during microwave heating of biomass to obtain sorbent-type carbon materials*. E-book of Abstracts, 6th International Conference on Chemical Engineering, Innovative Materials and Processes for a Sustainable Development, October 5 – 7, 2022, Iași.
44. Santos, A. C., Badenhorst, C. J., Bialecka, B., Guedes, A., **Predeanu, G.**, Wagner, N. J., Valentim, B. R. V.. *Graphitization of coal chars*. 2022. 73 Annual Meeting and Symposium of the International Committee for Coal and Organic Petrology. Recent trends on coal utilization for sustainable development and energy security, New Delhi, India, 18-25 Sept. Abstracts volum, 7-8.
45. Santos, A. C., Guedes, A., Bialecka, B., Badenhorst, C. J., **Predeanu, G.**, Calus-Moszek, J., Lázaro-Martínez, J. M., Popescu, L., Cruceru, M., Wagner, N. J., Guimarães, R., Valentim, B. R. V., 2019. *Recovery of carbonaceous solid residue (char) from coal ash to use as possible substitute graphite-based materials in green energy applications*. World of Coal Ash (WOCA) Conference, St. Louis (Missouri), 17-20 May. In: <http://www.flyash.info/2019/226-abstract.pdf>. Poster presentation, 1-2. WOCA 2019 Student Poster Presentation Award.

46. Badenhorst, C. J., Wagner, N. J., Valentim, B. R. V., Santos, A. C., Guedes, A., Bialecka, B., Calus-Moszko, J., Popescu, L., Cruceru, M., **Predeanu, G.**, Viljoen, K., S., Lázaro-Martínez, J. M., Abagiu, T. A., 2019. *Char from coal ash as a possible precursor for synthetic graphite – Recent developments of the Charphite project*. World of Coal Ash (WOCA) Conference, St. Louis (Missouri), 17-20 May. In: <http://www.flyash.info/2019/077-paper.pdf>. Oral presentation, 1-32.
47. Valentim, B., Anghelescu, L., Bialecka, B., Diaconu, B., Guedes, A., Moreira, K., Calus-Moszko, J., Martinez, J.L., Popescu, L.G., **Predeanu, G.**, Santos, A.C., Wagner, N., Penka, Z., Cruceru, M., 2019. *Comparison between the properties of building materials manufactured from bottom ash and fly ash Part 1: Materials and Procedures*. "CONFRENG 2019", Section 3 Power and Electric Engineering. November 22th - 23th, 2019, Târgu-Jiu (Romania). Romanian Academy of Technical Sciences, "CONSTANTIN BRÂNCUȘI", University of Târgu-Jiu, Faculty of Engineering.
48. Valentim, B., Anghelescu, L., Bialecka, B., Diaconu, B., Guedes, A., Moreira, K., Calus-Moszko, J., Martinez, J.L., Popescu, L.G., **Predeanu, G.**, Santos, A.C., Wagner, N., Velev, G.T., Cruceru, M., 2019. *Comparison between the properties of building materials manufactured from bottom ash and fly ash Part 2: results and discussions*. "CONFRENG 2019", Section 3 Power and Electric Engineering. November 22th - 23th, 2019, Târgu-Jiu (Romania). Romanian Academy of Technical Sciences, "CONSTANTIN BRÂNCUȘI", University of Târgu-Jiu, Faculty of Engineering.
49. Santos, A., Abagiu, T., Anghelescu, L., Badenhorst, C., Bialecka, B., Calus-Moszko, J., Cempa, M., Cruceru, M., Flores, D., Freire, C., Guedes, A., Klupa, A., Martinez, J.L., Popescu, L., **Predeanu, G.**, Ribeiro, J., **Slavescu, V.**, Wagner, N., Wrana, A., Valentim, B., 2017. *Project CHARPHITE: presentation and up to date of Porto University results*. Jornadas do ICT, 26-27 Junho, Universidade do Minho. Book of abstracts, pag. 38. ICT – INSTITUTO DE CIÊNCIAS DA TERRA. <http://www.ict.org.pt/>.
50. Guedes, A., Abagiu, T.A., Bialecka, B., Cruceru, M., Freire, C., Martinez, J., **Predeanu, G.**, Santos, C., Wagner, N., Valentim, B., 2017. *Carbon forms in coal, fly ash and bottom ash*. Abstract. Goldschmidt2017 Conference. Poster comm. session (gold2017:abs:2017004487).
51. Santos, C., Bialecka, B., Freire, C., Guedes, A., Martinez, J., Popescu, L., **Predeanu, G.**, Wagner, N., Valentim, B., 2017. *Distribution of lanthanides, yttrium and scandium in ashes from coal-fired power stations*. Abstract. Goldschmidt2017 Conference. Poster comm. session 18d (gold2017:abs:2017004330).
52. **G. Predeanu**, Bruno R.V. Valentim, Alexandra Guedes, Ana C. Santos, Karen S. Moreira, Mihai Cruceru, Luminița G. Popescu, Nicola J. Wagner, Charlotte J. Badenhorst, Valerica Slăvescu. *Petrographic identification of char morphotypes in combustion waste products of different origin*. Book of Abstracts, 71 ICCP annual meeting, p.37.
53. B. Valentim, A. T. Abagiu, B. Bialecka, A. Guedes, P. Gonçalves, J. Caluz-Moszko, L. Popescu, **G. Predeanu**, C. Santos, **V. Slavescu**. *Coal bottom ash recycling for rare earth elements recovering for solar collector's precursors application*. Conferinta CARBON, Madrid 1-6 Iulie, 2018. Poster 0312.
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2. Activitatea de expertizare (2016-2018, 2022-2023)

