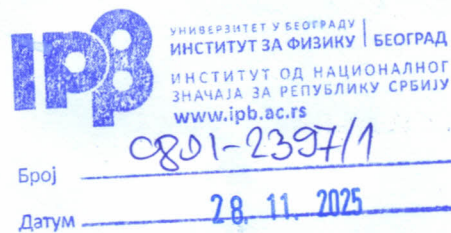


Научном већу Института за физику у Београду

Београд, 28. новембар 2025.



ПРЕДМЕТ: Молба за покретање поступка за избор звања научни саветник

Молим Научно веће Института за физику у Београду да у складу са Правилником о стицању истраживачких и научних звања ("Службени Гласник Републике Србије", бр. 80/2024) који се примењује од 01. јуна 2025., покрене поступак за мој избор у звање научни саветник.

У прилогу достављам:

1. Мишљење руководиоца Центра за фотонику са предлогом чланова комисије
2. Стручну биографију
3. Преглед научне активности
4. Приказ елемента за квалитативну оцену научног доприноса
5. Приказ елемента за квантитативну оцену научног доприноса
6. Списак објављених радова
7. Податке о цитираности
8. Копију решења о претходном избору у звање
9. Додатне прилоге

С поштовањем,

Јелена Савић-Шевић
др Светлана Савић-Шевић
виши научни сарадник
Институт за физику у Београду

Научном већу Института за физику у Београду



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Број

0801-2394/2

Датум

20. 11. 2025

ПРЕДМЕТ: Мишљење руководиоца Центра за Фотонику о избору др Светлане Савић-Шевић у звање научни саветник

Др Светлана Савић-Шевић је запослена у Центру за фотонику, Лабораторија за биофотонику, у Институту за физику у Београду од априла 1994. године. У истраживачком раду бави се израдом и истраживањем нових биополимерних материјала, холографским генерисањем комплексних фотонских наноструктура, њиховом структурном и оптичком анализом, и применом у области сензора, оптичке заштите докумената. Њена област интересовања је и биофизика где се истраживање може се поделити у два правца, 1) примена како класичне, тако и дигиталне холографске интерферометрије у испитивању полимеризације и деформације зубних ткива и 2) проучавање структурних и оптичких особина инсеката (са структуром природног фотонског кристала) као и њиховом биомиметиком.

С обзиром да испуњава све услове предвиђене Правилником о стицању истраживачких и научних звања Министарства науке, технолошког развоја и иновација (Службени Гласник Републике Србије бр. 80/2024) који се примењује од 01. јуна 2025., сагласан сам са покретањем поступка за избор др Светлане Савић-Шевић у звање научни саветник.

За састав комисије за избор др Светлане Савић-Шевић у звање научни саветник предлагам:

1. академик Бранислав Јеленковић, научни саветник, Институт за физику у Београду
2. др Душан Арсеновић, научни саветник, Институт за Физику у Београду
3. др Сузана Петровић, научни саветник, Институт за нуклеарне науке Винча

Руководилац Центра за фотонику

др Душан Арсеновић
научни саветник

[illegible]

2. ПРЕГЛЕД НАУЧНЕ АКТИВНОСТИ

1. Ընդհանրապես զբաղվելով տեղի և Երևանի օթերի տարածման հարցով՝ Դավիթ Բեկյանը հայտարարեց, որ Երևանի օթերի տարածման հարցում քաղաքի քաղաքապետարանը պետք է օգտագործի իր օրինական իրավունքները՝ օգնելով քաղաքի օթերի տարածմանը:

[illegible][illegible][illegible]

3. ПРИКАЗ НАЈЗНАЧАЈНИЈИХ РЕЗУЛТАТА

1. E. Novta, D. Pantelic, L. Blazic, E. Toth, Z. Cvejic, D. Grujic, **S. Savic-Sevic**, T. Lainovic, *Impact of optical fiber-based photo-activation on dental composite polymerization* Journal of dentistry, 145, 104998, 13 pages (2024)
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M21a+

[illegible]

DOI: 10.1039/d1sm00157d

2. Pajić T., Stevanović K., Todorović N. V., Krmpot A. J., Ćirić M., **Savić-Šević S.**, Lević S. M., Stanić M., Pantelić D., Jelenković B., Rabasović M. D.,

In vivo femtosecond laser nanosurgery of the cell wall enabling patch-clamp measurements on filamentous fungi,

JO - Microsystems & Nanoengineering, 10:47, 17 pages (2024)

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1. M. Lezaja Zebic, B. Muric, **S. Savic-Sevic**, B. Dzeletovic, Dj. Stratimirovic, D. Pantelic, *Real-time multispectral transmission of hard tooth tissues and dental composites with their heating,* Dental Materials, 39, 903-912 (2023)

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Радови у међународним часописима изузетних вредности (M21a) (12 поена)

