

**ЕВРОПЕЙСКИ
ФОРМАТ НА
АВТОБИОГРАФИЯ**



Лична информация

Име
Адрес
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БЕРБЕРОВА- БУХОВА, НАТАЛИЯ ДИМИТРОВА
АП.13, ВХ. А, БЛ. 19, ЖК. ДИАНАБАД, ПК 1172, СОФИЯ, БЪЛГАРИЯ
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Националност
Дата на раждане

българка
23 юли 1985г

Трудов стаж

- Дати (от-до)
- Име и адрес на работодателя
- Заемана длъжност
- Вид на дейността или сферата на работа

От 01.11.2010г. досега
Институт по оптични материали и технологии, Българска Академия на Науките-
София, България
Асистент-физик, редовен докторант
Група „Холография и оптична метрология”

- Дати (от-до)
- Име и адрес на работодателя
- Заемана длъжност

От 01.08.2009г.-01.11.2009г
ЕТ”Катя 56- Д. Берберов”, село Костенец
Консултант- продавач

**ОБРАЗОВАНИЕ И
ОБУЧЕНИЕ**

- Дати (от-до)
- Име и вид на обучаващата или образователната организация
- Основни предмети/застъпени професионални умения
- Наименование на придобитата квалификация
- Дати (от-до)
- Име и вид на обучаващата или образователната организация
- Основни предмети/застъпени професионални умения

От 01.2012г. до 03.2015г (защита 22.07.2016г.)
Институт по оптически материали и технологии, Българска Академия на Науките- София, България
„Кохерентна оптична метрология: методи и реализация с пространствен светлинен модулатор ”
доктор
2009г.-2011г.
Софийски Университет „Св. Климент Охридски”, София, България
„Квантова електроника и лазерна техника”

• Наименование на придобитата квалификация	магистър
• Дати (от-до)	2009г.-2011г.
• Име и вид на обучаващата или образователната организация	Софийски Университет „Св. Климент Охридски”, София, България
• Основни предмети/застъпени професионални умения	Безжични мрежи и устройства
• Наименование на придобитата квалификация	магистър
• Дати (от-до)	2005г. -2009г.
• Име и вид на обучаващата или образователната организация	Софийски Университет „Св. Климент Охридски”, София, България
• Основни предмети/застъпени професионални умения	Инженерна физика
• Наименование на придобитата квалификация	бакалавър
• Дати (от-до)	2000г. -2005г.
• Име и вид на обучаващата или образователната организация	Национална професионална гимназия по прецизна техника и оптика „М. В. Ломоносов”, София, България
• Основни предмети/застъпени професионални умения	Лазерна техника

Лични умения и компетенции

МАЙЧИН ЕЗИК

български

ДРУГИ ЕЗИЦИ

Английски език

• Четене	ОТЛИЧНО
• Писане	ДОБРО
• Разговор	ДОБРО

Немски език

• Четене	НАЧАЛНО
• Писане	НАЧАЛНО
• Разговор	НАЧАЛНО

Руски език

• Четене	НАЧАЛНО
• Писане	НАЧАЛНО
• Разговор	НАЧАЛНО

ТЕХНИЧЕСКИ УМЕНИЯ И КОМПЕТЕНЦИИ

MICROSOFT OFFICE, PROTEL, ORIGIN, SNLO, MATLAB, COREL DRAW, INTERNET

• ПРОФЕСИОНАЛНИ И
НАУЧНИ НАГРАДИ

Photonica Best Poster Prize –трето място - V International School and Conference on Photonics – Photonica 2015, 24 – 28 август 2015, Белград, Сърбия;

Награда за най-добра статия на International Conference on Digital Presentation and Preservation of Cultural and Scientific Heritage—DiPP2014, 18-21 септември 2014, Велико Търново, България;

Проект No. BG051PO001/3.3-05-0001, “Наука и бизнес” по оперативна програма „Развитие на човешките ресурси“ към МОН – едномесечно обучение в Корейския технологичен институт по електроника-Сеул, Южна Корея;

• МЕЖДУНАРОДНИ
СПЕЦИАЛИЗАЦИИ
(държава, година, период)

