



## Curriculum Vitae

Name and family name: **Predrag Ranitović**

Research or academic title: **Scientific Advisor**

Institution: University of Belgrade, Faculty of Physics, Studentskitrg 12,  
11000 Belgrade, Serbia

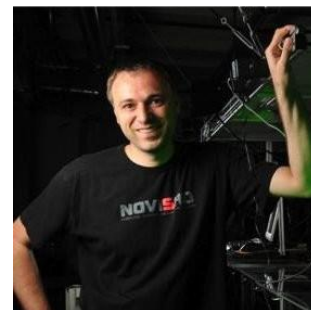
Contact e-mail: [pranitovic@gmail.com](mailto:pranitovic@gmail.com), [p.ranitovic@ff.bg.ac.rs](mailto:p.ranitovic@ff.bg.ac.rs)

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### Education

2008 PhD University of Stockholm, Sweden

2004 MSc in Atomic, molecular and optical physics, University of Stockholm, Sweden

2002 BSc in Physics, University of Novi Sad, Faculty of Sciences, Serbia

### Employment

2018- Present University of Belgrade, Faculty of Physics

2012-2020 Lawrence Berkeley National Laboratory, Berkeley, United States

2017-2019 ETH Zürich, Zurich ZH., Switzerland

2009-2018 University of Colorado Boulder, Boulder, United States

2009-2018 JILA, Boulder, United States

2010-2018 National Institute of Standards and Technology, Gaithersburg, United States

2015-2016 ELI-ALPS, Szeged, Hungary

2004-2010 Kansas State University, Manhattan, United States

2010 AlbaNova University Center, Stockholm, Sweden

2010 Stockholm university, Stockholm, Sweden

### Research field/ area

His scientific and research work are focused on the application of ultrafast and ultrastrong lasers and attosecond technologies in AMO physics, condensed matter physics and physical chemistry. The main topics are ionization by the strong field of ultrafast lasers and attosecond physics and advanced techniques for the detection of atoms, molecules and electrons. He has active cooperation with a large number of experimental and theoretical groups around the world.

### Publications and Citations

He published more than 40 papers in international journals with more than fifteen papers in journals such as Science, Nature journals, PNAS and PRL. He has given more than 30 lectures at conferences, research institutes and universities and has collaborations with theoretical and experimental groups from America, Japan, Switzerland and Spain.

