



**Dr. Biljana Gaković**

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## AREAS OF EXPERTISE

- Physical and chemical processes induced by laser radiation
- Electronic excitation induced by ultra-short laser pulses
- Tin films/coatings
- Characterization of thin films/coatings and laser modified surfaces (SEM, Profilometry, AFM, XRD,..)

## EDUCATION

**Ph.D. in Physics, Faculty of Physics, University of Belgrade**

## PROFESIONAL EXPERIENCE

**Vinca Institute of Nuclear Sciences, Research Professor**

## HONORS

## SUPERVISION OF GRADUATE STUDENTS

Member for the evaluation and defence of a few magistrate and PhD thesis.

## INVITED TALKS AND ORAL PRESENTATIONS

Invited talks and oral presentations at more than twenty international conferences.

## COLLABORATIVE PROJECTS

1. Bilateral Cooperation Project with Slovenia: Material Modification of Nano-Secondary Laser Pulses, (2004-2005)
  2. COST action P 14: Laser-matter interaction with ultra-short pulse high frequency pulses and ultra-intense pulses ULTRA (2005-2008)
  3. The project of bilateral cooperation with Slovenia: Modification of thin layers at the micro and nanometer level (2006-2007)
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4. Bilateral cooperation project with Slovenia: Changes in thin layer properties based on tungsten and titanium caused by classical thermal and laser activity (2008).
5. Bilateral Cooperation Project with Croatia: Synthesis and modification of nanotubes based on titanium ion and laser beam (2011-2012)
6. Bilateral cooperation project with Belarus: Surface nanostructured modification of metals and coatings in volatile impulse laser operation (2011-2012)
7. EU FP7 "Support of Public and Industrial Research Using Ion Beam Technology (SPIRIT)", Pr.No. 227012.
8. COST action CM 1104: Reducible oxide chemistry, structure and functions (2012 - 2016)
9. COST action MP 1203: Advanced X-ray spatial and temporal metrology (2013-2017)
10. COST Action MP1208: Developing the Physics and the Scientific Community for Inertial Confinement Fusion at the time of NIF ignition (2013-2017)
11. COST Action CA17126: Towards the understanding and modeling of intense electronic excitation (2018-2022)

#### **NUMBER OF PUBLICATIONS & CITATIONS**

- 102 publications in peer reviewed journals
- Citations 871, (h-index 17, i10-index 28)

#### **LIST OF SELECTED PAPERS**

1. S. Petrović, B. Gaković, P. Panjan, J. Kovač, V. Lazović, C. Ristoscu, I. Negut, I.N. Mihailescu  
Oxidation behaviour of composite CrN/(Cr,V)N coatings with different contents of vanadium induced by UV nanosecond laser pulses  
Optical and Quantum Electronics, 50(5) (2018) 208
  2. S. I. Kudryashov, B. Gakovic, P. A. Danilov, S. M. Petrovic, D. Milovanovic, A. A. Rudenko, and A. A. Ionin  
Single-shot selective femtosecond laser ablation of multi-layered Ti/Al and Ni/Ti films: "Cascaded" heat conduction and interfacial thermal effects  
Applied Physics Letters 112, 023103 (2018); <https://doi.org/10.1063/1.5010793>
  3. B. Gaković, G. D. Tsibidis, E. Skoulas, S. M. Petrović, B. Vasić, E. Stratakis  
Partial ablation of Ti/Al nano-layer thin film by single femtosecond laser pulse  
Journal of Applied Physics, 122(22) (2017)223106 DOI: 10.1063/1.5016548
  4. S.Petrović, B. Gaković, M. Zamfirescu, C. Radu, D. Peruško, B. Radak, C. Ristoscu, S. Zdravković, C. Luculescu, I.N. Mihailescu  
Femtosecond laser processing of NiPd single and 5x(Ni/Pd) multilayer thin films  
Applied Surface Science 417 (2017) 16–22, DOI: 10.1016/j.apsusc.2016.12.142
  5. B. Gaković, S. Petrović, C. Albu, M. Zamfirescu, P. Panjan, D. Milovanović, G. Popescu-Pelin, I.N. Mihailescu
-

Precise femtosecond laser crater fabrication in hard nanolayered AlTiN/TiN coating on steel substrate

Optics & Laser Technology 89 (2017) 200–207, doi.org/10.1016/j.optlastec.2016.10.015

6. A.G. Kovačević, S. Petrović, B. Bokić, B. Gaković, M.T. Bokorov, B. Vasić, R. Gajić, M. Trtica, B.M. Jelenković

Surface nanopatterning of Al/Ti multilayer thin films and Al single layer by a low-fluence UV femtosecond laser beam

Applied Surface Science, 326 (2015) 91–98

7. B. Gaković, S. M. Petrovic, A. Krmpot, D. Pantelić, B. Jelenković, E. Stratakis, C. Fotakis,

Low and high repetition frequency femtosecond lasers processing of tungsten-based thin film, Laser and Particle Beams, Vol. 32 (2014) 613–619

8. Suzana M. Petrovic, B. Gaković, D. Perusko, E. Stratakis, I. Bogdanovic-Radovic, M. Cekada, C. Fotakis, and B. Jelenkovic,

Femtosecond laser-induced periodic surface structure on the Ti-based nano layered thin films

Journal of Applied Physics, 114 (2013) 233108

9. Gakovic B, Radak B, Radu C, Zamfirescu M, Trtica M, Petrovic S, Stasic J, Panjan P, Mihailescu I N

Selective single pulse femtosecond laser removal of alumina (Al<sub>2</sub>O<sub>3</sub>) from a bilayered Al<sub>2</sub>O<sub>3</sub>/TiAlN/steel coating

Surface Coatings and Technology, Vol.206 (2012) 5080-5084

10. Gakovic Biljana M, Radu C, Zamfirescu M, Radak Bojan B, Trtica Milan, S Petrovic Suzana M, Panjan P, Zupanic F, Ristoscu C, Mihailescu IN

Femtosecond laser modification of multilayered TiAlN/TiN coating

Surface Coatings and Technology, Vol.206 (2011) 411-416

11. Milan Trtica, Biljana Gakovic, Dimitri Batani, Tara Desai, Peter Panjan, Bojan Radak  
Surface modifications of a titanium implant by a picosecond nd:yag laser operating at

1064 and 532 nm

Applied Surface Science, Vol. 253 (2006) 2551-2556

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