

Curriculum Vitae

MSc. Andrej Savić

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EDUCATION

- Elementary school “Kralj Petar I” in Belgrade, Serbia, 1987-1998
- First Belgrade Gymnasium, main subjects: mathematics, physics, biology and computer science, 1998-2001
- Bachelor of Science in Electrical Engineering, University of Belgrade - School of Electrical Engineering, Belgrade, Serbia, 2001-2008
- Master of Science in Biomedical Engineering, University of Belgrade - School of Electrical Engineering, Belgrade, Serbia, 2008-2010
- PhD studies at department of Biomedical Engineering, University of Belgrade - School of Electrical Engineering, Belgrade, Serbia, 2011 - present

WORK EXPERIENCE

- Research assistant, Department of Biomedical Engineering, University in Belgrade - School of Electrical Engineering, Belgrade, Serbia (Jan.2011 – present)
- Researcher at Tecnalía Serbia, DOO, Vladaćina 13, Belgrade, Serbia (Mar. 2012 – present)

CLINICAL WORK

- Rehabilitation Institute “Dr. Miroslav Zotović”, Belgrade (CVI, brain trauma)
- Institute for Neurology, Clinical Center of Serbia, Belgrade (patients with tremor)

PROJECTS

- “An ambulatory BCI-driven tremor suppression system based on functional electrical stimulation”, (FP7-ICT-2007-224051 TREMOR)
- “The effects of assistive systems in neurorehabilitation: recovery of sensory-motor functions”, (2011-2014, project leader – Prof. Mirjana Popović), Serbian Ministry of Education, Science and Technological Development, grant #175016.

- “FESAPP - Functional Electrical Stimulation Applications” of the company Tecnalia Serbia DOO, Belgrade, Serbia.
- “ELCODE - Electrode Controlled Delivery” of the company Tecnalia Serbia DOO, Belgrade, Serbia.
- “ARMASIST - clinical evaluation of ArmAssist device at Institute for Rehabilitation Dr Miroslav Zotovi'ć”, Tecnalia Serbia DOO, Belgrade, Serbia.
- COST Action TD1006, “European Network on Robotics for NeuroRehabilitation”

AWARDS AND GRANTS

- Award for the best paper in biomedical engineering area (titled: "Detection of breathing phases") at ETRAN 2009 conference, Vrnjačka Banja, Srbija.
- The Prof.Dr. Ilija Stojanović Award for one of the three best student papers (titled: "Comparison of Event-Related Desynchronization During Self-Paced Movement and When Playing Nintendo Wii Games") at TELFOR 2010 conference, Belgrade, Serbia.
- Travel Award (1200 USD) for the BMBI (Brain Machine Body Interface) Workshop at the IEEE EMBC'12 Conference, 2012, San Diego, California.
- Travel grant of the TEMPUS project for a visit to System Software Laboratory, Faculty of Electrical Engineering and Computer Science - FERI, Maribor, Slovenia, mentorship/supervision: prof. Damjan Zazula, prof. Aleš Holobar
- Travel grant for short term scientific mission - STSM, of the COST Action TD1006, (STSM title: Advanced EEG techniques to utilize brains automatic change detection in BCI), location: University of Jyväskylä, Finland, mentorship/supervision: prof. Ina Tarkka.
- Travel grant for short term scientific mission - STSM, of the COST Action TD1006, (STSM title: Control strategies for EEG BCI device based on motor imagery), location: University of Aalborg, Denmark, mentorship/supervision: prof. Natalie Mrachacz Kersting.
- Travel grant of the Juho Vainio Foundation, Helsinki, Finland (titled: "Effects of physical activity on brain ageing"), location: University of Jyväskylä, Finland, mentorship/supervision: prof. Ina Tarkka.