5. Murić, B. D.; Pantelić, D.V.; Radmilović, M.D.; **Savić-Šević, S.N.**; Vasović, V.O.

Characterization and Optimization of Real-Time Photoresponsive Gelatin for Direct Laser Writing, Polymers, 14, 2350, 14 pages (2022)

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4. **S. Savić-Šević**, D. Pantelić, B. Murić, D. Grujić, D. Vasiljević, B. Kolaric, B. Jelenković;

Thermo-osmotic metamaterials with large negative thermal expansion,

J. Mater. Chem. C, 9, 8163-8168 (2021)

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3 **S. Savić-Šević**, D. Pantelić, B. Jelenković, B. Salatić, D. V. Stojanović,

Golden moth-inspired structures with a synergistic effect of interference, absorption and scattering

Soft Matter, 14, 5595-5603 (2018)

DOI: 10.1039/c8sm00683k

2. D. Pantelić, **S. Savić-Šević**, D. V. Stojanović, S. Ćurlić, A. J. Krmpot, J. Rabasović, D. Pavlović, V. Lazović, V. Milošević,

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13. Rabasovic M. S, **Savic-Sevic S.**, Križan J., Matovic B., Nikolic M., Sevic D.,

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11. **Savić-Šević S.**, Jelenković B.,
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Optical and Quantum Electronics 54, (2022)
DOI:10.1007/s11082-022-03958-4
10. Sevic, D., Rabasovic, M.S., Križan, J., **S. Savić-Sevic**, B. P. Marinkovic, M. G. Nikolic,
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9. D. Pavlović, S. Savić-Čević, B. Salatić, V. Lazović, W. Zhang, D. Zhang, D. Pantelić,
Synergy of interference, scattering and pigmentation for structural coloration of Jordanita globulariae moth,
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7. D. Čević, M. S. Rabasović, J. Krizan, **S Savić-Šević**, M. G. Nikolić, B. P. Marinković, M. D. Rabasović,
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4. B. Murić, D. Pantelić, D. Vasiljević, **S. Savić-Šević**, B. Jelenković,
Application of tot'hema eosin sensitized gelatin as a potential eye protection filter against direct laser radiation,
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3. M.S. Rabasović, D. Čević, J. Križan, M.D. Rabasović, **S. Savić-Šević**, M. Mitrić, M. Petrović, M. Gilić, N. Romčević,
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Femtosecond laser induced periodic surface structures on multi-layer grapheme,
Journal of Applied Physics 116, 204306 (2014)
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11. D. Ćević, M. S. Rabasović, J. Križan, **S. Savić-Šević**, M. D. Rabasović, B. Marinković, M. Nikolić,
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10. **S. Savić-Šević**, D. Pantelić, V. Damjanović, B. Jelenković;
Bifurcation in reflection spectra of holographic diffraction grating recorded on dicromated pullulan,
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9.M. S. Rabasović, J. Križan, **S. Savić-Šević**, M. Mitrić, M. D. Rabasović, B. Marinković and D. Ćević,
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Luminescence thermometry using Gd₂Zr₂O₇:Eu³⁺,
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7. M. Gilic, M. Petrovic, J. Cirkovic, N. Paunovic, **S. Savic-Sevic**, G. Nikitovic, M. Romcevic, I. Yahia, N. Romcevic,
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Far-infrared spectra of dysprosium doped yttrium aluminum garnet nanopowder,
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4. D. Pantelić, **S. Savić-Šević**, D. Grujić,
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3. D. Pantelić, D. Vasiljević, L. Blažić, **S. Savić-Šević**, B. Murić, M. Nikolić,
Biomechanical model produced from light-activated dental composite resins: a holographic analysis,
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Радови у међународним часописима (M23) (3 поена)

4. D. Ćević, **S. Savić-Šević**, D. Pantelić, B. Marinković,
Application of Fourier Pade Approximation in Analysis of Holographic Diffraction Gratings,
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Радови објављени пре претходног избора у звање

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1. D. Pantelić, S. Ćurčić, S. Savić-Ćević, A. Korać, A. Kovačević, B. Ćurčić and B. Bokić,
High angular and spectral selectivity of purple emperor (Lepidoptera: Apatura iris and A. ilia) butterfly wings, Optics Express, 19, 5817 (2011)

2. D. Pantelić, L. Blažić, S. Savić-Ćević, B. Panić,
Holographic detection of a tooth structure deformation after dental filling polymerization, Journal of biomedical optics, 12, 024026 (2007)

R A :

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Real-time measurement of internal Stress of dental tissue using holography, Optics Express, 15, 6823 - 6830 (2007)

R A :

4. S. Savić-Ćević, D. Pantelić,
Relief hologram replication using a dental composite as an embossing tool, Optics Express, 13, No 7, (2005). pp. 2747-2754

5. D. Pantelić, S. Savić, D. Jakovljević,
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R A :

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R A : 2.311

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3.S. Savić-Čević, D. Pantelić,
ñDichromated pullulan diffraction gratings: influence of environmental conditions and storage time on their propertiesò

Appl. Optics, 46, 287- 291 (2007).

