

Dr Papp Zsigmond (Dr Žigmond Pap)

Spisak naučnih radova i projekata

Radovi u vrhunskim međunarodnim časopisima [M21]

1. V. Guzsvány, M. Kádár, **Zs. Papp**, L. Bjelica, F. Gaál, K. Tóth, "Monitoring of Photocatalytic Degradation of Selected Neonicotinoid Insecticides by Cathodic Voltammetry with a Bismuth Film Electrode", *Electroanal.* 20 (2008) 291-300. IF: 2,901 (2,949 za 2007), Pozicija: 14/70 (Chemistry, Analytical, 2007)
2. **Zs. Papp**, I. Švancara, V. Guzsvány, K. Vytřas, F. Gaál, "Voltammetric Determination of Imidacloprid Insecticide in Selected Samples Using a Carbon Paste Electrode", *Microchim. Acta* 166 (2009) 169-175. IF: 2,648, Pozicija: 17/70 (Chemistry, Analytical, 2009)
3. J. Đorđević, **Zs. Papp**, V. Guzsvány, I. Švancara, T. Trtić-Petrović, M. Purenović, K. Vytřas, "Voltammetric Determination of Linuron Herbicide Using a Tricresyl Phosphate-Based Carbon Paste Electrode", *Sensors* 12 (2012) 148-161. IF: 1,953, Pozicija: 8/57 (Instruments & Instrumentation, 2012)
4. M. Putek, V. Guzsvány, B. Tasić, **Zs. Papp**, J. Zarębski, A. Bobrowski, "Renewable Silver-Amalgam Film Electrode for Rapid Square-Wave Voltammetric Determination of Thiamethoxam Insecticide in Selected Samples", *Electroanal.* 24 (2012) 2256-2266 & *Electroanal.* 25 (2013) 573 {erratum}. IF: 2,817 (2,872 za 2011), Pozicija: 22/75 (Chemistry, Analytical, 2012)
5. V. Guzsvány, J. Petrović, J. Krstić, **Zs. Papp**, M. Putek, L. Bjelica, A. Bobrowski, B. Abramović, "Renewable Silver-Amalgam Film Electrode for Voltammetric Monitoring of Solar Photodegradation of Imidacloprid in the Presence of Fe/TiO₂ and TiO₂ Catalysts", *J. Electroanal. Chem.* 699 (2013) 33-39. IF: 2,871 (2,905 za 2011), Pozicija: 21/73 (Chemistry, Analytical, 2011)

Radovi u istaknutim međunarodnim časopisima [M22]

1. V. Guzsvány, **Zs. Papp**, J. Zbiljić, O. Vajdle, M. Rodić, "Bismuth Modified Carbon-Based Electrodes for the Determination of Selected Neonicotinoid Insecticides", *Molecules* 16 (2011) 4451-4466. IF: 2,386, Pozicija: 26/56 (Chemistry, Organic, 2011)
2. **Zs. Papp**, V. Guzsvány, I. Švancara, K. Vytřas, "Voltammetric Monitoring of Photodegradation of Clothianidin, Nitenpyram and Imidacloprid Insecticides Using a Tricresyl Phosphate-Based Carbon Paste Electrode", *Int. J. Electrochem. Sci.* 6 (2011) 5161-5171. IF: 3,729, Pozicija: 9/27 (Electrochemistry, 2011)
3. M. Brycht, O. Vajdle, J. Zbiljić, **Zs. Papp**, V. Guzsvány, S. Skrzypek, "Renewable Silver-Amalgam Film Electrode for Direct Cathodic SWV Determination of Clothianidin, Nitenpyram and Thiacloprid Neonicotinoid Insecticides Reducible in a Fairly Negative Potential Range", *Int. J. Electrochem. Sci.* 7 (2012) 10652-10665. IF: 3,729 (2011), Pozicija: 9/27 (Electrochemistry, 2011)

Radovi u međunarodnim časopisima [M23]