FIELD OF EXPERTISE

- Brain-Computer Interface (BCI)
- Electroencephalography (EEG)
- BCI control signals:
 - Event-Related Desynchronisation/Synchronisation (ERD/ERS)
 - Steady-State Visual Evoked Potentials (SSVEP)
 - Event-Related Potentials (ERP)
 - Movement-Related Cortical Potentials (MRCP)
- Restorative BCIs (BCIs for stroke rehabilitation)
- Neurofeedback
- Time-frequency signal analysis

PUBLICATIONS

Papers in international journals with impact factor (M21, M23)

1. **(M21) Savić A.**, Malešević N., Popović M.B.: Feasibility of a Hybrid Brain-Computer Interface for Advanced Functional Electrical Therapy, - *The Scientific World Journal*, Vol 2014, No 797128, pp. 1-11, 2014 (**IF(2012)=1.73**) (DOI:10.1155/2014/797128) (ISSN: 1537-744X).
2. **(M23) Mirković B.**, Stevanović M., **Savić A.**: EEG Controlled Ni Lego Robot: Feasibility Study of Sensorimotor Alpha Rhythm Neurofeedback in Children, - *Biomedical Engineering / Biomedizinische Technik*, Vol 58, No 1, pp. 1-2, 2013 (**IF(2012)=1,157**) (ISSN (Online) 1862-278X, ISSN (Print) 0013-5585) (DOI: 10.1515/bmt-2013-4161).
3. **(M23) Popović-Maneski L.**, Malešević N., **Savić A.**, Keller T., Popović D.B.: Surface distributed low-frequency asynchronous stimulation (sDLFAS) delays fatigue of stimulated muscles, - *Muscle & Nerve*, Vol 48, No 6, pp. 930–937, 2013 (**IF(2012)=2,314**) (DOI: 10.1002/mus.23840) ISSN: 1097-4598).

Papers in thematic proceedings of high international importance (M13)

1. **Savić, A.**, Lontis, R., Jiang, N., Popović, M., Farina, D., Dremstrup, K., & Mrachacz-Kersting, N.: „Movement Related Cortical Potentials and Sensory Motor Rhythms during Self Initiated and Cued Movements“ In *Replace, Repair, Restore, Relieve–Bridging Clinical and Engineering Solutions in Neurorehabilitation*, Eds.: W. Jensen, O. Kæseler Andersen, M. Akay, 2014, Volume 7, pp. 701-

707. Springer International Publishing 2014 (ISBN: 978-3-319-08071-0 (Print) 978-3-319-08072-7 (Online), Series ISSN2195-3562) (DOI: 10.1007/978-3-319-08072-7_98)

http://link.springer.com/chapter/10.1007/978-3-319-08072-7_98

2. **Savić A.**, Malešević N., Popović M.B.: „Motor imagery driven BCI with cue-based selection of FES induced grasps“ In: *Converging Clinical and Engineering Research on Neurorehabilitation.*, Eds.: J. L. Pons, D. Torricelli, M. Pajaro, Springer-Verlag Berlin Heidelberg 2013, Vol. 1, pp. 513.-516. (DOI: 10.1007/978-3-642-34546-3_82) (ISBN (print): 978-3-642-34545-6, ISBN (electronic): 978-3-642-34546-3, Series ISSN: 2195-3562)

http://link.springer.com/chapter/10.1007/978-3-642-34546-3_82

Internationa conference papers (M33)

