



## Dr Svetlana, Branko, Štrbac

### Naučni savetnik

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1987 Magistar elektrohemijske konverzije energije: Centar za multidisciplinarnе studije Univerziteta u Beogradu  
1990 Doktor fizičke hemije: Fakultet za fizičku hemiju Univerziteta u Beogradu

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1991 – 1992 Department of Chemistry, University of Southampton, England  
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2001 Department of Chemistry, University of Illinois, Urbana, USA  
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**Najznačajniji projekti:** Međunarodni:  
1985 – 1988 JF(DOE) 966, Structural effects in electrocatalysis of fuel cell reactions, Jugoslav-American Fund  
1990 – 1992 SERC (Science and engineering Research Council), UK, H2 adsorption on Pt electrodes  
1997 – 1998 III-FSTE-1053487 Alexander von Humboldt Stiftung, Nanoscale structure and electrocatalytic activity of well-defined bimetallic electrode surfaces generated by electrodeposition  
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#### Osnovna istraživanja:

1988 – 1991 Fundamentalna istraživanja površine materijala i elektrohemijskih procesa za nove tehnologije, Ministry of Science, Jugoslavija

1996 – 2000 Elektrodika i elektrokataliza, Ministarstvo za nauku i tehnologiju Republike Srbije

2002 – 2004 Elektrokataliza na nanočesticama: od model sistema do realnih katalizatora, Ministarstvo za nauku, tehnologije i razvoj Republike Srbije

2006 – 2010 Priprema i karakterizacija površina nanostrukturnih materijala, 141001, Ministarstvo za nauku Republike Srbije

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**Izabrane publikacije: Monografije, poglavlja u knjigama:**

1. **Svetlana B. Šrbac**, Radoslav R. Adžić, Electrocatalysis, Fundamentals – Electron Transfer Process; Current-Potential Relationship; Volcano Plots, in *Encyclopedia of Applied Electrochemistry*, Gerhard Kreysa, Ken-ichiro Ota, Robert F. Savinell (Eds.), Springer, New York, 2014, pp. 417–423
2. **Svetlana Šrbac**, Andrzej Wieckowski, Noble Metal Nanoislands Decoration of Au(111) and Pt(111) Single Crystal Surfaces, in *Modern Aspects of Electrochemistry*, Djokic Stojan S. (Ed), Vol. 48 (2010) p.72-118. ISBN: 978-1-4419-5588-3
3. R. Adžić, J. Wang, **S. Šrbac**, B. Nikolić, The structure of active and inactive surfaces of gold and platinum for oxygen electroreduction, *New Challenges in Catalysis II*, ed. P.Putanov, Serbian Academy of Sciences and Arts, Novi Sad, 1999, 37-48.
4. N. Marinković, K. Popović, A. Tripković, **S. Šrbac**, N. Marković, R. Adžić, Electrochemistry on Single crystal Surfaces, Chapter in monography *Role of theory in industrial catalysis development*, Ed. P. Putanov, Radovi, Vol XIII, No I, Material Science Department of the Academy of Science and arts of Vojvodina, Novi Sad (1992).

