Ana Stanojević

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Education

2014.10.01 – 2017.12.08
Doctor of Philosophy | Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia
· Dissertation Title: Modeling the mechanism of ethanol effect on nonlinear dynamical states of the hypothalamic-pituitary-adrenal system

June – September 2017: Erasmus+ exchange student at Center for Molecular Medicine, Karolinska Institute, Stockholm, Sweden.

2013.10.01-2014.05.16
Master of Science in Physical Chemistry || Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia

· GPA: 10 (out of 10)
· Dissertation Title: Changes in Dynamical States of Nonlinear Hypothalamic–Pituitary–Adrenal System Induced by Cholesterol Concentration Changes: Mathematical Modelling and Numerical Simulations

2009.10.01-2013.07.05 Bachelor of Science in Physical Chemistry | | Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia

· GPA: 9.97 (out of 10)
· Dissertation Title: Modelling the Influence of Particular Reaction Steps of the Dushman Reaction on the Bray-Liebhafsky Reaction Dynamics

Work Experience

2015.07.01-present Teaching Assistant | Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia |
· Courses: General Physical Chemistry 1; General Physical Chemistry 2; Biophysical Chemistry and Nonlinear Dynamics

2015.01.15-2015.07.01 Research Assistant | Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia |

Research Interest

Modeling of complex processes in biology, medicine and chemistry, nonlinear dynamics, oscillatory chemical and biochemical reactions, biological oscillators.

Publications

1. **A. Stanojević**, V. M. Marković, S. Maćešić, Lj. Kolar-Anić, V. Vukojević. Kinetic modelling of testosterone-related differences in the hypothalamic-pituitary-adrenal axis response to stress. Reaction Kinetics, Mechanisms and Catalysis. (2017). https://doi.org/10.1007/s11144-017-1315-7
2. **A. Stanojević**, V.M. Marković, Ž. Čupić, V. Vukojević, Lj. Kolar-Anić. Modelling of the hypothalamic-pituitary-adrenal axis perturbations by externally induced cholesterol pulses of finite duration and with asymmetrically distributed concentration profile. Russian Journal of Physical Chemistry A (2017), 91(13), 112–119. DOI: 10.1134/S0036024417130027.
3. Abulseoud, O. A., Ho, M. C., Choi, D. S., **Stanojević, A.**, Čupić, Ž., Kolar-Anić, L., & Vukojević, V. (2017). Corticosterone oscillations during mania induction in the lateral hypothalamic kindled rat—Experimental observations and mathematical modeling. *PloS one*, *12*(5), e0177551. https://doi.org/10.1371/journal.pone.0177551
4. Čupić, Ž., **Stanojević, A.**, Marković, V. M., Kolar-Anić, L., Terenius, L., & Vukojević, V. (2016). The HPA axis and ethanol: a synthesis of mathematical modelling and experimental observations. *Addiction biology*. DOI: 10.1111/adb.12409.
5. Čupić, Ž., Marković, V. M., Maćešić, S., **Stanojević, A.**, Damjanović, S., Vukojević, V., & Kolar-Anić, L. (2016). Dynamic transitions in a model of the hypothalamic-pituitary-adrenal axis. Chaos: An Interdisciplinary Journal of Nonlinear Science, 26(3), 033111. DOI: 10.1063/1.4944040.
6. Marković, V. M., Čupić, Ž., Maćešić, S., **Stanojević, A.**, Vukojević, V., & Kolar-Anić, L. (2016). Modelling cholesterol effects on the dynamics of the hypothalamic–pituitary–adrenal (HPA) axis. Mathematical Medicine and Biology, 33(1), 1-28. DOI: 10.1093/imammb/dqu020.