1. V. Guzsvány, **Zs. Papp**, S. Lazić, F. Gaál, L. Bjelica, B. Abramović, "A Rapid Spectrophotometric Determination of Imidacloprid in Selected Commercial Formulations in the Presence of 6-Chloronicotinic Acid", *J. Serb. Chem. Soc.* 74 (2009) 1455-1465. IF: 0,820, Pozicija: 87/140 (Chemistry, Multidisciplinary, 2009)
2. V. Guzsvány, N. Banić, **Zs. Papp**, F. Gaál, B. Abramović, "Comparison of Different Iron-Based Catalysts for Photocatalytic Removal of Imidacloprid", *Reac. Kinet. Mech. Cat.* 99 (2010) 225-233. IF: 0,569 (0,610 za 2008), Pozicija: 98/113 (Chemistry, Physical, 2008)
3. **Zs. Papp**, V. Guzsvány, Sz. Kubiak, A. Bobrowski, L. Bjelica, "Voltammetric Determination of the Neonicotinoid Insecticide Thiamethoxam Using a Tricresyl Phosphate-Based Carbon Paste Electrode", *J. Serb. Chem. Soc.* 75 (2010) 681-687. IF: 0,725 (0,820 za 2009), Pozicija: 87/140 (Chemistry, Multidisciplinary, 2009)
4. V. Guzsvány, S. Lazić, N. Vidaković, **Zs. Papp**, "Derivative Spectrophotometric Determination of Acetamiprid in the Presence of 6-Chloronicotinic Acid", *J. Serb. Chem. Soc.* 77 (2012) 911-917. IF: 0,912, Pozicija: 100/152 (Chemistry, Multidisciplinary, 2012)
5. **Zs. Papp**, I. Kovács, "Surface Analysis of a Modern Silver Coin: SEM/EDS Measurements", *Rev. Roum. Chim.* 58 (2013) 65-67. IF: 0,393 (0,418 za 2011), Pozicija: 129/154 (Chemistry, Multidisciplinary, 2011)
6. **Zs. Papp**, "Recent Results in Food Analysis with Carbon Paste Electrodes: Organic Constituents, Additives and Contaminants", *Rev. Roum. Chim.* 58 (2013) 855-862. IF: 0,393 (0,418 za 2011), Pozicija: 129/154 (Chemistry, Multidisciplinary, 2011)
7. **Zs. Papp**, "Different Silver-Modified Zinc Oxides for Photocatalytic Degradation of Imidacloprid", *Chemija* 25 (2014) 1-4. IF: 0,472, Pozicija: 136/157 (Chemistry, Multidisciplinary, 2014)
8. **Zs. Papp**, "Morphological and Microchemical Characterization of Himalayan Salt Samples", *Rev. Roum. Chim.* 61 (2016) 169-174. IF: 0,246 (0,311 za 2014), Pozicija: 145/157 (Chemistry, Multidisciplinary, 2014)
9. **Zs. Papp**, "Unmodified and Gold-Modified Semiconductor Catalysts for Solar Light Assisted Photodegradation of Crystal Violet", *Studia UBB Chemia* 62 (2017) 195-202. IF: 0,244, Pozicija: 162/166 (Chemistry, Multidisciplinary, 2016)
10. A. Kalijadis, J. Đorđević, **Zs. Papp**, B. Jokić, V. Spasojević, B. Babić, T. Trtić-Petrović, "A Novel Carbon Paste Electrode Based on Nitrogen-Doped Hydrothermal Carbon for Electrochemical Determination of Carbendazim", *J. Serb. Chem. Soc.*, prihvaćen rad. IF: 0,822 (0,970 za 2015), Pozicija: 120/163 (Chemistry, Multidisciplinary, 2015)
11. **Zs. Papp**, "Solar Light-Induced Decolorization of Safranin O Using Unmodified and Gold-Modified Semiconductor Oxides", *Iran. J. Chem. Chem. Eng.* 37 (2018) 151-156. IF: 0,860, Pozicija: 136/171 (Chemistry, Multidisciplinary, 2017) i 107/137 (Engineering, Chemical, 2017)

Radovi u časopisima nacionalnog značaja [M53]

1. **Zs. Papp**, V. Guzsvány, I. Švancara, K. Vytrás, "Carbon Paste Electrodes for the Analysis of Some Agricultural Pollutants and Trace Metals", *J. Agric. Sci. Technol.* 5 (2011) 85-92.