Citations (from SCOPUS on 13.03.2023.): 2708

Hirsch index: 27



## List of selected publications

1. P. Ranitovic, F.P. Sturm, X.M. Tong, T.W. Wright, I. Zalyubovskaya, D. Ray, N. Shivaram, A. Belkacem, D.S. Slaughter, and T. Weber. Attosecond coherent control of oxygen dissociation by XUV-IR laser fields using three-dimensional momentum imaging. *Physical Review A* 98 (1), 013410 (2018)
2. L. Martin, X. M. Tong, C. W. Hogle, M. M. Murnane, H. C. Kapteyn, P. Ranitovic. Revealing the role of electron-electron correlations by mapping dissociation of highly excited using ultrashort XUV pulses. *Physical Review A* 97 (6), 062508 (2018).
3. H. Wang, Y. Xu, S. Ulonska, J. Robinson, P. Ranitovic, and R. Kaindl. Bright high-repetition-rate source of narrowband extreme ultraviolet harmonic beyond 22 eV. *Nature Communications* 6, 7459 (2015).
4. P. Ranitovic, C. W. Hogle, X. M. Tong, P Riviere, A. Palacios, F. Martin, M. M. Murnane, H. C. Kapteyn. Attosecond vacuum UV coherent control of molecular dynamics. *PNAS* 111(3), 912-917 (2014).
5. Xibin Zhou, Predrag Ranitovic, Craig Hogle, Henry C. Kapteyn and Margaret M. Murnane. Probing and controlling non-Born–Oppenheimer dynamics in highly excited molecular ions. *Nature Physics*, 8 (3) pp. 232-237 (2012).
6. D. Hickstein, P. Ranitovic\*, S. Witte, X. M. Tong, Ymkje Huinsmans, P. Arpin, X. Zhou, D. Chengyuan, K. Keister, C. Hogle, P. Johnsson, M. Vrakking, N. Toshima, M. M. Murnane, and H. C. Kapteyn. Direct Visualization of Laser-Driven Electron Multiple Scattering and Tunneling Distance in Strong-Field Ionization. *Phys. Rev. Lett.* 109, 073004 (2012).
7. P. Ranitovic, Xiao-Min Tong, Craig W Hogle, Xibin Zhou, Yanwei Liu, Margaret M Murnane, Henry C Kapteyn, Controlling the XUV transparency of Helium using two- pathway quantum interference. *Phys. Rev. Lett.* 106, 193008 (2011).
8. P. Ranitovic, X. M. Tong, C. W. Hogle, X. Zhou, H. C. Kapteyn, M. M. Murnane. Laser enabled Auger decay in rare gas atoms. *Phys. Rev. Lett.* 106, 053002 (2011).
9. P. Ranitovic, X. M. Tong, B. Gramkow, S. De, B. DePaola, K. P. Singh, W. Cao, M. Magrakvelidze, D. Ray, I. Bocharova, H. Mashiko, A. Sandhu, E. Gagnon, M. M. Murnane, H. C. Kapteyn, I. Litvinyuk, C. L. Cocke, IR-assisted ionization of helium by attosecond extreme ultraviolet radiation. *New Journal of Physics*, 12, 013008 (2010).
10. Arvinder S Sandhu, Etienne Gagnon, Robin Santra, Vandana Sharma, Wen Li, Phay Ho, Predrag Ranitovic, C. L. Cocke, Margaret M Murnane, Henry C Kapteyn, Observing the creation of electronic Feshbach resonances in soft x-ray-induced O<sub>2</sub> dissociation. *Science* 322, 1081-1085 (2008).
11. D. Akoury, K. Kreidi, T. Jahnke, T. Weber, A. Staudte, M. Schöffler, N. Neumann, J. Titze, L. P. H. Schmidt, A. Czasch, O. Jagutzki, R. A. C. Fraga, R. E. Grisenti, R. D. Muino, N. A. Cherepkov, S. K. Semenov, P. Ranitovic, C. L. Cocke, T. Osipov, H. Adaniya, J. C. Thompson, M. H. Prior, A. Belkacem, A. L. Landers, H. Schmidt-Böcking, and R. Dörner. The simplest



double slit: interference and entanglement in double photoionization of H<sub>2</sub>. Science 318, 949-952 (2007).

12. E. Gagnon, P. Ranitovic, X.-M. Tong, C. L. Cocke, M. M. Murnane, H. C. Kapteyn, and A. S. Sandhu. Soft x-ray-driven femtosecond molecular dynamics. Science 317, 1374-1378 (2007).

### **List of relevant previous projects or activities**

- Molecular Dynamics Probed by Coherent Soft X-Rays, US Department of Energy: \$300k/year (2012 – 2015). Proposed two types of experiments: Time-Resolved Soft X-Ray Transient Absorption, Attosecond Electron-Hole Charge Migration in Large Molecules.
- Internal ELI-ALPS proposal for developing a wide range of state-of-the-art AMO (COLTRIMS, VMI, transient absorption) and Condensed Matter (ARPES, PEEM) end stations for doing science at the World's first attosecond user facility, currently being built in Hungary: \$5 millions: 2105-2109.
- Endstation for AMO Science at the SwissFEL Athos beamline: 2M CHF. 1M CHF has been already approved by the PSI FOKO committee, and the application is under review at SNSF for the additional 1M CHF. I proposed to combine, for the first time, a free-electron laser (FEL) based X-ray source, laser-driven attosecond high harmonic generation (HHG) sources (VUV/XUV/SXR), and versatile electron-ion-photon detection. Regardless of the outcome of the SNSF part of the proposal, the proposed endstation is going to be built by the PSI.

### **Other academic and research activities (honors, awards, scholarships, committees, journal reviewers, etc.)**

- All three papers published in the journal Science were accompanied by interviews and presentations in the media in America and Germany. Several PRL papers were presented in the Focus section of Physics Today and Editor's Choice.
- Reviewer for international scientific journals: Physical Review Letters, Physical Review X, Science, Nature Physics, New Journal of Physics, Optics Letters, Physical Review A, J. Phys. B, Journal of Physical Chemistry.