- Сеул, Южна Корея, Корейски технологичен институт по електроника, 1 месец, 2013;
- Тампере, Финландия, Катедра по обработка на сигнали, Технологичен университет в Тампере, 2 месеца, 2014;
- Хсинчу, Тайван, Национален Чиао Тунг Университет, 2 месеца, 2015;

ПРЕЗЕНТАЦИИ НА МЕЖДУНАРОДНИ КОНФЕРЕНЦИИ

Устни презентации:

1. “Organic - inorganic hybrid device graphene - based electrodes for optoelectronic applications”, ICONMO 3- International Conference on Oxide and Non-oxide materials for optoelectronics and energy applications, 2.12.2015, Borovetz, Bulgaria;
2. “Digital Holographic Printing Methods for 3D Visualization of Cultural Heritage Artifacts”, IV-th Intl. Conf. on Digital Presentation and Preservation of Cultural and Scientific Heritage, 18-21 Sept. 2014, Veliko Tarnovo, Bulgaria;
3. “Digital Image Denoising by Adaptive Median Filtering and Wavelet Transform”, IV-th Intl. Conf. on Digital Presentation and Preservation of Cultural and Scientific Heritage, 18-21 Sept. 2014, Veliko Tarnovo, Bulgaria;

Постери:

1. “Digital image processing: denoising by adaptive median filtering and wavelet transform”, Scientific Session “Advance materials and technologies”, 10-11.10.2016, Sofia, Bulgaria;
2. “Phase recovery from fringe patterns with global carriers: approach based on Hilbert transform and wavelet de-noising techniques”, Scientific Session “Advance materials and technologies”, 10-11.10.2016, Sofia, Bulgaria;
3. “Multiple cycles of recording/reading/erasing birefringence in azopolymers”, Scientific Session “Advance materials and technologies”, 10-11.10.2016, Sofia, Bulgaria;
4. “Monitoring of a drying process in azopolymer water solution by dynamic speckle detection”, Scientific Session “Advance materials and technologies”, 10-11.10.2016, Sofia, Bulgaria;
5. „Three-dimensional imaging of cultural heritage artifacts with holographic printers“, International conference and school on Quantum Electronics “Laser Physics and Applications”, 26-30 Sept. 2016, Sozopol, Bulgaria;
6. „Dynamic laser speckle metrology with binarization of speckle patterns“, International conference and school on Quantum Electronics “Laser Physics and Applications”, 26-30 Sept. 2016, Sozopol, Bulgaria;
7. „Laser induced optically and thermally reversible birefringens in azopolimers“, International conference and school on Quantum Electronics “Laser Physics and Applications”, 26-30 Sept. 2016, Sozopol, Bulgaria;
8. „Time dependent spectral birefringence excited with laser light in azopolymers and azopolymers dopet with ZnO“, International conference and school on Quantum Electronics “Laser Physics and Applications”,

26-30 Sept. 2016, Sozopol, Bulgaria;

9. "Enhanced photoanisotropic response in azopolymer doped with elongated goethite nanoparticles", 19th International Summer School on Vacuum, Electron and Ion Technology, 21-25 Sept. 2015, Sozopol, Bulgaria;
10. "Photoinduced variation of the Stokes parameters of light passing through thin films of azopolymer based hybrid organic/inorganic materials", 21-25 Sept. 2015, Sozopol, Bulgaria;
11. "Optically addressed spatial light modulator assembled by organic – inorganic hybrid structure", Photonica 2015 – V International School and Conference on Photonics, Belgrade, Serbia, 24-28 August 2015;
12. "Dynamic laser speckle measurement with enhance visualization of activity map", Eighteenth International School on Quantum Electronics: "Laser Physics and Applications", 29 Sept. – 3 Oct. 2014, Sozopol, Bulgaria;
13. "Birefringence induces in azopolymer (PAZO) films with different thickness", Eighteenth International School on Quantum Electronics: "Laser Physics and Applications", 29 Sept. – 3 Oct. 2014, Sozopol, Bulgaria;
14. "SLM-based optical simulator for dynamic speckle analysis", Second International Conference on Applications of Optics and Photonics, Aveiro, Portugal, May 26-30, 2014;
15. "Dynamic speckle technique as a leaf contamination sensor", Jubilee Scientific Session Interdisciplinary Chemistry", 17-18 Oct. 2013, Bankya, Bulgaria;
16. "SLM- based fringe projection under coherent illumination," Fringe 2013, 8-12 Sept.2013, Nurtigen, Germany;
17. "Speckle suppression in pattern projection profilometry with a thin sinusoidal grating by polychromatic illumination", 17th Intl. School on Quantum Electronics: Laser Physics and Applications, 24 – 28 Sept. 2012, Nessebar, Bulgaria;
18. "Influence of the size of nanoparticles doped in series of azopolymers of the photoinduced birefringence", 17th International School on Quantum Electronics: Laser Physics and Applications, 24 – 28 Sept. 2012, Nessebar, Bulgaria;
19. "Generation of sinusoidal fringes with a holographic phase grating and a phase – only spatial light modulator", Photonica 2011- III International School and Conference on Photonics, Belgrade, Serbia , 2011;