Monografska studija / poglavlje u knjizi M12 ili rad u tematskom zborniku međunarodnog značaja [M14]

1. V. Guzsvány, **Zs. Papp**, L. Bjelica, F. Gaál, "Voltammetric Monitoring of Photocatalytic Degradation of Imidacloprid, Nitenpyram and Acetamiprid Neonicotinoid Insecticides", *Sensing in Electroanalysis* (K. Vytřas, K. Kalcher, I. Švancara, eds.), Vol. 3, 2008, pp. 105-116, ISBN 978-80-7395-087-3, University of Pardubice, Pardubice, Czech Republic.
2. **Zs. Papp**, I. Švancara, V. Guzsvány, K. Vytřas, F. Gaál, L. Bjelica, B. Abramović, "New Applications of Tricresyl Phosphate-Based Carbon Paste Electrodes in Voltammetric Analysis", *Sensing in Electroanalysis* (K. Vytřas, K. Kalcher, I. Švancara, eds.), Vol. 4, 2009, pp. 47-58, ISBN 978-80-7395-212-9, University of Pardubice, Pardubice, Czech Republic.
3. V. Guzsvány, **Zs. Papp**, I. Švancara, K. Vytřas, "Bismuth Powder-Bulk-Modified Carbon Paste Electrode for the Voltammetric Determination of Nitenpyram Insecticide", *Sensing in Electroanalysis* (K. Vytřas, I. Švancara, R. Metelka, eds.), Vol. 6, 2011, pp. 231-246, ISBN 978-80-7395-434-5, University of Pardubice, Pardubice, Czech Republic.
4. V. Guzsvány, **Zs. Papp**, I. Švancara, K. Vytřas, "Electroanalysis of Insecticides at Carbon Paste Electrodes with Particular Emphasis on Selected Neonicotinoid Derivatives", *Insecticides - Advances in Integrated Pest Management* (F. Perveen, ed.), 2011, pp. 541-578, ISBN 978-953-307-780-2, InTech, Rijeka, Croatia.
5. J. Đorđević, M. Rodić, A. Ashrafi, **Zs. Papp**, V. Guzsvány, T. Trtić-Petrović, I. Švancara, K. Vytřas, "Bismuth-Modified and the Native Tricresyl Phosphate-Based Carbon Paste Electrode for the Determination of Two Different Pesticides", *Sensing in Electroanalysis* (K. Kalcher, R. Metelka, I. Švancara, K. Vytřas, Eds.), Vol. 7, 2012, pp. 265-281, ISBN 978-80-7395-563-2, University of Pardubice, Pardubice, Czech Republic.
6. S. Rončević, Z. Kónya, B. Dalmacija, Á. Kukovecz, J. Tričković, V. Guzsvány, M. Dalmacija, J. Halász, J. Agbaba, A. Sági, D. Krčmar, G. Kozma, M. Kragulj, D. Tomašević, Lj. Rajić, S. Maletić, M. Bečelić-Tomin, **Zs. Papp**, "White Paper on Sediment Testing and Remediation = Bela knjiga o ispitivanju i remedijaciji sedimenta = Fehér könyv az üledék vizsgálatáról és kármentesítéséről" (S. Rončević, B. Dalmacija, J. Tričković, Eds.), 2013, pp. 1-192, ISBN 978-86-7031-333-0, Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia.

Radovi saopšteni na skupu međunarodnog značaja štampani u celini [M33]

1. V. Guzsvány, **Zs. Papp**, L. Bjelica, F. Gaál, "Voltammetric Study of Photocatalytic Degradation of Imidacloprid in Aqueous Solution", *Proceedings of the 13th Symposium on Analytical and Environmental Problems*, Szeged, Hungary, 2006, 96-110.
2. V. Guzsvány, N. Banić, **Zs. Papp**, F. Gaál, "Investigation of the Different Photooxidation Degradation Processes of Imidacloprid", *Proceedings of the 14th Symposium on Analytical and Environmental Problems*, Szeged, Hungary, 2007, 100-104.

Radovi saopštenji na skupu međunarodnog značaja štampani u izvodu [M34]

