

Branislav Milovanović

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Google Scholar
Research Gate
ORCID



WORKING EXPERIENCE:

August 2018 – Present: **Teaching assistant – University of Belgrade, Faculty of Physical Chemistry**

Subjects:

- Statistical Thermodynamics
- Basic Course of Physical Chemistry 1
- Instrumental Analysis
- Chemical Thermodynamics

June 2018 – Present: **Project: Ministry of Science, Education and Technological Development of Republic of Serbia, Structure and Dynamics of Molecular Systems in Ground and Excited States** (172040, PI dr Mihajlo Etinski)

October 2017 – September 2018: **Physics Teacher – High School „Sveti Sava“**

EDUCATION AND QUALIFICATIONS:

October 2017 – Present: **University of Belgrade – Faculty of Physical Chemistry – PhD Studies**

October 2016 – July 2017: **University of Belgrade – Faculty of Physical Chemistry – Master Studies**

Master thesis: *Theoretical investigation of structure and vibrational spectra of stacked uracil dimers in aqueous solution with Born-Oppenheimer molecular dynamics*, Master advisor: dr Mihajlo Etinski, Assistant Professor

GPA: 10,00 (out of 10,00)

October 2012 – July 2016: **University of Belgrade – Faculty of Physical Chemistry – Bachelor Studies**

Bachelor thesis: *Structure and stability of small potassium clusters with iodine*, Bachelor advisor: dr Stanka Jerosimić, Associate Professor

GPA: 9,84 (out of 10,00)

September 2008 – July 2012: **Gymnasium “Miloš Savković”, Department of Mathematics and Science – Aranđelovac, Serbia**

Sep 2000 – Jul 2008 **Primary School – “Milan Ilić Čiča” – Aranđelovac**

RESEARCH EXPERIENCE, COURSES AND SEMINARS:

- July, Sep 2018 Scientific visit to Institute Ruđer Bošković, Zagreb, Croatia to investigate problems concerning photophysics of aqueous dimers of uracil during the project named: „*Nonadiabatic transitions of aqueous stacked uracil dimer*“ – COST Action CM1405.
- Feb 2019
- Sep 2016. – Member of project „*Solar Energy Conversion and Catalysis Calculations*“ (SNIC 2016/1-383) – First principles calculations of molecules and materials which are conducted with a focus on advanced solar energy conversion processes, including dye-sensitized solar cells, artificial photosynthesis, and organic solar cells. The ambition is firstly to provide a better understanding of how solar energy conversion systems function on the molecular level, and secondly to use calculations (mainly DFT and TD-DFT calculations) to guide the search for more efficient molecular components in such systems.
- Sep 2017
- Sep, Oct 2016. Practical training at Lund University, Department of Theoretical Chemistry (Kemikum), Lund, Sweden – Research of new materials for solar energy conversion using quantum chemical calculations with particular interest in photoexcited properties and electron transfer processes in different light absorbing materials, including dyes with iron and other common metals.

AWARDS:

- 2018 *Third place poster award*, issued by scientific committee of Protein Electrostatics conference held in Belgrade from 25th till 28th June.
- 2018 *Nenad M. Kostić Foundation award for chemical sciences*, cash award for best final year individual project defended on master studies in Republic of Serbia from April the 1st 2017 till the 31st of March 2018.
- 2017 *Serbian Chemical Society special award*, for outstanding overall success during bachelor studies.
- 2017 *Finalist of competition Crown of Success*, organized by family company „Petite Genève Petrović“.
- 2017 *Faculty of physical chemistry award*, for outstanding overall success during studies.
- 2017 *Sister Bulajić Foundation award*, cash award for one of two best final year individual projects defended on bachelor studies of Faculty of physical chemistry, University of Belgrade.
- 2017 *Studentship for high achievements*, issued by Department of Economy and Social Services of Municipal administration of Aranđelovac, Youth Office, Serbia.
- 2016 *Dositeja award for high achievements*, issued by the Fund for Young Talents, Ministry of Youth and Sports of Republic of Serbia.
- 2016 *Studentship for high achievements*
- 2015 *Dositeja award for high achievements*
- 2013, 2014 *Studentship for high achievements during studies*, issued by Ministry of Education, Science and Technological Development of Republic of Serbia.
- 2012 *Diploma for outstanding overall success in studying and sports activities*, issued by Primary School „Milan Ilić Čiča“, Aranđelovac, Serbia.

FIELDS OF INTEREST:

Interests:

- Quantum chemistry
- Molecular dynamics
- Spectroscopy (Raman, IR, UV/VIS)
- Photophysics and photochemistry
- Kinetics of reactions

MEMBERSHIPS:

- Serbian Chemical Society

SKILLS AND TECHNIQUES:

Languages:

- Serbian language – native
- English language – advanced working proficiency
- French language – elementary proficiency

Software skills:

- Gaussian software package – advanced proficiency level
- CP2K software package – advanced proficiency level
- OriginLab – advanced proficiency level
- MatLab – intermediate proficiency level
- VMD – intermediate proficiency level
- Siesta software package – intermediate proficiency level
- Python programming language – intermediate proficiency level
- LaTeX – intermediate proficiency level
- Turbomole – basic proficiency level
- ORCA software package – basic proficiency level

PUBLICATIONS:

Branislav Milovanović, Ivana M. Stanković, Milena Petković, Mihajlo Etinski, Elucidating Solvent Effects on Strong Intramolecular Hydrogen Bond: DFT-MD Study of Dibenzoylmethane in Methanol Solution, *ChemPhysChem*, **2019**, 20 (21), pp 2852-2859.