Valerica Slăvescu: Coordonator

Activități prestate: Analize chimico-tehnice și microscopice pentru produse pe bază de carbon (antracit, ulei, cocs de petrol brut și calcinat, amestecuri pentru procese metalurgice, materiale carbonice) și deseuri vegetale.

Beneficiari: Seven Grup Manasia, jud. Ialomița; T&T Eurogroup, Piatra Neamț; MMS Minerals & Metals Solutions București; Ronera Rubber S.A., Pitești; SILCOREX, București; MARCOBAD, jud. Dâmbovița; ECO SHORGUM, jud. Ilfov.

Total comenzi/contracte (în 5 ani): 37

Sume încasate: 92.892 lei (inclusiv TVA)

Sumele ar fi fost posibil mai mari, însă în perioada pandemiei nu s-au înregistrat comenzi.

3. Colaborare cu alte centre academice din țară:

UNIVERSITATEA "CONSTANTIN BRÂNCUȘI" DIN TÂRGU JIU,
Institutul de Chimie Macromoleculară „Petru Poni”, Iași.

4. Colaborare cu alte centre academice din străinătate



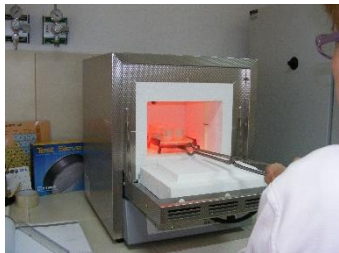


UP - UNIVERSITATEA DIN PORTO, PORTUGALIA - Faculty of Sciences of Porto University,
UNIBS - University of Brescia, ITALY, Department of Mechanical and Industrial Engineering
GIG - Central Mining Institute (Główny Instytut Górnictwa), Katowice, POLAND
UEGE - University of EGE, Solar Energy Institute, IZMIR, TURKEY
Instituto Nacional del Carbon – INCAR, Oviedo, SPAIN
University of EAST Anglia, Norwich, UK
Wrocław University of Science and Technology, Wrocław, POLAND
DSI-NRF CIMERA, Department of Geology, University of Johannesburg, South Africa;
Universidad de Buenos Aires, Departamento de Química Orgánica, IQUIMEFA-UBA-CONICET, Argentina
Université de Lorraine, CNRS, CREGU, Faculté des Sciences et Technologies, Nancy, France
University of Patras, Patras, GRECE







5. Colaborare cu societăți comerciale din țară și din străinătate




SOCIETATEA COMPLEXUL ENERGETIC OLTENIA S.A.,
CLAUDIU TOPROM SRL BUCUREȘTI,
COSFEL ACTUAL SRL, BUCUREȘTI
Industrial Química del Nalón, S.A., Trubia, Spain
SWERIM AB, METALLURGY DEPARTMENT, LULEA, SWEDEN
PROGEO, POLAND,
CAMPOAVES – AVES DO CAMPO, SA, PORTUGAL
MEFOS - SWEREA MEFOS SUSTAINABLE PROCESS TECHNOLOGY, SWEDEN

6. Echipamente noi achiziționale în cadrul proiectelor de cercetare (2014-2023)

Nr. crt.	Echipament tip laborator	Caracteristici	Cantitate
1	Mojar mecanic Retsch	<p>Mojar de laborator RETSCH RM200 Caracteristici: Cuvă și pistil din porțelan dur; capacitate de măcinare 10.... 190 ml; turație motor 100 rot/min; reglaje presiuni de măcinare; reglaj timp de măcinare 1...99 min.</p>	
2	Mojară cu bile Retsch	<p>Mojară planetară cu bile RETSCH Caracteristici: Moară planetară cu bile PM 100 pulverizează și amestecă materiale moi, cu duritate medie, până la cele extrem de dure, precum și materiale casante și fibroase. < 1 μm, pentru macinare coloidală < 0.1 μm;</p>	
3	Aparat sitare Retsch	<p>Aparat pentru sitat AS200 RETSCH Caracteristici: mișcare tridimensională; sitare uscată și umedă; variator al vitezei și amplitudinii de sitare; diametrul acceptat al sitei 203 mm.</p>	
4	Balanță analitică	<p>Balanță analitică KERN ABJ-NM/ABS-N model ABJ 220-4NM Caracteristici: precizie 0,1 mg, greutate maximă de cântărire 220 g; greutate minimă de cântărire 10 mg; repetabilitate 0,2 mg; liniaritate ±0,3 mg; timp de stabilizare 3 sec.</p>	

