Predrag T. Banković, Ph.D.

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Datum i mesto rođenja: **1971** Belgrade, Serbia

Education: **2002** BSc in physical chemistry, Faculty of Physical Chemistry, University of Belgrade, Republic of Serbia
2004 MSc in materials science, University of São Paulo, São Paulo, Brazil
2010 PhD in physical chemistry, Faculty of Physical Chemistry, University of Belgrade, Republic of Serbia.

Research Rank: **2016** Full Research Professor – University of Belgrade, Institute of Chemistry, Technology and Metallurgy

Memberships: Society of Physical chemists of Serbia
Serbian Ceramic Society – Chair of the Catalysis and Catalysts Section
AIPEA (Association International pour l'Etudes des Argiles)

Professional Experience: **2004–present:** University of Belgrade, Institute of Chemistry, Technology and Metallurgy, Department of Catalysis and Chemical Engineering, Belgrade, Republic of Serbia
2018–present Head of Department of Catalysis and Chemical Engineering
2018–present Principal investigator III45001 „Nanostructured functional and composite materials in catalytic and sorption processes" (The Ministry of Education and Science of the Republic of Serbia)
2018–2021 Vice president of the Scientific Advisory Board (ICTM)
2019–present Vice president of the Administrative Board (ICTM)
2020–present Vice president of the Association of Institutes of Serbia

Awards and Honors:

Research Interests: Catalysis, Electrocatalysis, Adsorption, Environmental Protection, Materials Science, Clays & Clay Minerals, Natural Aluminosilicate Materials, Plasma Enhanced Chemical Vapour Deposition

Professional Skills: Laboratory equipment (GC, UV-Vis, DR UV-Vis, N_2 physisorption, plasma reactor, Hg porosimeter...) and professional software

Citation: 620 (SCOPUS December 2021); h index = 16

Language Skills: English (written and spoken)
Portuguese (written and spoken)
Romanian (basic level)

Projects: **International:**
2014–2016 Preparation and application of new catalytic materials obtained by plasma methods (Coordinator: Dr P. Banković)
2010–2011 Synthesis and catalytic properties of heterogeneous catalysts
2006–2008 Heteropoly compounds as heterogeneous catalysts

ERASMUS+:
2020–2022 NOVA University of Lisbon, NOVA School of Science and Technology, FCT – NOVA

COST Actions:
2012–2016 ES1202 Action: Conceiving Wastewater Treatment in 2020 - Energetic, environmental and economic challenges (Member of Committee: Dr P. Banković)

2012–2016 MP1202 Action: Rational design of hybrid organic-inorganic interfaces: the next step towards advanced functional materials

Basic research:
2006–2010 Sinteza, karakterizacija i testiranje katalitičkih svojstava specijalno dizajniranih materijala
2004–2005 Sinteza, karakterizacija, testiranje i modelovanje heterogenih katalizatora za parcijalne i potpune oksidacije organskih jedinjenja

Integrated, interdisciplinary investigation (III):
2011–present Nanostructured functional and composite materials in catalytic and sorption processes, Project III 45001, 2011-present, The Ministry of Education, Science and Technological Development of Republic of Serbia (2018-present Principal investigator of the project)

Major Publications: **Monographs and Chapters:**

1. I. Vyrides, E. Anayiotou, **P. Banković**, W. De Schepper and X. Dominguez-Benetton, Metal recovery from sludge: Problem or opportunity, in Innovative Wastewater Treatment & Resource Recovery Technologies (Eds. Juan M. Lema, Sonia S. Martinez), IWA Publishing, London, SW1H 0QS, UK (2017), 351–364.
2. **P. Banković**, A. Ivanović-Šašić, Z. Mojović, N. Jović-Jovičić, M. Žunić, A. Milutinović-Nikolić, D. Jovanović, Modified Clays in Environmental Protection, in Proceedings of the III Advanced Ceramics and Applications Conference (Eds. W. E. Lee, R. Gadow, V. Mitić, N. Obradović), Atlantis Press, Paris, France, 2015, 221-240.
3. A. Milutinović-Nikolić, J. Krstić, J. Dostanić, Z. Vuković, S. Marinović, A. Nastasović, N. Jović-Jovičić, M. Žunić, **P. Banković**, A. Milutinović-Nikolić, Z. Mojović, A. Abu Rabi-Stanković, D. Jovanović, M. Mojović, M. Daković, Monografija „Bentonit iz rudnika „Bogovina“ kao savremeni nanotehnološki materijal“, Urednici: Z. Mojović, P. Banković, Institut za hemiju, tehnologiju i metalurgiju, Beograd, 2013, 238.