1. V. Guzsvány, L. Bjelica, **Zs. Papp**, F. Gaál, "Voltammetric Monitoring of Photocatalytic Degradation of Selected Neonicotinoid Insecticides", *Ernö Pretsch Symposium – Development and Application of Chemical Sensors*, Zürich, Switzerland, 2007, 29.
2. **Zs. Papp**, I. Švancara, V. Guzsvány, K. Vytrás, F. Gaál, "Direct Voltammetric Determination of Imidacloprid Insecticide Using a Tricresyl Phosphate-Based Carbon Paste Electrode", *Mátrafüred '08 International Conference on Electrochemical Sensors*, Dobogókő, Hungary, 2008, 75-76.
3. **Zs. Papp**, V. Guzsvány, "Voltammetric Investigation of Selected Neonicotinoid Insecticides Using Different Carbon-Based Electrodes", *16th Young Investigators' Seminar on Analytical Chemistry*, Graz, Austria, 2009, 10-11. - *usmeno izlaganje*
4. **Zs. Papp**, V. Guzsvány, I. Švancara, K. Vytrás, "Carbon Paste Electrode for the Monitoring of Photodegradation of Selected Insecticides", *2nd Regional Symposium on Electrochemistry – South-East Europe*, Belgrade, Serbia, 2010, 114.
5. **Zs. Papp**, V. Guzsvány, "Contribution to the Analytical Chemistry of Neonicotinoids: Spectrophotometric, Voltammetric and HPLC Measurements", *17th Young Investigators' Seminar on Analytical Chemistry*, Venice, Italy, 2010, 6. - *usmeno izlaganje*
6. V. Guzsvány, M. Putek, B. Tasić, **Zs. Papp**, A. Bobrowski, "Refreshable Mercury Film Silver Based Electrode for Voltammetric Monitoring of Thiamethoxam Insecticide in Honey, Actara 25-WG and Danube Water Samples", *10th International Conference on Fundamental and Applied Aspects of Physical Chemistry – 2nd Workshop: Specific Methods for Food Safety and Quality*, Vinča, Serbia, 2010, 42. - *usmeno izlaganje*
7. V. Guzsvány, Lj. Rajić, **Zs. Papp**, J. Csanádi, "¹H NMR Study of Stability and Photocatalytic Degradation of Acetamiprid, Thiamethoxam, Imidacloprid and Thiachloprid Neonicotinoid Insecticides", *11th International Symposium "Interdisciplinary Regional Research"*, Szeged, Hungary, 2010, 131.
8. **Zs. Papp**, V. Guzsvány, N. Ristić, I. Švancara, K. Vytrás, "Voltammetric Characterization and Determination of Clothianidin using a Carbon Paste Electrode", *11th European Meeting on Environmental Chemistry*, Portorož, Slovenia, 2010, 72.
9. **Zs. Papp**, V. Guzsvány, "Voltammetric Monitoring of Photodegradation of Thiamethoxam Insecticide Using a Carbon Paste Working Electrode", *Mátrafüred '11 International Conference on Electrochemical Sensors*, Dobogókő, Hungary, 2011, 70.
10. J. Zbiljić, V. Guzsvány, **Zs. Papp**, S. Hočevar, B. Ogorevc, "Voltammetric Determination of Clothianidin Using Bismuth-Film Modified Glassy Carbon and Carbon Based Screen Printed Electrodes", *18th Young Investigators' Seminar on Analytical Chemistry*, Novi Sad, Serbia, 2011, 11.
11. O. Vajdle, V. Guzsvány, **Zs. Papp**, H. Sopha, B. Šebez, S. Hočevar, B. Ogorevc, "Voltammetric Determination of Clothianidin Using Antimony-Film Modified Glassy Carbon and Carbon Based Screen Printed Electrodes", *18th Young Investigators' Seminar on Analytical Chemistry*, Novi Sad, Serbia, 2011, 16.