5	<i>Balanță de precizie</i>	Balanță de precizie KERN model PLJ 3000-2CM Caracteristici: precizie 0,01 g; greutate maximă de cântărire 3500 g; repetabilitate 0,01 g; liniaritate $\pm 0,04$ g.	
6	<i>Etuvă de laborator</i>	Etuvă electrică POL-EKO, versiunea STD, model SL 115 Caracteristici: volum util 112 l; convenție forțată (SLW); domeniu de temperatură 20 300 °C; microprocesor cu display extern.	
7	<i>Cuptor electric Nabertherm</i>	Cuptor de laborator NABERTHERM model L9/11/B180 Caracteristici: temperatură maximă 1100 °C; volum 9 l; programator de temperatură; putere consumată 3 kW.	
8	<i>pH-metru</i>	- domeniul de măsurare: 0 – 14 unități de pH - precizie măsurare: $\pm 0,1$ unități de pH - calibrare manuală	1 buc.
9	<i>Monodistilator apă brută</i>	Distilator de apă GFL model 2001/2 Caracteristici: capacitate distilare 2 l/h; monodistilare; consum de apă pentru răcire 20 l/h; putere consumată 2 kW.	
10	<i>Baie de nisip</i>	Baie de nisip FALC model S 70 Caracteristici: capacitate tanc 6 l; domeniul de temperatură ambient.....450 °C; putere consumata 1 kW	

11	<i>Plită electrică</i>	<p>Plită electrică VELP model RC2 cu două poziții Caracteristici: domeniul de temperatură ambient.....370 °C; diametru plită 155 mm; putere consumată 600 W.</p>	
12	<i>Agitator magnetic</i>	<p>Agitator magnetic cu încălzire LED model RSM-10HP Caracteristici: frecvență 50/60 Hz; utilizează 1 bară magnetică; viteza de rotație 100....1500 rot/min; temperatura de siguranță a platanului 320 °C.</p>	
13	<i>Baie ultrasonică</i>	<p>Baie ultrasonică ELMA model S 100H Caracteristici: volum util tanc 7,50 l; cu încălzire până la 80 °C; frecvență ultrasunete 37 kHz; putere ultrasunete 150 W; putere încălzire 400 W.</p>	
14	<i>Platformă de agitare</i>	<p>Platformă de agitare HEIDOLPH model Rotamax 120 Caracteristici: capacitate de încărcare 2 kg; mișcare de rotație; orbital 20 mm; viteza de rotație 20-300 rot/min; putere 33 W.</p>	
15	<i>Echipament pentru presarea la cald a probelor pentru studiul microscopic</i>	<p>Echipament pentru presarea la cald a probelor ATA model Opal 410 Caracteristici: utilizată pentru obținerea slifurilor pentru microscopie; utilizează matrite încălzite de la $\Phi 25.2$ până la $\Phi 40$ mm; temperatura maximă a matritei 200 °C; presiunea hidraulică maximă 180 bar; timp de presare 0...30 min.</p>	
16	<i>Echipament pentru slefuirea și lustruirea probelor destinate studiului microscopic</i>	<p>Echipament pentru slefuirea și lustruirea probelor destinate studiului microscopic ATA model Saphir 330 Caracteristici: două posturi de lucru; diametru platan 250 mm; viteza de rotație platan 50-600 rot/min</p>	

17	<p>Microscop (existent in cadrul CPMTE înainte de anul 2014, upgradat cu camera video și soft aferent, în 2019)</p>	<p>Microscop OLYMPUS BX51M Caracteristici: Dotat cu camera de transmisie pe monitor a imaginilor, model CCD-1300QB și sistem motorizat de deplasare a probei pe orizontală, cu imersie în ulei sau glicerină. Posibilitati de lucru in lumina normal reflectata si polarizata. Dotat cu soft specializat pentru determinarea reflectantei vitrinutului si a porozitatii cocsului.</p>	
18	<p>Spectrofotometru UV-VIS <i>Perkin Elmer</i></p>	<p>Spectrofotometru UV-VIS, model LAMBDA 365. Caracteristici: domeniul spectral: 190 – 1100 nm; acuratețea lungimii de undă: ± 1 nm; reproductibilitatea lungimii de undă: ± 0,25 nm; moduri de măsurare: A, C, T(%); reglare automată a lungimii de undă și a filtrului; schimbare automată a cuvelor (7 cuve); sistem optic: dublu fascicol; pachet Software pentru comandă și prelucrare a datelor pe computer; interfață.</p>	
19	<p>Pompa de vid <i>Vacuubrand</i> <i>Modelme 4c nt</i></p>	<p>Pompa de vid Caracteristici: vacuum realizat: 70 mbar, presiune max. 1.1 bar.</p>	

Intocmit,

Dr. Ing. Georgeta Predeanu