Проекти

1. "Перперикон - дом на богове и хора" (Запис на отражателни обемни холограми за Регионален Исторически музей в Кърджали, България), (2013);
2. "Methods for recording reflection volume holograms of metal and clay artefacts from the fortress of Tsar Samuil" за Регионален музей в Петрич, България, (2014);
3. "Novel hybrid structures based on photorefractive crystal-liquid crystal and graphene", FNI T0/26, (2014 – 2016), project leader: Assos. Prof. Vera Gospodinova;

Изложби:

1. Холографска изложба в Регионален музей – Добрич (2016);
2. Холографска изложба за годишна среща на общините в Република България, Национален дворец на културата, София, България, (2014);
3. Холографска изложба за годишна среща на общините в Република България, курорт Албена, България (2013);
4. Постоянна холографска изложба в Регионален исторически музей, гр. Кърджали, България, 2014;
5. Холографска изложба в музей „Възраждане и учредително събрание“, Велико Търново, България, (2014);

Организационен комитет:

1. Секретар на Юбилейна Научна сесия "Perspective materials and technologies", 10-11 Окт. 2016, София, България

2. Секретар на Юбилейна Научна сесия “Interdisciplinary Chemistry”, 17-18 Окт. 2013, Банкя, България;
3. Секретар на Пролетния семинар на докторантите и младите учени “Интердисциплинарна химия”;