12. J. Petrović, V. Guzsvány, **Zs. Papp**, B. Prolić, M. Putek, B. Abramović, A. Bobrowski, "Silver Amalgam Film Electrode for Monitoring of Photodegradation of Imidacloprid Insecticide", *18th Young Investigators' Seminar on Analytical Chemistry*, Novi Sad, Serbia, 2011, 22.
13. J. Đorđević, **Zs. Papp**, V. Guzsvány, I. Švancara, M. Purenović, T. Trtić-Petrović, Karel Vytřas, "Voltammetric Determination of Linuron Herbicide Using a Carbon Paste Electrode Containing Tricresyl Phosphate as a Binder", *18th Young Investigators' Seminar on Analytical Chemistry*, Novi Sad, Serbia, 2011, 23.
14. D. Radmanovac, **Zs. Papp**, V. Guzsvány, I. Ičević, A. Đorđević, "Voltammetric Detection of Doxorubicin", *18th Young Investigators' Seminar on Analytical Chemistry*, Novi Sad, Serbia, 2011, 25.
15. J. Đorđević, A. Ashrafi, V. Guzsvány, **Zs. Papp**, K. Vytřas, I. Švancara, T. Trtić-Petrović, "Determination of Carbendazim Fungicide by Differential Pulse Stripping Voltammetry at a Tricresyl Phosphate-Based Carbon Paste Electrode", *16th European Conference on Analytical Chemistry - EUROanalysis 16*, Belgrade, Serbia, 2011, 198.
16. B. Prlina, V. Guzsvány, **Zs. Papp**, J. Lovrić, K. Kalcher, "Applicability of the Manganese(IV)-Oxide Bulk Modified Carbon Paste Electrode for the Amperometric Monitoring of H₂O₂ Concentration in Different Photodegradation Samples of Clothianidin", *16th European Conference on Analytical Chemistry - EUROanalysis 16*, Belgrade, Serbia, 2011, 220.
17. D. Radmanovac, V. Guzsvány, **Zs. Papp**, I. Ičević, A. Đorđević, "Voltammetric Determination of Doxorubicin on Glassy Carbon and Fullerenol Nanoparticles-Modified Glassy Carbon Electrodes", *16th European Conference on Analytical Chemistry - EUROanalysis 16*, Belgrade, Serbia, 2011, 221.
18. V. Guzsvány, **Zs. Papp**, M. Putek, A. Bobrowski, "Silver-Amalgam Based Electrode for Voltammetric Monitoring of Selected Neonicotinoids Insecticides", *12th European Meeting on Environmental Chemistry*, Clermont-Ferrand, France, 2011, 66.
19. D. Jović, V. Guzsvány, A. Đorđević, **Zs. Papp**, I. Ičević, "Adsorptive Stripping Voltammetric Determination of Trace Levels of Doxorubicin in Selected Real Samples", *Tenth Young Researchers Conference – Materials Science and Engineering*, Belgrade, Serbia, 2011, 25.
20. J. Đorđević, **Zs. Papp**, A. Kalijadis, T. Trtić-Petrović, "Adsorptive Stripping Voltammetric Determination of Carbendazim Fungicide", *24th Congress of Chemists and Technologists of Macedonia*, Ohrid, Macedonia, 2016, 41.

Uređivanje zbornika saopštenja međunarodnog naučnog skupa [M36]

1. V. Guzsvány, **Zs. Papp**, eds., "Book of Abstracts", *18th Young Investigators' Seminar on Analytical Chemistry*, Faculty of Sciences, Novi Sad, Serbia, June 28-July 1, 2011, COBISS.SR-ID 266899975, UDK 543(048.3).

Radovi saopšteni na skupu nacionalnog značaja štampani u celini [M63]

1. V. Guzsvány, F. Gaál, S. Lazić, **Zs. Papp**, "Derivativno spektrofotometrijsko određivanje imidakloprida i tiametoksama", *43. Savetovanje Srpskog hemijskog društva*, Beograd, 2005, 94-97.

2. **Papp Zs.**, "Tiametoxám és imidakloprid derivatív spektrofotometriás meghatározása" (Određivanje tiametoksama i imidakloprida derivativnom spektrofotometrijom), *A tudomány pillérei (H. Péics, ed.)*, ISBN 86-85245-05-2, Novi Sad, 2005, 372-380. (Odabrani radovi sa III Vojvođanske mađarske naučne konferencije studenata) - *usmeno izlaganje*
3. **Papp Zs.**, "Imidakloprid és 6-klórnikotinsav derivatív spektrofotometriás és nagyhatékonyságú folyadékkromatográfiás meghatározása" (Određivanje imidakloprida i 6-hlornikotinske kiseline derivativnom spektrofotometrijom i tečnom hromatografijom visoke efikasnosti), *Látómező (F. Dujmovics, ed.)*, ISBN 86-85245-07-9, Novi Sad, 2006, 217-225. (Odabrani radovi sa IV Vojvođanske mađarske naučne konferencije studenata) - *usmeno izlaganje*
4. **Papp Zs.**, "Az analitikai kémia hazai doyenje volt: Gaál Ferenc (1941–2011)" (Bio je doajen domaće analitičke hemije: Ferenc Gaál (1941–2011)), *A Magyar Tudomány Napja a Délvidéken: 2012 (J. Szalma, ed.)*, ISBN 978-86-88077-04-0, Novi Sad, 2013, 47-55. - *usmeno izlaganje*
5. G. Gelert, T. Szolnoky, **Zs. Papp**, J. Bošković, Z. Hojka, M. Žuža, "Ispitivanje kvaliteta komposta iz stabilizovanog mulja u cilju upotrebe u poljoprivredi", *Prvi domaći naučno stručni skup: Održiva primarna poljoprivredna proizvodnja u Srbiji – Stanje, mogućnosti, ograničenja i šanse*, Bačka Topola, 2018, 61-68.