Scientific Conferences

1. **A. D. Stanojević**, V. M. Marković, Ž. D. Čupić, Lj. Z. Kolar-Anić, V. B. Vukojević, Mathematical modeling of testosterone-related differences in the hypothalamic-pituitary-adrenal axis response to ethanol, 70 years of the Mathematical Institute of Serbian Academy of Sciences and Arts, Mini-symposium "Biomechanics and Modelling of Biological Systems", Belgrade, Serbia (2016) p. 34-35.
2. **A. Stanojević**, V. M. Marković, Ž. Čupić, V. Vukojević, Mathematical modeling of interleukin 6 effects on the hypothalamic-pituitary-adrenal axis, Physical Chemistry 2016, 13th International Conference on Fundamental and Applied Aspects of Physical Chemistry, The Society of Physical Chemists of Serbia, Belgrade, Serbia, Proceedings, Volume I, (2016) p. 323-326.

3. **A. Stanojević**, V. M. Marković, Lj. Kolar-Anić, V. Vukojević, Mathematical modeling of interactions between the central circadian clock, the hypothalamic-pituitary-adrenal (HPA) axis and alcohol, Physical Chemistry 2016, 13th International Conference on Fundamental and Applied Aspects of Physical Chemistry, The Society of Physical Chemists of Serbia, Belgrade, Serbia, Proceedings, Volume I, (2016) p. 351-354.
4. **A. Stanojević**, Ž. Čupić , V. M. Marković , V. Vukojević, Lj. Kolar-Anić, Modelling the effects of the cholesterol-rich food intake on the hypothalamic-pituitary-adrenal (HPA) axis dynamics, *ECMTB - SMB 2016 - the joint meeting of the European Society for Mathematical and Theoretical Biology and the Society for Mathematical Biology*, Nottingham, The United Kingdom of Great Britain and Northern Ireland (2016) CT-14-AM-06 (one page).
5. **A. Stanojević**, V. Marković , Ž. Čupić, S. Macešić, V. Vukojević, Lj. Kolar-Anić, Mathematical Modeling of the Hypothalamic-Pituitary-Adrenal Axis Dynamics in Rats, *Belgrade Bioinformatics Conference (BelBi)* 2016, Belgrade, Serbia, (2016) pp. 99.
6. **A. Stanojević**, Ž. Čupić, V. M. Marković, S. Macešić, V. Vukojević, Lj. Kolar-Anić, Modeling the effects of stress on adrenal progesterone dynamics, *2nd International Symposium on Advances in PCOS and Women's Health*, Belgrade, Serbia, (2016) pp. 47.
7. **A. Stanojević**, Ž. Čupić, V. M. Marković, S. Maćešić, Lj. Kolar-Anić, V. Vukojević, Modelling Ethanol Influence on the Dynamics of the Hypothalamic-Pituitary-Adrenal (HPA) Axis, *EMBO | EMBL Symposium: Biological Oscillators: Design, Mechanism, Function*, Heidelberg, Germany, (2015) pp. 106.
8. **A. Stanojević**, Ž. Čupić, Lj. Kolar-Anić, V. Vukojević, Mathematical modelling of ethanol effects on the dynamics of the hypothalamic-pituitary-adrenal (HPA) system, *The 5th International Congress of Serbian Society of Mechanics*, Arandjelovac, Serbia, Proceedings, (2015) M3a (four pages).