ПУБЛИКАЦИИ

Scientific journals

1. N. **Berberova**, D. Daskalova, V. Strijkova, D. Kostadinova, D. Nazarova, L. Nedelchev, E. Stoykova, V. Marinova, C.H. Chi, S.H. Lin, “Polarization holographic recording in thin films of pure azopolymer and azopolymer based hybrid materials”, **Optical Materials**, 64, 212-216, **2017**;
2. Elena Stoykova, Dimana Nazarova, **Nataliya Berberova**, Atanas Gotchev, Branimir Ivanov, Georgy Mateev, “Dynamic laser speckle metrology with binarization of speckle patterns”, **Proc. of SPIE**, 10226,102260R, **2017**;
3. D. Nazarova, L. Nedelchev, D. Ivanov, B. Blagoeva, **N. Berberova**, E. Stoykova, G. Mateev, D. Kostadinova, “Laser induced optically and thermally reversible birefringence in azopolymers”, **Proc. of SPIE**, 10226, 1022608, **2017**;
4. L. Nedelchev, D. Nazarova, B. Blagoeva, D. Ivanov, D. Daskalova, **N. Berberova**, G. Mateev, D. Kostadinova, “Time dependent spectral birefringence excited with laser light in azopolymers and azopolymers doped with ZnO”, **Proc. of SPIE**, 10226, 1022606, **2017**;
5. Hoonjong Kang, Elena Stoykova, **Nataliya Berberova**, Jiyong Park, Dimana Nazarova, Joo Sup Park, Youngmin Kim, Branimir Ivanov, Nikola Malinowski, “Three-dimensional imaging of cultural heritage artifacts with holographic printers”, **Proc. of SPIE**, 10226, 102261I, **2017**;
6. D. Nazarova, E. Stoykova, L. Nedelchev, B. Ivanov, N. Berberova, N. Malinowski, “Monitoring of a drying process in azopolymer water solutions by dynamic speckle detection”, **Bulgarian Chemical Communications**, 48, Special Issue G, 49-52, **2016**;
7. L. Nedelchev, D. Ivanov, G. Mateev, B. Blagoeva, D. Kostadinova, **N. Berberova**, D. Nazarova, “Multiple cycles of recording/reading/erasing birefringence in azopolymers”, **Bulgarian Chemical Communications**, 48, Special Issue G, 33-36, **2016**;
8. P. Sharlandjiev, D. Nazarova, **N. Berberova**, “Digital Image processing: denoising by adaptive median filtering and wavelet transform”, **Bulgarian Chemical Communications**, 48, Special Issue G, 33-36, **2016**;
9. P. Sharlandjiev, **N. Berberova**, D. Nazarova, G. Stoilov, “Phase recovery from fringe patterns with global carriers: approach based on Hilbert transform and wavelet de-noising techniques, **Bulgarian Chemical Communications**, 48, Special Issue G, 29-32, **2016**;
10. Lian Nedelchev, Dimana Nazarova, **Nataliya Berberova**, Georgi Mateev, Desislava Kostadinova, Rosalía Mariño-Fernández, Verónica Salgueiriño and David Schmool, “Enhanced photoanisotropic response in azopolymer doped with elongated goethite nanoparticles”, **Journal of Physics: Conference Series (JPCS)** 700 (1), 012031, **2016**;
11. **Nataliya Berberova**, Dimana Nazarova, Lian Nedelchev, Blaga Blagoeva, Desislava Kostadinova, Vera Marinova, Elena Stoykova, “Photoinduced variation of the Stokes parameters of light passing through thin films of azopolymer based hybrid organic/inorganic materials”, **Journal of Physics: Conference Series (JPCS)**, 700, 012032, **2016**;
12. V. Marinova, C. H. Chi, Z. F. Tong, **N. Berberova**, R. C. Liu, S. H. Lin, Y. H. Lin, E. Stoykova and K. Y. Hsu, “Liquid crystal light valve operating at near infrared spectral range”, **Optical and Quantum Electronics (Springer)**, 48 (4), 1-6, **2016**;
13. E. Stoykova, N. Berberova, D. Nazarova, A. Gotchev, “Intensity-based pointwise processing in dynamic laser speckle analysis”, **IEEE 11th conference Lasers and Electro-Optics Pasific Rim (CLEO-PR)**, 2, 1-2, **2015**;
14. Elena Stoykova, Dimana Nazarova, **Natalia Berberova**, Atanas Gotchev, “Performance of intensity – based non- normalized pointwise algorithms in dynamic speckle analysis”, **Optics Express** 23 (19):25128-25142, doi: 10.1364/OE.23.025128, **2015**;
15. Elena Stoykova, **Natalia Berberova**, T. Nikova, “Dynamic laser speckle measurement with enhanced visualization of activity map”, *Proc. SPIE*, *Proc. SPIE* 9447, doi:10.1117/12.2176147, **2015**;
16. Lian Nedelchev, Dimana Nazarova, Georgi Mateev, **Nataliya Berberova**, “Birefringence induced in azopolymer (PAZO) films with different thickness”, *Proc. SPIE* 9447, 18th International School on Quantum Electronics: Laser Physics and Applications, 94471I; doi:10.1117/12.2176158, **2015**;