**Publikovani radovi:**

1. A. Maksić, M. Smiljanić, Š. Miljanić, Z. Rakočević, **S. Šrbac**, Ethanol Oxidation on Rh/Pd(poly) in Alkaline Solution, *Electrochimica Acta*, (2016), 209, 323-331.
2. A. Maksić, Z. Rakočević, M. Smiljanić, M. Nenadović, **S. Šrbac**, Methanol oxidation on Pd/Pt(poly) in alkaline solution, *Journal of Power Sources*, 273 (2015) 724-734.
3. I. Srejić, Z. Rakočević, M. Nenadović, **S. Šrbac**, Oxygen reduction on polycrystalline palladium in acid and alkaline solutions: topographical and chemical Pd surface changes, *Electrochimica Acta*, 169 (2015) 22–31.
4. **Svetlana Šrbac**, Milutin Smiljanić, Zlatko Rakočević, Electrocatalysis of hydrogen evolution on polycrystalline palladium by rhodium nanoislands in alkaline solution, *Journal of Electroanalytical Chemistry*, 755 (2015) 115–121.
5. Maja B. Đolić, Vladana N. Rajaković-Ognjanović, **Svetlana B. Šrbac**, Zlatko Lj. Rakočević, Đorđe N. Veljović, Suzana I. Dimitrijević, Ljubinka V. Rajaković, The antimicrobial efficiency of silver activated sorbents, *Applied Surface Science*, 357 (2015) 819–831.
6. M. Smiljanić, Z. Rakočević, A. Maksić, S. Šrbac, Hydrogen Evolution Reaction on Platinum Catalyzed by Palladium and Rhodium Nanoislands, *Electrochimica Acta* 117 (2014) 336–343.
7. Danilo Kisić, Miloš Nenadović, **Svetlana Šrbac**, Borivoj Adnađević, Zlatko Rakočević, Effect of UV/ozone treatment on the nanoscale surface properties of gold implanted polyethylene, *Applied Surface Science*, 307 (2014) 311–318.
8. M. Nenadović, J. Potočnik, M. Mitić, **S. Šrbac**, Z. Rakočević, Modification of high density polyethylene by gold implantation using different ion energies, *Materials Chemistry and Physics*, 142 (2013) 633–639.
9. **Svetlana Šrbac**, Irina Srejić, Milutin Smiljanić, Zlatko Rakočević, The effect of rhodium nanoislands on the electrocatalytic activity of gold for oxygen reduction in perchloric acid solution, *Journal of Electroanalytical Chemistry*, 704 (2013) 24–31.
10. Milutin Smiljanić, Zlatko Rakočević, Svetlana Šrbac, Ethanol Oxidation on Pd/Au(111) Bimetallic Surfaces in Alkaline Solution, *International Journal of Electrochemical Science*, 8 (2013) 494–4954.
11. J. Potočnik, M. Nenadović, B. Jokić, **S. Šrbac**, Z.Rakočević Structural Characterization of the nickel thin film deposited bz GLAD technique, *Science of Sintering*, (2013) 45 (2013) 61-67.
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13. M.Smiljanić, I. Srejić, B.Grgur, Z.Rakočević, **S. Šrbac**, Catalysis of hydrogen evolution on different Pd/Au(111) nanostructures in alkaline solution, *Electrochimica Acta*, 88 (2013) 589-596.
14. M.Smiljanić, I. Srejić, B.Grgur, Z.Rakočević, **S. Šrbac**, Catalysis of Hydrogen Evolution on Au(111) Modified by Spontaneously Deposited Pd Nanoislands, *Electrocatalysis*, 3 (2012) 369-375.
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16. M. Nenadović, J. Potočnik, M. Ristić, **S. Šrbac**, Z. Rakočević, Surface modification of polyethylene by Ag<sup>+</sup> and Au<sup>+</sup> ion implantation observed by phase imaging atomic force microscopy, *Surface and Coatings Technology*, 206 (2012) 4242-4248.
17. I. Srejić, M.Smiljanić, B.Grgur, Z.Rakočević, **S. Šrbac**, Catalysis of oxygen reduction on Au modified by Pd nanoislands in perchloric acid solution, *Electrochimica Acta*, 64 (2012) 140-146.
18. I. Srejić, M.Smiljanić, Z.Rakočević, **S. Šrbac**, Oxygen reduction on polycrystalline Pt and Au electrodes in perchloric acid solution in the presence of acetonitrile, *International Journal of Electrochemical Science*, 6

(2011) 3344-3354.

19. N.B. Milosavljević, M.T. Ristić, A.A. Perić Grujić, J.M. Filipović, **S.B. Šrbac**, Z.Lj. Rakočević, M.T. Kalagasisidis Krušić Removal of Cu<sup>2+</sup> ions using hydrogels of chitosan, itaconic and methacrylic acid: FTIR, SEM/EDX, AFM, kinetic and equilibrium study, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 388 (2011) 59-69.
20. N.B. Milosavljević, M.T. Ristić, A.A. Perić Grujić, J.M. Filipović, **S.B. Šrbac**, Z.Lj. Rakočević, M.T. Kalagasisidis Krušić, Sorption of zinc by novel pH-sensitive hydrogels based on chitosan, itaconic acid and methacrylic acid, *Journal of Hazardous Materials*, 192 (2011) 846-854.
21. S. Šrbac, The effect of pH on oxygen and hydrogen peroxide reduction on polycrystalline Pt electrode, *Electrochimica Acta*, 56 (2011) 1597-1604.
22. N.B. Milosavljević, M.T. Ristić, A.A. Perić Grujić, J.M. Filipović, **S.B. Šrbac**, Z.Lj. Rakočević, M.T. Kalagasisidis Krusić, Hydrogel based on chitosan, itaconic acid and methacrylic acid as adsorbent of Cd<sup>2+</sup> ions from aqueous solution, *Chemical Engineering Journal*, 165 (2010) 554-562.
23. V. Marinović, S. Marinović, M. Jovanović, J. Jovanović, **S. Šrbac**, The electrochemical reduction of trinitrotoluene on a platinum wire modified by chemisorbed acetonitrile, *Journal of Electroanalytical Chemistry*, 648 (2010) 1-7.
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27. **S. Šrbac**, M.Avramov-Ivić, Oxidation of formaldehyde and ethanol on Au(111) and Au(111) modified by spontaneously deposited Ru in sulfuric acid solution, *Electrochimica Acta*, 54 (2009) 5408-5412.
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30. Z.Rakočević, R.Petrović, **S. Šrbac**, Surface roughness of ultra-thin silver films sputter deposited on a glass, *Journal of Microscopy*, 232 (2008) 595-600.
31. M.Nenadović, **S. Šrbac**, Z.Rakočević, Effect of silver ion implantation on the surface of polyethylene, *Tehnika*, 63(5) (2008) NM7-NM10.
32. Z.Rakočević, **S. Šrbac**, R-J. Behm, Interrapted-flux deposition: Ni on Ru(0001), *Thin Solid Films*, 517 (2008) 709-713.
33. Z.Rakočević, N.Popović, Ž.Bogdanov, B.Goncić, **S. Šrbac**, Surface resistivity estimation by scanning surface potential microscopy, *Review of Scientific Instruments*, 79 (2008) 066101/1-066101/3.
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  - 67. Z. Rakočević, **S. Šrbac**, N. Bibić, T. Nenadović, The diffusion of clusters and thin film growth, *Surface Science*, 343 (1995) 247-260.
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77. **S. Šrbac**, M. Jeremić, Č. Radenović, Ž. Vučinić, Kinetics of ultra-weak luminescence in maize roots induced by hydrogen-peroxide, *Studia Biophysica*, 108 (1985) 33-40.