9. S. Maćešić, **A. Stanojević**, Lj. KolarAnić, Ž. Čupić, Condition for appearance of Andronov-Hopf and saddle-node bifurcations in the model of neuroendorine system with five variables, *The 5th International Congress of Serbian Society of Mechanics*, Arandjelovac, Serbia, Proceedings, (2015) M2e (four pages).
10. **A. Stanojević**, S. Maćešić, Ž. Čupić, V. M. Marković, V. Vukojević, Lj. KolarAnić, Modelling perturbations of the hypothalamic-pituitary-adrenal axis with cholesterol pulses in the form of a normal distribution, *International WE-Heraeus Physics School on "Model systems for understanding biological processes"*, Bad Honnef, Germany, (2015) P27 (one page).
11. S. Maćešić, **A. Stanojević**, Ž. Čupić, Lj. KolarAnić, Deriving conditions for appearance of Andronov-Hopf and saddle-node bifurcations in the model of the hypothalamic-pituitary-adrenal axis, *International WE-Heraeus Physics School on "Model systems for understanding biological processes"*, Bad Honnef, Germany, (2015) P18 (one page).
12. **A. Stanojević**, N. Pejić, Lj. Kolar-Anić, S. Anić, D. Stanisavljev, Ž. Čupić, Determination of paracetamol in pharmaceuticals by pulse perturbation of the Bray-Liebhafsky oscillatory reaction, *Thirteenth Young Researchers' Conference – Materials Sciences and Engeneering*, Belgrade, Serbia, The Book of Abstracts, (2014) p. 23.
13. **A. Stanojević**, Lj. KolarAnić, Ž. Čupić, V. M. Marković, V. Vukojević, Mathematical modelling of the influence of distribution of cholesterol concentration on the perturbations of hypothalamic-pituitary-adrenal axis, *3rd Congress of physiological sciences of Serbia with international participation - Molecular, Cellular and Integrative Basis of Health and Disease: Transdisciplinary Approach*, Serbian Physiological Society, Belgrade, Serbia, Abstract Book , (2014) p. 192.
14. **A. Stanojević**, Lj. Kolar-Anić, Ž. Čupić, V. M. Marković, V. Vukojević, Effects of gradual cholesterol pulses with normally distributed intensity profiles on the hypothalamic-pituitary-adrenal (HPA) axis dynamics, *Physical Chemistry 2014, 12th International Conference on Fundamental and Applied Aspects of Physical Chemistry*, The Society of Physical Chemists of Serbia, Belgrade, Serbia, Proceedings, Volume I, (2014) p. 340-343.
15. **A. Stanojević**, J. Maksimović, Ž. Čupić, Lj. Kolar-Anić, S. Anić, The influence of poly-4-vinylpyridine-co-divinylbenzene-Co^{2+} catalyst on the reaction pathways of the Bray-Liebhafsky reaction, *Twelfth Young Researchers' Conference – Materials Sciences and Engeneering*, Belgrade, Serbia, The Book of Abstracts, (2013) p. 14.
16. **A. Stanojević**, V. M. Marković, S. Maćešić, V. Vukojević, Ž. Ćupić and Lj. Kolar-Anić, Bifurcation analysis of HPA axis dynamic states under cholesterol regulation, *Theoretical Approaches to BioInformation Systems - TABIS 2013*, Belgrade, Serbia, Book of Abstracts, (2013) p. 30.