Selected published papers:

1. T. Novaković, T. Barudžija, M. Čomor, **P. Banković**, Z. Mojović, Electrochemical behavior of different types of alumina, J. Electroanal. Chem. **895** (2021) 115542
2. S. Marinović, T. Mudrinić, B. Dojčinović, T. Barudžija, **P. Banković**, T. Novaković, Cobalt-doped alumina catalysts in catalytic oxidation of tartrazine induced by Oxone®, Journal of Environmental Chemical engineering. **9(6)** (2021) 106348
3. Marko G. Popadić, Sanja R. Marinović, Tihana M. Mudrinić, Aleksandra D. Milutinović-Nikolić, **Predrag T. Banković**, Ivana S. Đorđević, Goran V. Janjić, A novel approach in revealing mechanisms and particular step predictors of pH dependent tartrazine catalytic degradation in presence of Oxone®, **281** (2021) 130806.
4. N. Jović-Jovičić, T. Mudrinić, A. Milutinović-Nikolić, **P. Banković**, Z. Mojović. The influence of pH on electrochemical behavior of nicotine-clay based electrodes. Science of Sintering, 53(4) (2021), Paper no. 10, 14 pages.
5. I. Ilić, A. Milutinović-Nikolić, Z. Mojović, Z. Vuković, P. Vulić, I. Gržetić, **P. Banković**, N. Jović-Jovičić, Oxidative degradation of aromatic N-compounds using cobalt containing montmorillonite-based catalysts**,** *Applied Clay Science*, **193** (2020) 105668
6. Ajdukovic Marija, Stojadinovic Stevan, Marinovic Sanja, Milutinovic-Nikolic Aleksandra, Dojcinovic Biljana, **Bankovic Predrag**, Activation of Oxone (R) with plasma deposited mixed cobalt and alumina oxide for the dye degradation, Applied Surface Science, 503 (2020) 144144.
7. Pagnacco Maja C, Maksimovic Jelena P, Mudrinic Tihana M, **Bankovic Predrag T**, Nedic-Vasiljevic Bojana, M Milutinovic-Nikolic Aleksandra D, Oscillatory Briggs-Rauscher Reaction as "Fingerprint" for Bentonite Identification: The Fine-Tuning of Oscillatory Dynamics with Addition of Clay (Article), CHEMISTRYSELECT, 5(27) (2020) 8137-8141.
8. Marija Marković; Sanja Marinović; Tihana Mudrinić; Marija Ajduković; Nataša Jović-Jovičić; Zorica Mojović; Jovana Orlić; Aleksandra Milutinović-Nikolić; **Predrag Banković**, Co(II) impregnated Al(III)-pillared montmorillonite-synthesis, characterization and catalytic properties in Oxone® activation for dye degradation, Applied Clay Science (2019) 105276.
9. Tihana Mudrinić, Sanja Marinović, Aleksandra Milutinović-Nikolić, Nataša Jović-Jovičić, Marija Ajduković, Zorica Mojović, **Predrag Banković**, Novel non-enzymatic glucose sensing material based on pillared clay modified with cobalt, Sensors and Actuators B: Chemical 299 (2019) 126976
10. Sanja Marinović, Tihana Mudrinić, Nataša Jović-Jovičić, Marija Ajduković, Aleksandra Milutinović–Nikolić, **Predrag Banković**, Zorica Mojović, „Non-toxic poly(vinyl alcohol)/clay composites as electrode material for detection of 4-chlorophenol and 4-nitrophenol“, *Journal of Electroanalytical Chemistry*, **848** (2019) 113280
11. Dojčinović, Biljana; Jancar, Bostjan; Bessais, Lotfi; Kremenovic, Aleksandar; Jovic Jovicic, Natasa; **Bankovic, Predrag**; Stankovic, Dalibor; Ognjanovic, Milos; Antic, Bratislav "Differently shaped nanocrystalline $(Fe,Y)_3O_4$ and its adsorption efficiency toward inorganic arsenic species", Nanotechnology (2019) 475702.
12. N. Jović-Jovičić, M. Mojović, D. Stanković, B. Nedić-Vasiljević, A. Milutinović-Nikolić, **P. Banković**, Z. Mojović, Characterization and electrochemical properties of organomodified and corresponding derived carbonized clay, Electrochimica Acta, 296 (2019) 387-396.
13. Tihana M. Mudrinić, Marija J. Ajduković, Nataša P. Jović-Jovičić, Sanja R. Marinović, Zorica D. Mojović, Aleksandra D. Milutinović-Nikolić, **Predrag T. Banković**, Al,Fe,Ni-pillared bentonite in the catalytic wet peroxide oxidation of the textile dye Acid Yellow 99, Reaction Kinetics, Mechanisms and Catalysis, 124**(1)** (2018) 75-88.
14. Marija Marković, Sanja Marinović, Tihana Mudrinić, Zorica Mojović, Marija Ajduković, Aleksandra