**Saopštenja:**

1. **S. Šrbac**, A. Maksić, M. Smiljanić, Z. Rakočević, Methanol and Ethanol Oxidation on Pd/Pt(poly) in Alkaline Solution, 65th Annual Meeting of the International Society of Electrochemistry, 31 August - 5 September, 2014, Lausanne, Switzerland, Program & Book of Abstracts, ISE 140646.
2. M. Smiljanić, I. Srejić, Z. Rakočević, **S. Šrbac**, Oxygen Reduction on Polycrystalline Au Modified by Nanosized Pd Islands, 10<sup>th</sup> young researchers' Conference Materials Science and Engineering, December 21-23, 2011, Belgrade, Serbia, Book of abstracts, p.24.
3. **S. Šrbac**, V. Marinović, Z. Rakočević, Oxygen reduction on Polycrystalline Pt Electrode Modified by Acetonitrile in Neutral Electrolyte, 61<sup>st</sup> Annual Meeting of the International Society of Electrochemistry, Nice, France, 26 Sept – 1 Oct (2010) s-10-P-056.
4. V. Marinović, S. Marinović, S. Jovanović, M. Jovanović, **S. Šrbac**, Electrochemical Reduction of Trinitrotoluene on a Modified Platinum Electrode, 61<sup>st</sup> Annual Meeting of the International Society of Electrochemistry, Nice, France, 26 Sept – 1 Oct (2010) s-10-P-047.
5. M. Nenadović, **S. Šrbac**, Z. Rakočević, Surface texture parameters in optimizing Magnetic Force images, *Contributed Papers, Publ.Astron.Obs.Belgrade*, 84 (2008) 197-200.
6. **S. Šrbac**, Z. Rakočević, Mapping of the local surface potential distribution and CO oxidation on Pt/Au, 59<sup>th</sup> Annual ISE Meeting, Seville, Spain, 7-18 Sept (2008).
7. Z. Rakočević, N. Popović, Ž. Bogdanov, B. Goncic, **S. Šrbac**, Surface resistivity estimation using Scanning Surface Potential Microscopy, Seeing at the Nanoscale SPM Conference, Berlin, Germany, 9-10 July (2008).
8. N. Popović, Ž. Bogdanov, B. Goncić, **S. Šrbac**, Z. Rakočević, Reactively sputtered Ni, Ni(N) and Ni<sub>3</sub>N films: structural, electrical and magnetic properties, Seeing at the Nanoscale SPM Conference, Berlin, Germany, 9-10 July (2008).
9. Z. Rakočević, **S. Šrbac**, R-J. Behm, oral presentation: Chopped-flux deposition: Ni on Ru(0001), 3<sup>rd</sup> Serbian Congress for Microscopy 3SCM, Belgrade, Serbia, 25-28 Sept (2007).
10. Z. Rakočević, R. Petrović, **S. Šrbac**, oral presentation: Surface roughness of silver ultra-thin films sputter deposited on a glass, 3<sup>rd</sup> Serbian Congress for Microscopy 3SCM, Belgrade, Serbia, 25-28 Sept (2007).
11. **S. Šrbac**, C.M. Johnston, A. Wieckowski, invited lecture: In situ STM study of bimetallic nanocatalysts for fuel cell reactions, 1<sup>st</sup> International Workshop on Nanoscience & Nanotechnology IWON 2005 and the 4<sup>th</sup> COSENT Annual Meeting, Belgrade, Serbia and Montenegro, 15-18 Nov (2005).
12. **S. Šrbac**, C.M. Johnston, A. Wieckowski, oral presentation: In situ STM study of model systems for bimetallic fuel cell catalysis, The 8<sup>th</sup> International Frumkin Symposium, "Kinetics of Electrode Processes", Moscow, Russia, 18-22 Oct (2005).
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