

### Veci Broj radova objavljenih u vodećim međunarodnim časopisima

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39. Stopic, S., Schwinger, A., Bogovic, J., Spinnräker, M., Friedrich, B. (2012): Risikoanalyse bei der Synthese nanoskalierter Partikel mittels Ultraschallsprühpyrolyse, Tagungsband zur 11. DepoTech-Konferenz, Leoben, 6.-9. November 2012, 239-242.
40. Stopic S., Bogovic J., Schwinger A., Friedrich, B., Dikovic Lj., Milivojevic M., Drndarevic D., Stojanovic B. (2013): Computer modeling of metallurgical process by design of experiments and neural networks, Proceedings of the 5th International Conference "Science and Higher Education in Function of Sustainable Development" SED 2013, Uzice, Serbia, 4-5 October 2012, 226-219.
41. Stopic S., Lerch, M., Gerke-Cantow, R., Friedrich, B. (2013): Hydrometallurgical recovery of yttrium from waste crucible materials, Proceeding of European Metallurgical Conference 2013, Weimar, 939-944.
42. Bogovic, J., Stopic S., Friedrich, B., Rudolf, R., Matula, G (2013): Scale up of ultrasonic spray pyrolysis-First results for the synthesis of nanosized particles, Proceeding of EMC 2013, Weimar, 219-224.
43. Zhao, J, Stopic S., Friedrich, B., Rudolf, R, (2013): Mechanism of gold nanoparticle formation reduction from water solutions, Proceeding of European Metallurgical Conference 2013, Weimar, 277-281.

44. Kilicarslan, A, Saridede, M, Stopic, S; Friedrich, B (2013): Recovery of copper and zinc from brass waste via ionic liquid leach, Proceeding of European Metallurgical Conference 2013, Weimar, 1167-1172
45. Stopic, S, Kamberovic, Z, Balomenos, E., Panias, D., Friedrich, B (2013): The role of hydrometallurgy in the production of critical metals, Proceeding of First Metallurgical & Materials Engineering Congress of South –East Europe, 187-193.
46. Rudolf, R, Anzel, I, Zhao, J, Stopic, S, Friedrich, B, Colic, M, (2013): Gold nanoparticles-Properties, Synthesis and application, Proceeding of First Metallurgical & Materials Engineering Congress of South –East Europe, 25-34.
47. Milivojevic, M., Stopic, S. et al. (2014). Development of software for k-means clustering, Proceeding of SED Conference, Uzice, October 03, 2014, 55-59.
48. Stopic, S., Träger, T, Friedrich, B: (2015): Lead oxide battery grade synthesis via formation and decomposition of lead citrate, Proceeding of EMC Conference, Volume 1, Dueseldorf 14-17. June 2015, 389-399.
49. Stopic, S, Friedrich, B (2015): Role of hydrometallurgy and Nanotechnology in an environmental protection, Book of Abstracts, YuCorr17 International Conference, Tara Mountain, Serbia, 3.
50. Vukićević, N., Cvetković, V., Stopić, S., Stevanović, J., Panić, V., Friedrich, B., (2016): Core@shell-structured binary  $\text{TiO}_2/\text{RuO}_2$  oxides synthesized by spray pyrolysis for electrochemical applications, XXIV Congress of Chemists and Technologists of Macedonia, September 2016
51. Dittrich, C., Stopic, S., Friedrich, B (2016): Recovery of rare earth elements of bastnasite ores by advanced hydrometallurgical methods, Proceeding of Yucomat Conference, Herceg Novi, 37.
52. Stopic, S., Friedrich, B. (2016): Method of selective recovery of yttrium oxide from titanium-aluminium based wastes, Proceeding of the 13th Int. Con. on Fundamental and Appl. Aspects of Physical Chemistry, September 2016, 510-516.
53. Stopic, S, Friedrich, B. (2016): Metallurgy of Rare Earth Elements- Hydrometallurgical Treatment of ores and Concentrates (and Recycling), Invitation plenary lecture; VI<sup>th</sup> International Metallurgical Congress, June 2016. Ohrid, 2014, Macedonia; proceeding of Abstract
54. Stopic, S, Friedrich, B., Role of Hydrometallurgy in Environmental Protection, Proceeding of SED Conference 2016, 1-10
55. Haschke, M., Friedrich, B., Stopic, S., Panias, D., Schneider, P., Dittrich, C. (2016): Extraction of critical technology elements and radionuclides from phosphogypsum tailings, OPRM Conference Budapest, 2016
56. Stopic, S., Friedrich, B, (2017): Hydrometallurgy- an Environmental Sustainable processing of eudialyte bearing concentrate to recover rare earth elements, 5<sup>th</sup>