Milutinović-Nikolić, **Predrag Banković**, Cobalt impregnated pillared montmorillonite in the peroxymonosulfate induced catalytic oxidation of tartrazine, Reaction Kinetics, Mechanisms and Catalysis, 125**(2)** (2018) 827-841.

15. Marinovic Sanja R, Ajdukovic Marija J, Jovic-Jovicic Natasa P, Mudrinic Tihana M, Nedic-Vasiljevic Bojana N, **Bankovic Predrag T**, Milutinovic-Nikolic Aleksandra D, Discussion on the Comments of Slobodan K. Milonjic on the article entitled "Adsorption of strontium on different sodium-enriched bentonites" by Sanja R. Marinovic, Marija J. Ajdukovic, Natasa P. Jovic-Jovicic, Tihana M. Mudrinic, Bojana N. Nedic-Vasiljevic, Predrag T. Bankovic and Aleksandra D. Milutinovic-Nikolic, published in the Journal of the Serbian Chemical Society, Vol. 82, Issue 4, 2017, pp. 449-463, Journal Of The Serbian Chemical Society 83(3) (2018) 395-399.
16. N. Jović-Jovičić, Z. Mojović, M. Mojović, **P. Banković**, M. Ajduković, A. Milutinović-Nikolić, D. Jovanović, Electrochemical behavior of immobilized hemoglobin in alkaline solution', Applied Surface Science 400 (2017) 347-354.
17. T. Mudrinić, Z. Mojović, **P. Banković**, N. Jović-Jovičić, A. Ivanović-Šašić, A. Milutinović-Nikolić, D. Jovanović, Influence of Nafion on detection of glucose on polycrystalline gold electrode from alkaline and saline solutions, Gold Bulletin, 50 (2017), 191-201.
18. 21. D. Bojić , M. Momčilović, D. Milenković , J. Mitrović , **P. Banković**, N. Velinov, G. Nikolić, "Characterization of a low cost lagenaria vulgaris based carbon for ranitidine removal from aqueous solutions", Arabian Journal of Chemistry, 10**(7)** (2017) 956-964.
19. N. Jović-Jovičić, P. Banković, Z. Mojović, B. Nedić-Vasiljević, S. Marinović, T. Mudrinić, **A. Milutinović-Nikolić**, Ecologically friendly chitosan-montmorillonite bio-nanocomposite as adsorbent for textile dyes from aqueous solutions, *Science of sintering,* 49**(4)** (2017) 419-429.
20. S. R. Marinović, M. J. Ajduković, N. P. Jović-Jovičić, T. M. Mudrinić, B. M. Nedić-Vasiljević, **P. T. Banković**, A. D. Milutinović-Nikolić, B. F. Abramović, Adsorption of strontium on different sodium enriched bentonites, Journal of Serbian Chemical Society, 82 (2017), 449-463.
21. S. Marinović, M. Ajduković, N. Jović-Jovičić, **P. Banković**, Z. Mojović, A. Milutinović-Nikolić, D. Jovanović, Organobentonite: characterization and adsorptive properties towards phenol and its derivatives, Science of sintering, 48 (2016) 167–176.
22. Marija R. Miladinović, Olivera S. Stamenković, **Predrag T. Banković**, Aleksandra D. Milutinović-Nikolić, Dušan M. Jovanović, Vlada B. Veljković, "Modeling and optimization of sunflower oil methanolysis over quicklime bits in a packed bed tubular reactor using the response surface methodology", Energy Conversion and Management **130** (2016) 25–33.
23. N. Jović-Jovičić, Z. Mojović, M. Darder, P. Aranda, E. Ruiz-Hitzky, **P. Banković**, D. Jovanović, A. Milutinović-Nikolić, Smectite-chitosan- based electrodes in electrochemical detection of phenol and its derivatives, Applied Clay Science, 124–125 (2016) 62–68.