<https://doi.org/10.1002/cphc.201900704>

IF(2018) 3,077

Branislav Milovanović, Marko Kojić, Milena Petković, Mihajlo Etinski, New Insight into Uracil Stacking in Water from ab initio Molecular Dynamics, *J. Chem. Theory Comput.*, **2018**, 14 (5), pp 2621–2632.

<https://doi.org/10.1021/acs.jctc.8b00139>

IF(2018) 5,313

Branislav Milovanović, Milan Milovanović, Suzana Veličković, Filip Veljković, Aleksandra Perić-Grujić, Stanka Jerosimić, Theoretical and Experimental Investigation of Geometry and Stability of Small Potassium-Iodide K_nI ($n = 2-6$) Clusters, *Int. J. Quantum Chem.*, **2019**, Online Access.

<https://doi.org/10.1002/qua.26009>

IF(2018) 2,263

Ivana Petrović, Branislav Milovanović, Mihajlo Etinski, Milena Petković, Theoretical Scrutinization of Nine Benzoic Acid Dimers: Stability and Energy Decomposition Analysis, *Int. J. Quantum Chem.*, **2019**, 119 (13), pp e25918.

<https://doi.org/10.1002/qua.25918>

IF(2018) 2,263

Branislav Milovanović, Jelica Ilić, Ivana M. Stanković, Milana Popara, Milena Petković, Mihajlo Etinski, A Simulation of Free Radicals Induced Oxidation of Dopamine in Aqueous Solution, *Chem. Phys.*, **2019**, 524, pp 26-30.

<https://doi.org/10.1016/j.chemphys.2019.05.001>

IF(2018) 1,822

Marko Kojić, Igor Lyskov, Branislav Milovanović, Christel Maria Marian, Mihajlo Etinski, The UVA Response of enolic dibenzoylmethane: Beyond the Static Approach, *Photochem. Photobiol. Sci.*, **2019**, 17 (6), pp 1324-1332.

<https://doi.org/10.1039/C9PP00005D>

IF(2018) 2,408

Miroslav Ristić, Milena Petković, Branislav Milovanović, Jelena Belić, Mihajlo Etinski, New Hybrid Cluster-Continuum Model for pKa Values Calculations: Case Study of Neurotransmitters' amino Group Acidity, *Chem. Phys.*, **2019**, 516, pp 55-62.

<https://doi.org/10.1016/j.chemphys.2018.08.022>

IF(2018) 1,822

Branislav Milovanović, Milena Petković, Mihajlo Etinski, Raman Spectra of Aqueous Uracil Stacked Dimer: First Principle Molecular Dynamics Simulation, *Chem. Phys. Lett.*, **2018**, 713, pp 15-20.

<https://doi.org/10.1016/j.cplett.2018.10.015>

IF(2018) 1,901

Branislav Milovanović, Mihajlo Etinski, Milena Petković, Hydrogen transfer reaction: Bond formation and bond cleavage through the eyes of Interacting Quantum Atoms, *J. Serb. Chem. Soc.*, **2019**, 84 (8), pp 891-900.

<https://doi.org/10.2298/JSC190226034M>

IF(2018) 0,828

SCIENTIFIC ANNOUNCEMENTS:

Branislav Milovanović, Ivana M. Stanković, Milena Petković, Mihajlo Etinski, Influence of the metal ions on the charge transfer states in the G-octet-metal ion complexes, Seventh Conference of Young Chemists of Serbia, pp 153, Book of Abstracts ISBN 978-86-7132-076-4, Belgrade, Serbia, November 2, **2019**.

Branislav Milovanović, Milan Milovanović, Suzana Veličković, Filip Veljković, Aleksandra Perić-Grujić, Stanka Jerosimić, Ionization Energies of KnI ($n = 2, 3$) Clusters Theoretical and Experimental Evaluation, N-1-P, Physical Chemistry 2018, *14th International Conference on Fundamental and Applied Aspects of Physical Chemistry*, Belgrade, Serbia, Sept 24-28, **2018**.

Branislav Milovanović, Milena Petković, Mihajlo Etinski, On the Importance of π - π Stacking and Hydrogen Bonding Cooperativity on Aqueous Uracil Aggregation, *Protein electrostatics*, Book of Abstracts, Belgrade, Serbia, June 25-28, **2018**.

Branislav Milovanović, Ivana M. Stanković, Milena Petković, Mihajlo Etinski, Tuning charge transfer states in the G-octet-metal ion complexes for the potential nanotechnological applications, *Eighteenth Young Researchers' Conference - Materials Science and Engineering*, pp 25, Book of Abstracts ISBN 978-86-80321-35-6, Belgrade, Serbia, December 4-6, **2019**.

Branislav Milovanović, Milena Petković, Mihajlo Etinski, Discussing Aqueous Uracil Aggregation with First Principle Molecular Dynamics Simulations, *Sixth Conference of Young Chemists of Serbia*, pp 109-109, Book of Abstracts ISBN 978-86-7132-072-6, Belgrade, Serbia, October 27, **2018**.

Branislav Milovanović, Milana Popara, Milena Petković, Mihajlo Etinski, *Ab initio* Molecular Dynamics Insights on How Dopamine Disarms Hydroxyl Radical, *55th Meeting of the Serbian chemical society*, pp 104-104, Book of Abstracts ISBN 978-86-7132-069-6, Novi Sad, Serbia, June 8-9, **2018**.

PROJECTS:

- June 2018 – *Structure and dynamics of molecular systems in ground and excited electronic states*
Present (172040, PI dr Mihajlo Etinski) Ministry of Education, Science and Technological Development of Republic of Serbia.