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Academic degrees:

1998	MS (Physics)	Sofia University, Physical department, Laser physics
2005	PhD (Physics)	Institute of Electronics, Bulgarian Academy of Sciences
2013	DSc (Physics)	Institute of Electronics, Bulgarian Academy of Sciences

Current Appointment:

Professor, Leader of laboratory “Micro- and nanophotonics”, Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria

Previous employments:

1998 – 2003 Physicist, Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria.

2003 – 2007 Research Associate, Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria.

2007 – 2015 Associate Professor, Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria.

2015 – present Professor, Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria.

Principal areas of research:

Interaction of ultrashort pulsed laser radiation with matter, laser technologies, modeling of interaction of laser radiation with matter, plasmonics, nanostructuring, metal nanoparticles

Specializations:

2002 two months in Institute of High Power Radiation, Stuttgart University, Stuttgart, Germany

2005-2007 two years JSPS fellowship at Department of Electronics and Electrical Engineering, Keio University, Japan

2008-2009 6 months at Department of Electronics and Electrical Engineering, Keio University, Japan

2015 – 2016 10 months at Department of Electronics and Electrical Engineering, Keio University, Japan

List of publications

Books

Н. Недялков, „Оптични свойства на наночастици от благородни метали”, Акад. Издателство „М. Дринов”, София, 2014, ISBN 978-954-322-769-3, електронно издание (<http://www.baspress.com/book.php?l=b&id=1123>) (in Bulgarian)

Book chapters

1. Plasmonic Nanopatterning of the Material Surface Mediated with Gold Nanoparticles Obara, Nikolay Nedyalkov and Peter Atansov in **Gold Nanoparticles: Properties, Characterization and Fabrication**, NOVA Publishing P.E. Chow- Ed. 2010

Journal papers

1. Atanasov P.A., Eugenieva E.D., Nedialkov N.N., "Laser drilling of silicon nitride and alumina ceramics: numerical and experimental study", *J. Appl. Phys.*, 89, 4, 2013-2016 (2001).
2. Atanasov P.A., Nedialkov N.N., Imamova S.E., Ruf A., Hugel H., Dausinger F., Berger P., "Laser ablation of Ni by ultrashort pulses: molecular dynamics simulation", *Appl. Surf. Sci.*, 186/1-4, 369-373 (2002).
3. Nedialkov N.N., Imamova S.E., Atanasov P.A., Heusel G., Breitling D., Ruf A., Hugel H., Dausinger F., Berger P., "Laser ablation of iron by ultrashort pulses", *Thin Solid Films*, 453/454, 496-500 (2004).
4. Nedialkov N.N., Imamova S.E., Atanasov P.A., "Ablation of metals by ultrashort laser pulses", *J. Phys. D: Appl. Phys.*, 37, 638-643 (2004).
5. Nedialkov N.N., Atanasov P.A., Imamova S.E., Ruf A., Berger P., Dausinger F., "Dynamics of the ejected material in ultrashort laser ablation of metals", *Appl. Phys. A: Mater. Sci. & Proces.*, 79, 4-6, 1121-1125 (2004).
6. Imamova S.E., Atanasov P.A., Nedialkov N.N., "Molecular dynamics simulation using pair and many body interatomic potentials: ultrashort laser ablation of Fe", *Nucl. Instr. Meth. Phys. Res. B*, 227, 4, 490-498 (2004).
7. Nedialkov N.N., Imamova S.E., Atanasov P.A., Berger P., Dausinger F., "Mechanism of ultrashort laser ablation of metals: molecular dynamics simulation", *Appl. Surf. Sci.*, 247, 1-4, 243-248 (2005).
8. Amoruso S., Bruzzese R., Vitiello M., Nedialkov N.N., Atanasov P.A., "Experimental and theoretical investigation of femtosecond laser ablation of Al in vacuum", *J. Appl. Phys.*, 98 (4) 1-7 (2005).
9. Nedialkov N.N., Atanasov P.A., "Molecular dynamics simulation study of deep hole drilling in iron by ultrashort laser pulses", *Appl. Surf. Sci.*, 252, 4411-4415 (2006).
10. Hirayama Y., Atanasov P.A., Obara M., Nedialkov N.N., Imamova S.E., "Femtosecond laser ablation of crystalline iron: experimental investigation and molecular dynamics simulation", *Japan. J. Appl. Phys.*, 45 (2A), 792-797 (2006).
11. Nedyalkov N.N., Sakai T., Miyanishi T., Obara M., "Near field properties in the vicinity of gold nanoparticles placed on various substrates for precise nanostructuring", *J. Phys. D: Appl. Phys.*, 39, 5037-5042 (2006).
12. Nedyalkov N.N., Takada H., Obara M., "Nanostructuring of silicon surface by femtosecond laser pulse mediated with enhanced near-field of gold nanoparticles", *Appl. Phys. A*, 85, 163-168 (2006).
13. Amoruso S., Bruzzese R., Wang X., Nedialkov N.N., Atanasov P.A., "Femtosecond laser ablation of nickel in vacuum", *J. Phys. D: Appl. Phys.*, 40, 331-340 (2007).
14. Atanasov P.A., Takada H., Nedyalkov N.N., Obara M., "Nanohole processing on silicon substrate by femtosecond laser pulse with localized surface plasmon polariton", *Appl. Surf. Sci.*, 253, 8304 (2007).
15. Nedialkov N.N., Atanasov P.A., Amoruso S., Bruzzese R., Wang X., "Laser ablation of metals by femtosecond pulses: theoretical and experimental study", *Appl. Surf. Sci.*, 253, 7761 (2007).

16. Nedyalkov N., Miyanishi T., Obara M., “Enhanced near field mediated nanohole fabrication on silicon substrate by femtosecond laser pulse”, *Appl. Surf. Sci.* 253, 6558 (2007).
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19. Sakai T., Nedyalkov N., Obara M. “Positive and negative nanohole-fabrication on glass surface by femtosecond laser with template of polystyrene particle array”, *J. Phys. D: Appl. Phys.*, 40, 2102-2107 (2007).
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22. Sakai T., Nedyalkov N., Obara M., “Friction characteristics of submicrometer-structured surfaces fabricated by particle-assisted near-field enhancement with femtosecond laser”, *J. Phys. D*, 40, 7485-7491 (2007).
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