International Congress "Engineering, Environment and Materials in Processing Industry, 1-10., Jahorina, Bosnia and Hercegovina,

57. Stopic, S., Friedrich, B., (2017): High purity yttrium oxide recovery from spent investment cast linings, Second ERES Conference, Santorini, Greece, 26-31.May
58. Haschke, M, Friedrich, B., Stopic, S., Pnias,D., Schneider, P., Dittrich,C., Modolo, G. (2017): Phosphogypsum as source of REE and NORM, Second ERES Conference, Santorini, Greece, 26-31.May 2017
59. Stopic, S.; Ma, Y., Friedrich, B; (2017): Leaching of Eudialyte concentrate and RRE-Precipitation, 9<sup>th</sup> European Metallurgical Conference EMC 2017, Leipzig, Germany, 595-602
60. Ma, Y., Stopic, S.; Friedrich, Bernd; (2017): Processing of Spent Ceramic Linings from TiAl-Castings for Yttria Recovery, 9<sup>th</sup> European Metallurgical Conference EMC 2017, Leipzig, Germany, Volume 2, 577-582
61. Pavlovic, M, Erakovic, S., Panic, V., Miomir G. Pavlovic, G. M, Stopic, S, Friedrich,B., Electrochemical characterization of La<sub>0.6</sub>Sr<sub>0.4</sub>CoO<sub>3</sub> and La<sub>0.6</sub>Sr<sub>0.4</sub>CoO<sub>3</sub> doped with RuO<sub>2</sub> powders as the next generation supercapacitors, Book of abstracts of the XXV International Conference "ECOLOGICAL TRUTH" - Eco-Ist'17, 12-15 June 2017, Vrnjacka Banja, Serbia, 31-39
62. Stopic, S, Friedrich, B, Carbonisation of olivine under high pressure in an autoclave, Book of abstracts of the Humboldt Kolleg, Sustainable development and Climate Change: Connecting Research, Education, Policy and practice; Belgrade, 19- 22. September 2018, 41.
63. Stopic, S, Friedrich, B, Hydrometallurgical treatment of primary and secondary materials in the production of the critical metal oxides, 4<sup>th</sup> Metallurgical&Materials Engineering Congress of South-East Europe, Belgrade, June 2019, Serbia, Book of Abstracts,
64. Stopic, S, Dertmann, C., B.Xakalache, Alkan, G., Yagmurlu, B., Lucas, H., Friedrich, B. (2019), A near zero waste valorization vision for bauxite residue through experimental results, XXI YuCorr Conference, Tara Mountain, Serbia, Proceeding of Abstracts, 120-125.
65. Stopic, S, Friedrich, B, Synthesis of Oxides by hydrothermal methods, Advanced ceramics and Application VIII Conference, Proceeding of Abstracts, Belgrade, Serbia

### **3. Ostvarene rezultate u razvoju odgovarajuće obrazovno naučne oblasti (metalurgija, nanotehnologija, recikliranje i zaštita životne sredine)**

"Panta Tutundzic" award for „Academic Excellence“ at the Belgrade University, Serbia

Alexander von Humboldt Research Fellowship, award for „Academic Excellence“, 2002-2003

„Deutsches Kupfer-Institut in Düsseldorf“, award for Research in Nanotechnology of Copper, 2005

Second Research Award by GDMB at 66th meeting of the GDMB Lead Experts Committee, Příbram, Czech Republic, 05/2011

Kaiserpfalz-Preis for Nonferrous Metallurgy in Goslar, 2012

10 BW Honours in NRW for carrier excellence and high contribution of promotion for Serbia worldwide (02.10.2019)

2013 – 2019 Teaching Course: Unit Operations in Nonferrous Metallurgy

2015 – 2019 Teaching Course: The Value Added Chain of Rare Earth, (RE)-Extraction and Recycling

#### **4. Rukovodjenje ili ucesce na vise medjunarodnih projekata**

##### **EU (financially supported)**

2004 – 2006 INTREAT, Integrated Treatment of Industrial Wastes towards Prevention of Regional Water Resources Contamination