17. **N.Berberova**, E.Stoykova, B. Ivanov, "SLM-based optical simulator for dynamic speckle analysis", **Proc. SPIE** 9286, Second International Conference on Applications of Optics and Photonics, 928654, doi:10.1117/12.2063631, **2014**;
18. **N.Berberova**, E. Stoykova, H. Kang, J. S. Park, B. Ivanov, "SLM- based sinusoidal fringe projection under coherent illumination", **Optics Commun.** 304, 116- 122, ISSN: 0030-4018, **2013**;
19. B. Ivanov, E. Stoykova, **N. Berberova**, T. Nikova, E. Krumov, N. Malinowski, " Dynamic speckle technique as a leaf contamination sensor," **Bulg. Chem.Comm.** 45, Special Issue B (pp. 149-153), **2013**;
20. E. Stoykova, **N. Berberova**, J.S. Park, H. Kang, V. Sainov, "Pattern projection profilometry with sinusoidal gratings under coherent illumination", **3D Research Springer** 04 (01) 5, ISSN: 2092-6731, **2013**;
21. **N. Berberova**, E. Stoykova, J.S. Park, H. Kang, V. Sainov, "Speckle suppression in pattern projection profilometry with a thin sinusoidal grating by polychromatic illumination", **Proc. SPIE** 8770, 17th Intl. School on Quantum Electronics: Laser Physics and Applications, 87700R (March 15, **2013**); doi: 10.1117/12.2013646;
22. D. Nazarova, L. Nedelchev, V.Dragostinova, **N. Berberova**, " Influence of the size of nanoparticles doped in series of azopolymers of the photoinduced birefringence", **Proc. SPIE** 8770, 17th International School on Quantum Electronics: Laser Physics and Applications, 877009 (March 15, **2013**); doi: 10.1117/12.2013646;
23. **N.Berberova**, E. Stoykova and V. Sainov, "Generation of sinusoidal fringes with a holographic phase grating and a phase-only spatial light modulator", **Phys. Scr.** T149, 014020 (4pp), IOP publishing: doi:10.1088/0031-8949/2012/T149/014020, **2012**;

Статии от конференции

24. E.Stoykova, B. Ivanov, **N. Berberova**, T. Nikova, "Pointwise implementation of dynamic speckle metrology", Proc. of Optical Society of Korea Summer annual meeting 2014,M1D-III2, 109-110 (**2014**);
25. H. Kang, E. Stoykova, **N. Berberova**, J.Park, S. Hong, Y.Kim, J.-S. Park, B. Ivanov, D. Nazarova, N. Malinowski, "Digital Holographic Printing Methods for 3D Visualization of Cultural Heritage Artifacts", R. Pavlov and P.Stanchev (Eds.), Digital Presentation and Preservation of Cultural and Scientific Heritage International Conference,Proceedings vol. 4. 69-78, (**2014**); ISSN:1314-4006 (Print);
26. P.Sharlandjiev, D. Nazarova, **N. Berberova**, "Digital Image Denoising by Adaptive Median Filtering and Wavelet Transform", R. Pavlov and P.Stanchev (Eds.), Digital Presentation and Preservation of Cultural and Scientific Heritage International Conference,Proceedings vol. 4. 213-217, (**2014**); ISSN:1314-4006 (Print);
27. E. Stoykova, H. Kang, **N. Berberova**, B. Ivanov, and S. Woo, "Using LED Illumination in Fringe Projection Profilometry with a Sinusoidal Phase Grating", W. Osten(ed.), Fringe 2013, 835-838, (Springer **2013**), SBN: 978-3-642-36358-0 (Print), 978-3-642-36359-7 (Online);
28. **N.Berberova**, E. Stoykova, H.Kang, J.-S. Park, B. Ivanov, "SLM- based fringe projection under coherent illumination," W. Osten (ed.), Fringe **2013**, 883-886, (Springer 2013), SBN: 978-3-642-36358-0 (Print), 978-3-642-36359-7 (Online);
29. E. Stoykova, **N. Berberova**, H. Kang, and V. Sainov, "Sinusoidal Phase Grating as a Diffractive Optical Element for Profilometry," in Digital Holography and Three-Dimensional Imaging, OSA Technical Digest (online) (Optical Society of America, **2013**), paper DW3A.2.;
30. E. Stoykova, A. Baldjiev, B. Ivanov, **N. Berberova**, V. Sainov, „Holographic and optical elements for shape and displacement measurement", Proc. of Optical Society of Korea Winter annual meeting 2012, T2C-III1 (invited lecture), 133-134 (**2012**);
31. E. Stoykova, **N. Berberova**, S.S. Woo, H. Kang, V. Sainov, „SLM-based phase-measuring profilometry under coherent illumination", Proc. of Optical Society of Korea Summer annual meeting 2012, T2C-III2, 285-286 (**2012**);