17. V. Marković, **A. Stanojević**, Ž. Čupić, V. Vukojević, Lj. Kolar-Anić, Dynamic states of cortisol in function of cholesterol concentration, *4th International Congress of Serbian Society of Mechanics*, Vrnjačka Banja, Serbia, Proceedings, (2013) p. 889-894.
18. **A. Stanojević**, S. Anić, One free radical model of the Bray-Liebhafsky oscillatory reaction, *Physical Chemistry 2012, 11th International Conference on Fundamental and Applied Aspects of Physical Chemistry*, The Society of Physical Chemists of Serbia, Belgrade, Serbia, Proceedings, Volume I, (2012) p. 297-299.
19. **A. D. Stanojević**, Ž. D. Čupić, S. R. Anić, New variant of the model of the Bray-Liebhafsky analytical matrix, *Tenth Young Researchers' Conference – Materials Sciences and Engeneering*, Belgrade, Serbia, The Book of Abstracts, (2011) p. 18.

Projects and Scientific Cooperation

1. Personalised Pulsatile Materials (PPM) | EPSRC Reference: EP/N033655/1 | December 2016 - December 2018
2. KI-Mayo collaboration research grant, PI Vladana Vukojević/Osama Abulseoud Mathematical Modeling of the Neuroendocrine Signaling Network Dynamics in a Model of Mania | 2014
3. COST Action CM1304 "Emergence and Evolution of Complex Chemical Systems" | December 2013 – December 2017
4. Project "Dynamics of Nonlinear Physicochemical and Biochemical Systems with Modeling and Predicting their Behavior under Nonequilibrium Conditions" | Ministry of Education, Science and Technological Development of the Republic of Serbia, Grant No. 172015 | January 2011 – July 2017

Professional Memberships

- European Society for Mathematical and Theoretical Biology
- Society of Physical Chemists of Serbia
- Serbian Chemical Society

Awards and Acknowledgements

- Special Acknowledgement to the best graduates of chemistry and chemical technology at the Universities in Serbia | Serbian Chemical Society | 2014
- Award for the best B.Sc. thesis | Bulajić Sisters Foundation, Serbia| 2014
- Pavle Savić Award for the great success achieved during undergraduate studies of physical chemistry | Society of Physical Chemists of Serbia | 2014
- Acknowledgement for exceptional promise in natural sciences and technical and technological fields | Erste Bank, Serbia | 2014
- Award for the best research paper in the category of Mathematics and Natural Sciences students | University of Belgrade, Serbia | 2013
- Grant for the best students of natural sciences | Hemofarm Foundation, Serbia | 2013

- Scholarship | Dositeja Foundation for Gifted and Talented Students, Ministry of Youth and Sport of the Republic of Serbia | 2012 - 2014
- Scholarship | Ministry of Education, Science and Technological Development of the Republic of Serbia | 2010 – 2012

Strengths

- **Ability to prioritize own work with respect to deadlines**
- **Able to organize tasks effectively**
- **Able to work independently and in a group**
- **Showing respect and consideration to others**
- **Showing attention to every area of an assignment, project or job**
- **Being self-motivated, focused and driven towards completing a task**
- **Hard-working, reliable and self-motivated**
- **Being able to structure time, tasks and your work-life balance**
- **Using a structured process to analyze difficult problems, consider logical solutions, and then evaluate the result**

COMPUTER SKILLS

· MATLAB; Origin; E-Z Solve; MS Office; Internet.

LANGUAGES

· English B2

· German A1

· Russian A1

· Spanish A1

· Serbian (mother tongue)

Extracurricular activities

Conference "Improving Departments of Education at the University of Belgrade", Belgrade, Serbia | June 2017

13th International Conference on Fundamental and Applied Aspects of Physical Chemistry | The Society of Physical Chemists of Serbia, Belgrade, Serbia | January 2016 - September 2016

· Member of The Organizing Committee

The Junior and Senior Physics Challenge; The Junior Mathematics Challenge | Regional Centre for Talented Pupils, Belgrade II, Serbia | May 2016 and May 2015

· Interviewer. Assessing academic abilities and academic potential of primary and secondary school students

TRAIN (Training & Research for Academic Newcomers) | University of Belgrade, Belgrade, Serbia | 2015

· Through the TRAIN program newly admitted academics build their knowledge, skills, motivation and confidence to enhance their own practice and educational leadership skills, enabling them to build their own professional networks, positively influence student learning, empower their own research and increase their contribution to the society and industry.

The European Researchers' Night | September 2015

· Public event dedicated to popular science and fun learning

Mentee in the Online Mentoring Program "Serbia on the Line" for the promotion of innovative business and education practices in Serbia | iSerbia.rs, in partnership with the Association of Economic Press Association of Serbia and South-East European Society of Oxford, Belgrade, Serbia | March 2014 - September 2014

· Mentor: Vladana Vukojević, Associate Professor, Department of Clinical Neuroscience, Karolinska Institutet, Center for Molecular Medicine CMM L8:01, 17176 Stockholm, Sweden

Science around us | Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia | Since 2010 -

· Promoting science and motivating secondary school students