

Nevenka Rajić

Professor

Faculty of Ecology and Environmental Protection
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EDUCATION

2000. PhD in Chemistry
 Faculty of Natural Sciences and Engineering
 University of Ljubljana, Ljubljana, Slovenia
1986. MSc in Engineering, Inorganic Chemistry
 University of Belgrade, Faculty of Technology and Metallurgy
 Belgrade, Serbia
1983. BSc in Technology
 University of Belgrade, Faculty of Technology and Metallurgy
 Belgrade, Serbia

EMPLOYMENT HISTORY

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|------|----------------------------|--|
| 2001 | Professor | |
| 1996 | Associate Professor | University of Belgrade |
| 1991 | Assistant Professor | Faculty of Technology and Metallurgy
Belgrade, Serbia |
| 1984 | Teaching Assistant | |
| 2023 | Professor | Union – Nikola Tesla University
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MEMBERSHIPS

- 1995 International Zeolite Association

- 1995 Federation of Zeolite Associations
- 2015 Serbian Zeolite Association, Slovenian Zeolite Association

RESEARCH PROJECTS

- 2008–2011 Eureka project (E!4208): Natural zeolites in the water quality system. The principal investigator is from the Serbian side.
- 2011–2012 Bilateral (Croatia-Serbia) research project: Dual function of the natural clinoptilolite in waste water treatment: antibacterial activity and the support for biosorption. The principal investigator.
- 2012-2013 Bilateral (Slovenia-Serbia) research project: Upotreba alternativnih jeftinih materijala za poboljšanje vode za piće (2012-2013). The principal investigator.
- 2012-2014 Removal of ammonia from groundwater and softening of magnesium-rich raw water using natural zeolite", Innovation project of the Serbian Ministry of Science and Technology (451-03-00605/2012-16/143). The principal investigator.
- 2011-2014 The use of natural zeolite (clinoptilolite) for treatment of farm slurry and as a fertilizer carrier", The Norwegian Programme in Higher Education, Research and Development in the Western Balkans 2011-2014. The Agriculture Sector (HERD/Agriculture). The principal investigator is from the Serbian side.
- 2019-2023 Horizon 2020: NOWELTIES "Joint PhD Laboratory for New Materials and Inventive Water Treatment Technologies. Harnessing resources effectively through innovation" (ID: 81288). Participant and supervisor.

SELECTED PUBLICATIONS

N. Rajic & V. Kaucic (2003) "Molecular sieves: Aluminophosphates", Encyclopedia of catalysis, Vol.5, I.T. Horvath Ed., J. Wiley&Sons, Inc., Hoboken, pp. 189-236. ISBN: 9780471227618

N. Rajic, V. Kaucic, N. Zabukovec Logar (2011) "Molecular sieves: Aluminophosphates", *Encyclopedia of catalysis*, Vol.6, I.T. Horvath Ed., 2nd ed., J. Wiley&Sons, Inc., Hoboken. ISBN: 9780471227618.

N. Rajic, M. Ceh, R. Gabrovsek, & V. Kaucic (2002). Formation of Nanocrystalline Transition-Metal Ferrites inside a Silica Matrix. *J. Am. Ceram. Soc.* 85, 1719-1724.

N. Rajic, D. Hanzel, N. Zabukovec Logar, D. Stojakovic, V. Kaucic (2002). Preparation and characterization of iron(III) phosphate-oxalate using 1,2-diaminopropane as the structure-directing agent”, *Micropor Mesopor Mat* 55, 313-319.

N. Rajic, N. Zabukovec Logar, G. Mali, V. Kaucic (2003). A new inorganic-organic hybrid: synthesis and structural characterization of an alumino(oxalato)phosphate. *Chemistry of Materials* 15, 1734-1738.

N. Novak Tusar, N. Zabukovec Logar, I. Arcon, F. Thibault-Starzyk, A. Ristic, N. Rajic, V. Kaucic (2003), “Manganese-Containing Silica-Based Microporous Molecular Sieve MnS-1 (2003) „Synthesis and Characterization. *Chem Mat* 15, 4745-4750.

N. Rajic, D. Stojakovic, S. Jevtic, N. Zabukovec Logar, J. Kovac, V. Kaucic (2009). Removal of aqueous manganese using the natural zeolitic tuff from the Vranjska Banja deposit in Serbia. *J Hazardous Mat* 172, 1450-14

D. Stojakovic, J. Hrenovic, M. Mazaj, N. Rajic (2011). On the zinc sorption by the Serbian natural clinoptilolite and the disinfecting ability and phosphate affinity of the exhausted sorbent” *J Hazardous Mat* 185, 408-415.