24. M. Stojmenović, M. Milenković, **P. Banković**, M. Žunić, J. Gulicovski, J. Pantić, S. Bošković, Influence of temperature and dopant concentration on structural, morphological and optical properties of nanometric $Ce_{1-x}Er_xO_{2-\delta}$ (x = 0.05–0.20) as a pigment, Dyes and Pigments 123 (2015) 116-124.
25. Z. Mojović, T. Mudrinić, **P. Banković**, N. Jović-Jovičić, A. Ivanović-Šašić, A. Milutinović-Nikolić, D. Jovanović, Oxygen reduction reaction on palladium-modified zeolite 13X, J Solid State Electrochem, 19 (2015) 1993-2000.
26. U. Anđelković, A. Milutinović-Nikolić, N. Jović-Jovičić, **P. Banković**, T. Bajt, Z. Mojović, Z. Vujčić, D. Jovanović, "Efficient stabilization of Saccharomyces cerevisiae external invertase by immobilization on modified beidellite nanoclays Food Chemistry", *Food Chemistry*, 168 (2015) 262-269.
27. Miroslav Stanković, Željko Čupić, Margarita Gabrovska, **Predrag Banković**, Dimitrinka Nikolova, Dušan Jovanović, Characteristics and catalytic behavior of supported NiMgAg/D catalysts in the partial hydrogenation of soybean oil, Reaction Kinetics, Mechanisms and Catalysis, 115**(1)** (2015) 105-127.
28. T. Mudrinić, Z. Mojović, A. Milutinović-Nikolić, **P. Banković**, B. Dojčinović, N. Vukelić, D. Jovanović, Beneficial effect of ni in pillared bentonite based electrodes on the electrochemical oxidation of phenol, Electrochimica Acta 144 (2014) 92–99.
29. M. Žunić, A. Milutinović-Nikolić, D. Stanković, D. Manojlović, N. Jović-Jovičić, **P. Banković**, Z. Mojović, D. Jovanović, „Electrooxidation of p-nitrophenol using a composite organo-smectiteclay glassy carbon electrode", Applied Surface Science, 313 (2014) 440–448.
30. A. Milutinović-Nikolić, D.Maksin, N. Jović-Jovičić, M.Mirković , D. Stanković, Z. Mojović, **P. Banković**, „Removal of 99tc(vii) by organo-modified bentonite", Applied Clay Science 95 (2014) 294-302.
31. A. Abu Rabi-Stanković, Z. Mojović, A. Milutinović-Nikolić, N. Jović-Jovičić, **P. Banković**, M. Žunić, D. Jovanović, "Electrooxidation of p-nitrophenol on organobentonite modified electrodes", *Applied Clay Science*, 77–78 (2013) 61–67.
32. N. Jović-Jovičić, A. Milutinović-Nikolić, M. Žunić, Z. Mojović, **P. Banković**, I. Gržetić, D. Jovanović, "Synergic adsorption pb^{2+} and reactive dye - rb5 on two series orgamonodified bentonites", *Journal of Contaminant Hydrology,*(2013) 150 (2013) 1–11.
33. **P. Banković**, A. Milutinović-Nikolić, Z. Mojović, N. Jović-Jovičić, M. Petrović, V. Spasojević, D. Jovanović, "Synthesis and Characterization of bentonites rich in beidellite with incorporated Al or Al-Fe oxide pillars", Microporous and Mesoporous Materials 165 (2013) 247-256.
34. **P. Banković**, A. Milutinović-Nikolić, Z. Mojović, N. Jović-Jovičić, M. Žunić, V. Dondur, D. Jovanović, "Al,Fe-Pillared Clays in Catalytic Decolorization of Aqueous Tartrazine Solutions", Applied Clay Science 58 (2012) 73-78.
35. Abu Rabi-Stanković, A. Milutinović-Nikolić, N. Jović-Jovičić, **P. Banković**, M. Žunić, Z. Mojović, D. Jovanović, p-Nitrophenol Electro-Oxidation on a BTMA+-Bentonite-Modified Electrode, Clays and Clay Minerals, 60(3) (2012) 291–299.