1. **Savić A.**, Kisić U., Popović M.B.: „Toward a hybrid BCI for grasp rehabilitation,“ -*Proceedings of the 5th European Conference of the International Federation for Medical and Biological Engineering*, 2012, Vol 37, pp. 806-809, Springer-Verlag GmbH Berlin Heidelberg, (ISSN: 1680-0737, ISBN (Online) 978-3-642-23508-5, ISBN (Print) 978-3-642-23508-8, DOI:10.1007/978-3-642-23508-5_210)
2. **Savić A.**, Niazi, I.K., Popović M.B.: „Self-paced vs. cue-based motor task: the difference in cortical activity,“ - *Proceedings of the 19th Telecommunications Forum, TELFOR 2011*, 22-24 November 2011, Belgrade, Serbia. IEEE Press, Article No. 6143887, pp. 39-42 (ISBN: 978-1-4577-1499-3, <http://dx.doi.org/10.1109/TELFOR.2011.6143887>)
3. Šobajić N., **Savić A.**: „Comparison of the event-related desynchronization during self-paced movement and when playing a Nintendo Wii game,“ -*Proceedings of the 18th Telecommunication forum – TELFOR 2010*, 23-25 November 2010, Belgrade, Serbia, pp. 1379 -1382
4. **Savić A.**, Lontis R., Malešević N., Popović M.B., Jiang N., Dremstrup K., Farina D. and Mrachacz-Kersting N.: „Feasibility of an Asynchronous Event Related Desynchronization based Brain Switch for control of Functional Electrical Stimulation,“ Accepted for BMT 2014, Hannover 8-10 Oct. 2014.

International conference abstracts (M34)

1. Tarkka, I., **Savić A.**, Niskanen E., Pekkola E., Rottensteiner M., Leskinen T., Kaprio J., and Kujala U.: „Long-term physical activity is associated with precognitive somatosensory brain processing and white matter volume in male twins,“ –*Proceedings of the 30th International Congress of Clinical Neurophysiology (ICCN) of the IFCN*, March 20–23, 2014, Berlin, Germany, pp. 264-265

(Printed in: *Clinical Neurophysiology*, vol 125, supplement 1, pp. S264-S265, 2014, (ISSN: 1388-2457, DOI: 10.1016/S1388-2457(14)50864-4))

2. Popović M.B., **Savić A.**: „Brain control of assistive devices,“ -*Proceedings of the 10th Mediterranean Congress of PRM and 13th National Congress of PMR, Mediterranean Forum of PRM 2013*, Budva, MonteNegro, 2013, pp. 56
3. Ilić O., Ković V. **Savić A.**, Thierry G.: „Conceptual organization revisited: Behavioural and ERP evidence,“ - *Proceedings of the 18th Meeting of the European Society for Cognitive Psychology (ESCoP) Conference*, Budapest, Hungary 2013, No A-0596. pp. 1
4. Sucević J., Ković V., **Savić A.**: „Is there anything sound-symbolic in words: Behavioural and ERP study of sound symbolism in natural language,“ -*Proceedings of the 18th Conference of the European Society for Cognitive Psychology*, Budapest, Hungary, 2013, No A-0682, pp. 1
5. **Savić A.**, Malešević N., Popović M.B.: „Cue-based control of three FES induced movements by motor imagery driven BCI,“ -*Proceedings of the IEEE EMB/CAS/SMC Workshop on Brain-Machine-Body Interfaces*, San Diego, California, USA, 2012., pp. D-3.
6. **Savić A.**, Malešević N., Popović M.B.: „Motor Imagery based BCI for control of FES,“ -*Proceedings of the Symposium of clinical neurophysiology with international participation*, Belgrade, Serbia, 2012, pp. 26-27

(Printed in: *Clinical Neurophysiology* Vol 124, No 7, 2013: pp. e11-e12, DOI: 10.1016/j.clinph.2012.12.020, M22, IF(2012)=3,144)

7. Belić J., **Savić A.**, “Brain Computer Interface-based algorithm for the detection of finger movement”, -*Proceedings of the 8th FENS*, Barcelona, Spain, 2012, Vol 6, No 4248, pp.1
8. **Savić A.**, Popović M.B., Popović D.B.: „Event related desynchronisation/synchronization based method for quantification of neural activity during self-paced versus cue-based motor task,“ - *Proceedings of the Symposium Symposium of Clinical Neurology 2011 with international participation*, Military Medical Academy, Belgrade, Serbia, 2011, pp. 34-35

(Printed in: *Clinical Neurophysiology* Vol 123, No 7, 2012, pp. e81-e81, DOI: 10.1016/j.clinph.2011.11.058, M22, IF(2012)=3,144)