2006 – 2008 ENPRODUS, Development of an Operational Plan for Environmental Protection from Industrial Dusts in Russia and the other NIS

2014 REDMUD MSCA-ITN-2014, Bauxite Residue Valorization and Best Practice, Innovative Training Network, project leader

2013 – 2017 EURARE, Development of Sustainable Exploitation Scheme for Europe's Rare Earth Ore Deposits, project leader

##### **DFG (financially supported)**

2006 – 2008 Designing of Nanoparticle Morphology in Aerosol Synthesis

2009 – 2010 Zn-Recovery from Steel Making Dusts

2009 – 2010 Process Design of USP Synthesis of RuO<sub>2</sub>/TiO<sub>2</sub> Nanoparticles for Catalytic Application

2011-2013 Scale up ultrasonic spray pyrolysis ("Forschungsgroßgeräte")

##### **EU/NRW (financially supported)**

2009 – 2011 NANOGOLD Projekt „NanoMikro+Werkstoffe.NRW“

**BMBF (financially supported)**

2009 – 2012 LIVE Project Lithium ion-battery-compound structures

2017-2020 AddWater (with Withwatersrand University in Johannesburg, South Africa)

2017-2020 CO<sub>2</sub>-Capturing durch Mineralische Rohstoffe (with Heidelberg Zement)

**DAAD/Serbian Ministry for Research and Science (financially supported)**

2012 – 2013 Numerical Simulation of Ag-Nanoparticle Formation from Aerosol, with the University of Kragujevac

2017-2018 Novel designs of synthesis for tailoring the ordered structures of multicomponent metal oxides as uniform coatings of activated titanium anodes, with the Institute of Chemistry, Technology and Metallurgy of the Belgrade University

2019-2020 Synthesis of Ti-Al-V alloys via molten salt electrolysis, with the Institute of Chemistry, Technology and Metallurgy of the Belgrade University

**Federal Ministry for Economy (BMWI) (financially supported)**

2014-2016 Hydrometallurgical Recycling of Y<sub>2</sub>O<sub>3</sub> from Ti-Al Alloys (with Access, Aachen)

2019-2021 Building of new dry digestion reactor for the eudialyte dissolution

**Industrial Projects**

2003 OUTOTEC, Frankfurt am Main, Germany (High Pressure Leaching of Lateritic Ore in the Autoclave)

2004 POLYMER-CHEMIE GmbH, Bad Sobernheim, (Synthesis from Submicrometer—iron particles from spent materials by ultrasonic spray pyrolysis)

2005 NORZINCO, Goslar, Germany, (Recycling of Zinc from Waste Dust)

2006	GOLDSCHMIDT, Brussels, Belgium, (Recycling of Zinc Oxides)
2007	ASAREL, Sofia, Bulgaria, (Recycling of Copper from Wastewater)
2010	BAYER MATERIALSCIENCE, Leverkusen, Germany, (Synthesis of Nanosized Silver and RuO <sub>2</sub> /TiO <sub>2</sub> )
2009	BEFESA ZINC GmbH, Duisburg, Germany, (Recycling of Zinc)
2010-2017 autoclave)	MEAB Chemie Technik, Aachen (High pressure leaching of laterite in
2014 materials)	ACCESS, Aachen (Recycling of yttrium oxide from ceramic spent
2015	JOHNSON CONTROLS, Hanover, Germany, (Recycling of Lead Paste)
2016	CRONIMET, Karlsruhe, Germany, (Valorisation of Direct Nickel Process)
2016-2017	RHI, Leoben, (Precipitation Processes using MgO from Nickel and Cobalt based Solution)
2017-2018	RHI, Leoben, (Precipitation Processes using MgO from Nickel and Cobalt based Solution)
2018-2019	Optimizing leaching of cobalt from polycrystalline diamond blanks with grain size 5µm