36. Z. Mojović**, P. Banković**, N. Jović-Jovičić, A. Abu Rabi-Stanković, A. Milutinović-Nikolić, D. Jovanović, "Carbon Monoxide Electrooxidation on Pt and PtRu Modified Zeolite X", Journal of Porous Materials 19 (2012) 695–703.
37. Z. Mojović, N. Jović-Jovičić, A. Milutinović-Nikolić, **P. Banković**, A. Abu Rabi-Stanković, D. Jovanović, "Phenol determination on HDTMA–bentonite-based electrodes", Journal of Hazardous Materials 194 (2011) 178-184.
38. Z. Mojović, **P. Banković**, N. Jović-Jovičić, A. Milutinović-Nikolić, A. Abu Rabi-Stanković, D. Jovanović, "Electrocatalytic behavior of nickel impregnated zeolite electrode", International Journal of Hydrogen Energy, 36 (2011) 13343–13351.
39. Z. Mojović, N. Jović-Jovičić, **P. Banković**, M. Žunić, A. Abu Rabi- Stanković, A. Milutinović-Nikolić, D. Jovanović, "Electrooxidation of phenol on different organo bentonite-basedelectrodes ", *Applied Clay Science*, 53 (2011) 331–335.
40. **P.Banković**, Z.Mojović, A.Milutinović-Nikolić, N.Jović-Jovičić, S.Marinović, D.Jovanović, ,,Mixed pillared bentonite for electrooxidation of phenol'' Applied Clay Science 49 (2010) 84–89.
41. M. Mojović, M. Daković, **P. Banković**, Z. Mojović, "Paramagnetic pillared bentonites - The new digestive tract MRI contrast agents", Applied Clay Science, 48 (2010) 191–194.
42. Z. Mojović, **P. Banković**, A. Milutinović-Nikolić, B. Nedić, D. Jovanović, "Co-aluminosilicate based electrodes", Applied Clay Science, 48 (2010) 179-184.
43. Z. Mojović, A. Milutinović-Nikolić, **P. Banković**, S. Mentus, D. Jovanović, "Electrochemical behavior of silver impregnated Al-pillared smectite in alkaline solution" Journal of Solid State Electrochemistry, 14 (2010) 1621-1627.
44. **P. Banković**, Z. Mojović, A. Milutinović-Nikolić, N. Jović-Jovičić, S. Marinović, D. Jovanović, " Mixed pillared bentonite for electrooxidation of phenol", *Applied Clay Science*, **49**/1-2 (2010) 84-89.
45. N. Jović-Jovičić, A. Milutinović-Nikolić, **P. Banković**, Z. Mojović, M. Žunić, I. Gržetić, D. Jovanović, "Organo-inorganic bentonite for simultaneous adsorption of acid orange 10 and lead ions ", *Applied Clay Science*, 47/ 3-4 (2010) 452-456.
46. Z. Mojović, **P. Banković**, A. Milutinović-Nikolić, J. Dostanić, N. Jović-Jovičić, D. Jovanović "Al,Cu-pillared clays as catalysts in environmental protection", Chemical Engineering Journal 154 (2009) 149-155.
47. M. Stanković, M. Gabrovska, J. Krstić, P. Tzvetkov, M. Shopska, T. Tsacheva, **P. Banković**, R. Edreva-Kardjieva, D. Jovanović „Effect of Silver Modification on Structure, Catalytic Performance of Ni-Mg/Diatomite Catalysts for Edible Oil Hydrogenation" *Journal of molecular catalysis A*: Chemical, 297/1 (2009) 54-62.
48. **P. Banković**, A. Milutinović-Nikolić, Z. Mojović, A. Rosić, Ž. Čupić, D. Lončarević, D. Jovanović, "Toluene degradation in water using AlFe-pillared clay catalysts", Chinese Journal of Catalysis, 30(1) (2009) 14–18.
49. **P. Banković**, N.R. Demarquette, M.L.P. da Silva, "Obtention of selective membranes for water and hydrophobic liquids by plasma enhanced chemical vapor deposition on porous substrates", Materials Science and Engineering B 112 (2004) 165–170.

(Total: 62 published papers)

Conference Proceedings and Papers:
Large number of proceedings