9. **Savić A.**, Popović M.B., Popović D.B.: „[Method for Voluntary Movement Detection in Tremor Patients Based on Single-Trial EEG](#)“ - *Proceedings of the Conference Integrating Brain-Computer Interfaces with Conventional Assistive Technology, TOBI*, Graz, Austria, 2010 pp. 15
10. **Savić A.**, Popović M.B., Popović D.B.: „Detection of the “will to move” for an ambulatory system for tremor suppression based on functional electrical stimulation,“ - *Proceedings of the 9th Congress*

of Clinical Neurophysiology with International Participation, Military Medical Academy, Belgrade, Serbia, 2009, pp. 20-21

(Printed in: *Clinical Neurophysiology* Vol 121, No 4, 2010, pp. e16.

DOI:10.1016/j.clinph.2009.11.067, M21, IF(2010)=2,786)

National Journals (M53)

1. Šobajić N., **Savić A.**: Comparison of the event-related desynchronization during self-paced movement and when playing a Nintendo Wii game, *Telfor Journal*, Vol 3, No 1, 2011, pp. 72-75. (ISSN (Print) 1821-3251, ISSN (Online) 2334-9905)
2. Božić I., Klisić Đ., **Savić A.**: Detection of breathing phases, *Serbian Journal of Electrical Engineering*, Vol 6, N. 3, 2009, pp. 389-398.

Invited lectures (M62)

1. **Savić A.**, Popović M.B.: „Brain signals in assistive technologies,“ -*Proceedings of the 2nd Memorial Symposium “Petar Arežina”: research in Neural Rehabilitation*, SANU, Belgrade, Serbia, 2012.

National conferences (M63)

1. Stevanović M., **Savić A.**: “Virtual Menu based on P300 Evoked Potentials,“ -*Proceedings of the 56th ETRAN Conference*, Zlatibor, Srbija, 2012, ME1.8, pp. 1-4, (ISBN 978-86-80509-67-9.)
2. Božić I., Savić K., **Savić A.**: “Softver za obradu elektrofizioloških signala,“ - *Proceedings of the 54th ETRAN Conference*, Donji Milanovac, Srbija, 2010, ME1.3, pp.1-4
3. Božić I., Klisić Đ., **Savić A.**: "Detekcija faza tokom disanja," - *Proceedings of the 53rd ETRAN Conference*, Vrnjačka banja, Srbija, 2009, ME2.6, pp. 1-4

National conference abstracts (M64)

1. Golubović B., **Savić A.**, Ković, V., Popović, M.B.: „Changes in the EEG during motor reaction to lexical decision task“ – *Proceedings of the 1st Conference Brain-Computer Interface from Student-to-Student Interface*, 14. March 2014, Belgrade, Serbia, pp. 5.(ISBN: 978-86-7466-496-4)
2. Sučević J., Styles S., **Savić A.**, Ković V., Popović, M.B.: “The role of sound symbolism in language processing : Insights from an ERP study“ – *Proceedings of the 1st Conference Brain-Computer Interface from Student-to-Student Interface*, 14. March 2014, Belgrade, Serbia, pp. 5.(ISBN: 978-86-7466-496-4)

3. Ilić O., Ković V. **Savić A.**, Thierry G.: „Razlike u tematskom i taksonomskom procesiranju: ERP studija,“ *Knjiga sažetaka naučno-stručnog skupa: Savremeni trendovi u psihologiji*, Odsek za psihologiju, Filozofski fakultet, Univerzitet u Novom Sadu, Novi Sad, Srbija, 2013, pp. 112-113
4. **Savić A.**: „Brain-Computer Interface in Neurorehabilitation“ – *Proceedings of the 1st Conference Brain-Computer Interface from Student-to-Student Interface*, 14. March 2014, Belgrade, Serbia, pp. 5. (ISBN: 978-86-7466-496-4)

LANGUAGES

- English
- German