## 5. Ostvarene rezultate u razvoju nastavno-naucnog podmlatka

1. Arul Karuppanagounder, India, (2004): Nano Powder Production by Ultrasonic Dispersion and Hydrogen Reduction, Master Thesis (Nanotechnology)
2. Anugerah Widigdo, Indonesia, (2005): Synthesis of Nano Powder of Silver by Ultrasonic Spray Pyrolysis Method (Nanotechnology)
3. Regina Dittrich, Germany, (2010): Synthesis of Nano Sized Particles of Gold using Ultrasonic Spray Pyrolysis Method, Bachelor Work (nanotechnology)
4. Dirk Behrmann, Germany, (2011): Synthese von LiFePO<sub>4</sub>/C in der Ultraschallsprühpyrolyse, Diplom Work (Nanotechnology)
5. Kamil Zygmunt, Germany, (2012), Bachelor Work (Nanotechnology)
6. Irina Gospodinova, (2012), Russia, Bachelor Work (Nanotechnology)
7. Daniel Voßenkaul, Germany, (2012-2013) Studien/Diplom work, (Recycling)
8. Jin Won Suh, Korea, (2013), Master thesis (Hydrometallurgy)

9. Merhol Göknelma, Turkey (2014), Student Thesis, (Recycling)
10. Aksoy Khan, Turkey, (2014), Student thesis (Recycling)
11. Yunbo Yun, China, (2014), Master Thesis (Recycling)
12. Marc Spinnracker, Germany, 2015, Master Thesis (Recycling)
13. Carlos Matus, Chile, (2015) Bachelor Work, (Hydrometallurgy)
14. Lukas Mengis, Germany, (2015), Master Thesis, (Hydrometallurgy)
15. Tobias Zierold, Germany, Master Thesis, 2015, (Recycling)
16. Duan Yueting, China, (2015) Master Thesis, (Hydrometallurgy)
17. Sebastian Kobylka, Germany, (2015) Master Thesis, (Hydrometallurgy)
18. Qui Hao, (2016), Master Thesis, (Hydrometallurgy)
19. Zende Vishal, (2016) Master Thesis, (2016) (Hydrometallurgy)
20. Christoph Schiffers (2016), Master Thesis, (2016) (Hydrometallurgy and Recycling)
21. Albrecht Schwinger, (2015) Doctoral Exam, (Nanotechnology)
22. Jingyue Zhao, (2016), Doctoral Exam, Synthesis of Gold Nanoparticles via Chemical Reduction Method, (Nanotechnology)
23. Jiqian Ma, China, (2015-2018), Doctoral Work in Progress, Research fellowship from China, (Hydrometallurgy of Zirconium)
24. Viktoria Keller, (2017), Haptseminar, Indium-recovery from spent Materials
25. Magnus Sivers, (2017), Bachelor work, Removal of impurities and Zr, Hf, Nb enrichment from leaching solution of eudialyte residue
26. Maximilian Geilen, (2017), Extraktion von Zirkonium, Hafnium und Niob aus Eudialyt Laugungsrückständen durch eine hydrometallurgische Behandlung, Masterarbeit
27. Kuan Po Lee, (2017), Mini Thesis- Carbonation from Olivine under high pressure, in progress
28. Ferdinand Kiessling (2019), Optimizing leaching of cobalt from polycrystalline diamond blanks with grain size 5µm, Bachelor work,
29. Saiteja Duvva (2019)- Hydrometallurgical treatment of Coal Flay Ash with an Acid and Acid mine Drainage, Student integrated thesis
30. Moritz Sievers (2019)- Carbonation of Olivine under high pressure in an autoclave, Master thesis
31. Viktoria Keller (2019), Neutralization of acid mine drainage solution from South Africa using secondary materials, Master thesis
32. Carlos Matus (2019), Scale up of carbonation process of olivine and slags, Master thesis

## **6. Veka citiranost naucnih rezultata**

Scopus Factor: 15; X-factor: 15, Research gate; H-30.58 (759 cite)

## **7. Medjunarodnu naucnu reputaciju I to:**

**- da je bio gost-urednik u uglednim medjunarodnim caopisima**

Special Issue, Advances in Synthesis of Metallic, Oxidic and composite Powders, Metals, 2018-2020

**-da je predsedavao medjunarodnim naucnim konferencijama**

Chairman at European Metallurgical Conference EMC 2019 (Düsseldorf), 2015 (Düsseldorf), 2017 (Weimar)

AMPT conference in Madrid, 2017, Spain

**-da ima clanstvo u uredjivackim odborima medjunarodnih naucnih casopisa**

Metals, MDPI; Switzerland

Minerals, MDPI, Switzerland

Non-ferrous Metals, Russia

Military Technical Courier, Belgrade, Serbia

**-da je autor medjunarodne monografije**

Srecko Stopic, Synthesis of nanosized metallic powders using ultrasonic spray pyrolysis, Shaker GmbH, Germany, 123 (45,80 Euro)