M. Jovanovic, N. Rajic, B. Obradovic (2012). Novel kinetic model of the removal of divalent heavy metal ions from aqueous solutions by natural clinoptilolite. *J Hazardous Mat* 233, 57-64.

J. Milenkovic, J. Hrenovic, I. Goic-Barisic, M. Tomic, J. Djonlagic, N. Rajic (2014). Synergistic anti-biofouling effect of Ag-exchanged zeolite and D-Tyrosine on PVC composite against the clinical isolate of *Acinetobacter baumannii*. *Biofouling* 30, 965-973.

S. Jevtic, I. Arcon, A. Recnik, B. Babic, M. Mazaj, J. Pavlovic, D. Matijasevic, M. Niksic, N. Rajic (2014). The iron(III)-modified natural zeolitic tuff as an adsorbent and carrier for selenium oxyanions“ *Micropor Mesopor Mat* 197, 92-100

J. Hrenovic Jasna, J. Milenkovic, N. Daneu, R. Kepcija Matonickin, N. Rajic (2012). Antimicrobial activity of metal oxide nanoparticles supported onto natural clinoptilolite. *Chemosphere* 88, 1103-1107.

S. Jevtic, S. Grujic, J. Hrenovic, N. Rajic (2012). Surfactant-modified clinoptilolite as a salicylate carrier, salicylate kinetic release and its antibacterial activity. *Micropor Mesopor Mat* 159, 30-35.

N. Rajic, N. Zabukovec-Logar, A. Recnik, M. El-Roz, F. Thibault-Starzyk, P. Spring, L. Hannevold, A. Andersen, M. Stocker (2013). Hardwood lignin pyrolysis in the presence of nano-oxide particles embedded onto natural clinoptilolite“*Micropor Mesopor Mat*. 176, 162-167.

- J. Hrenovic, J. Milenkovic, I. Goic-Barisic, N. Rajic (2013). Antibacterial activity of modified natural clinoptilolite against clinical isolates of *Acinetobacter baumannii*. *Micropor Mesopor Mat* 169, 148-152.
- M. Jovanovic, I. Arcon, J. Kovac, N. Novak Tusar, B. Obradovic, N. Rajic (2016). Removal of manganese in batch and fluidized bed systems using beads of zeolite A as adsorbent. *Micropor Mesopor Mat*. 226, 378–385
- J. Pavlovic, M. Popova, M. Mihalyi, M. Mazaj, G. Mali, J. Kovač, H. Lazarova, N. Rajic (2019). Catalytic activity of SnO₂- and SO₄/SnO₂-containing clinoptilolite in the esterification of levulinic acid. *Micropor Mesopor Mat* 279, 10–18
- J. Milovanovic, N. Rajić, A. A. Romero, H. Li, K. Shih, R. Tschentscher R, Luque (2016). Insights into the Microwave-Assisted Mild Deconstruction of Lignin Feedstocks Using NiO-Containing ZSM-5 Zeolites. *ACS Sustainable Chem Eng* 4, 4305-4313.
- J. Milovanović, R. Luque, R. Tschentscher, A.A. Romero, H. Li, K. Shih, N. Rajić (2017). Catalytic pyrolysis of Hardwood and Eucalyptus lignin in the presence of NiO contained-zeolites. *Biomass Bioenergy* 103, 29-34.
- B. Kalebic, N. Skoro, J. Kovac, N. Rajic (2022) „Regeneration of the ciprofloxacin-loaded clinoptilolite by non-thermal atmospheric plasma. *Appl Surf Sci*, 153379.
- J. Pavlović, A. Šuligoj, M. Opresnik, N. Novak Tušar, N. Zabukovec Logar, N. Rajić (2022). Studies of Clinoptilolite-Rich Zeolitic Tuffs from Different Regions and Their Activity in Photodegradation of Methylene Blue. *Catalysts* 12, 224
- J. Pavlovic, N. Rajic (2023). Clinoptilolite—An Efficient Carrier for Catalytically Active Nano Oxide Particles. *Minerals* 17, 877.
- J. Pavlovic, N. Rajic (2024). Advances in the Applications of Clinoptilolite-Rich Tuffs. *Materials* 13, 1306.