Radovi saopšteni na skupu nacionalnog značaja štampani u izvodu [M64]

1. **Papp Zs.**, "Imidakloprid fotokatalitikus bomlásának voltametriás követése" (Voltametrijsko praćenje fotokatalitičke degradacije imidakloprida), *V Vojvođanska mađarska naučna konferencija studenata*, Novi Sad, 2006, 74. - *usmeno izlaganje*
2. V. Guzsvány, **Zs. Papp**, L. Bjelica, Lj. Jovanović, F. Gaál, "Prilog voltametrijskom ispitivanju fotokatalitičke degradacije imidakloprida", *45. Savetovanje Srpskog hemijskog društva*, Novi Sad, 2007, 39.
3. **Papp Zs.**, "Bizmutfilm elektród voltametriás alkalmazása egyes rovarölőszerek fotokatalitikus degradációjának követésére" (Primena bizmut-film elektrode za voltametrijsko praćenje fotokatalitičke degradacije odabranih neonikotinoidea), *VI Vojvođanska mađarska naučna konferencija studenata*, Novi Sad, 2007, 57. - *usmeno izlaganje*
4. **Zs. Papp**, I. Švancara, V. Guzsvány, K. Vytřas, F. Gaál, B. Abramović, L. Bjelica, "Neke nove voltametrijske primene elektrode od ugljenične paste na bazi trikrezil-fosfata", *47. Savetovanje Srpskog hemijskog društva*, Beograd, 2009, 16.
5. **Zs. Papp**, V. Guzsvány, "Upoređivanje fotostabilnosti četiri neonikotinoidnih insekticida u prisustvu sunčeve svetlosti", *48. Savetovanje Srpskog hemijskog društva*, Novi Sad, 2010, 24.
6. **Zs. Papp**, V. Guzsvány, "Derivativno spektrofotometrijsko određivanje aktivne komponente komercijalne formulacije Mospilan 20 SL u prisustvu 6-hlornikotinske kiseline", *49. Savetovanje Srpskog hemijskog društva*, Kragujevac, 2011, 22.
7. **Zs. Papp**, "Fotokatalitička razgradnja triarilmetanske boje na zlatom modifikovanom cink oksidu", *52. Savetovanje Srpskog hemijskog društva*, Novi Sad, 2015, 29.
8. **Zs. Papp**, "Fotokatalitičko obezbojavanje safranina O primenom TiO₂, ZnO i zlatom modifikovanog ZnO", *54. Savetovanje Srpskog hemijskog društva*, Beograd, 2017, 45.

Odbranjena doktorska disertacija [M71]

1. **Zs. Papp**, "Voltometrijska karakterizacija i određivanje odabranih neonikotinoida primenom različitih elektroda na bazi ugljenika", Doktorska disertacija, Univerzitet u Novom Sadu, Prirodno-matematički fakultet, Novi Sad, 2011.

Naučni projekti:

Projekti Ministarstva prosvete, nauke i tehnološkog razvoja:

- Pristupi održivosti i zelene hemije u razvoju ekološki pogodnih analitičkih metoda i skladištenju energije, br. 172012
- Ispitivanje nanostrukturnih materijala kao potencijalnih heterogenih katalizatora za neke razvojno održive procese, br. 172059
- Razvoj novih i poboljšanje postojećih postupaka praćenja i unapređenja kvaliteta životne sredine, br. 142029

Projekat Pokrajinskog sekretarijata za nauku i tehnološki razvoj:

- Razvoj hemijskih metoda analize neonikotinoida i derivata piridin-karboksilne kiseline, br. 114-451-00663

Projekat EU:

- Development of new materials for application in environmentally friendly technologies for the cost-effective remediation of contaminated sites threatening cross-border regions, br. IPA HUSRB/1002/214/188