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4.S. Savić, D. Pantelić, D. Jakovljević,
ñReal-time and postprocessing holographic effects in dichromated pullulanò,
Appl. Optics, 41, 4484-4488 (2002)

R A : 1.515

6.3 t 0tsed z 0tsj <f d j ' z d 0ash d f d j u 0tsj f f f f d j O (f 22)

1.S. Savic-Čevic, D. Pantelic, M. Nikolic, B. Jelenkovic,
ñBand-Gap Photonic Structures in Dichromate Pullulanò
Materials and Manufacturing Processes, 24, 1127i 1129 (2009).

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R A : 0.968

6.3 t 0tsed z d j ' z d 0ash d f d j u 0tsj f f f f d j O (f 23)

1.σ. 1 z 0tsed z d j ' z d 0ash d f d j u 0tsj f f f f d j O (f 23)
ñA tsed z d j ' z d 0ash d f d j u 0tsj f f f f d j O (f 23)
Staf Ats A edok Lek. 138(1-2),19-25 (2010)

R A : 0.194

3. 1J f t l R A R u f f r t v l f t f r l R M l f v y l R M u s v i f I f (f 30)

1B tsed z d j ' z d 0ash d f d j u 0tsj f f f f d j O (f 31)

1.S. Savić-Čević, D. Pantelić, S. Curlić, B. Ćurlić, and B. Jelenković
ñBiologically Inspired Photonic Structures in Dichromated Pullulanñ,
13th International Conference on Transparent Optical Networks (ICTON), 2011, Stockholm, Tu.D2.2

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12th International Conference on Transparent Transparent Transparent Optical Networks (ICTON), Munich, 2010.We.A2.6

1B tsed z d j ' z d 0ash d f d j u 0tsj f f f f d j O (f 32)

1.D. Pantelić, S.Savić-Čević, B. Jelenković, S.Ćurlić, B.Ćurlić

ñHolografically generated photonic structures i Analogy to bioinspired structuresñ,
Second International Workshop Characterization, properties and applications of nanostructured ceramics, polymers and composites, Belgrade 2011.

2.S. Savic, Dejan Pantelic, Dragica Jakovljevic

ñDichromated pullulan: real-time effects and holographic propertiesñ
International Conference Optical Holography and its Applications, Kiev, Ukraine, 2000.

1B tsed z d j ' z d 0ash d f d j u 0tsj f f f f d j O (f 33)

5. Murić, Branka ; Savić-Čević, Svetlana ; Pantelić, Dejan; Jelenković, Branislav

Real-time photoresponsive chitosan for direct laser writing of microstructures

1 tsed z d j ' z d 0ash d f d j u 0tsj f f f f d j O (f 34)
2024, 1 z d 0ash d f d j u 0tsj f f f f d j O (f 35)
17th International Conference on Fundamental and Applied Aspects of Physical Chemistry, Physical Chemistry 2024

σ f f t j z d 0ash d f d j u 0tsj f f f f d j O (f 36)

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1. S. Savić-Sević, D. Pantelić, V. Lazović, B. Jelenković;

"Bio-inspired materials with low angle dependence structural colors";
Proc. 14th Photonics Workshop, March 14-17, 2021, Kopaonik, Book of Abstracts, Oral presentation p. 34;

2. D. Ćević, M. S. Rabasović, J. Križan, S. Savić-Ćević, M. Nikolić, B. Marinković;
"Host effects on luminescent properties of Er, Yb doped nanophosphors";
Proc. 14th Photonics Workshop, March 14-17, 2021, Kopaonik, Book of Abstracts, Oral presentation p. 24;

3. S. Savić-Ćević, D. Pantelić, B. Muric, D. Vasiljevic, B. Kolaric, Branislav Jelenković
"Negative thermal expansion in nanolayered pullulan";
Proc. 13th Photonics Workshop, Kopaonik, 8-12 March 2020, Book of Abstracts, Oral presentation p.42;

4. D. Ćević, M. S. Rabasović, J. Križan, S. Savić-Ćević, M. D. Rabasović, M. Nikolić and B. Marinković;
"Machine learning for laser induced fluorescence spectroscopy";
Proc. 13th Photonics Workshop, Kopaonik, 8-12 March 2020, Book of Abstracts, Oral presentation p. 18;

5. S. Savić-Ćević, D. Pantelić, B. Jelenković, B. Salatić, D. V. Stojanović
"Origin and biomimicry of golden color in moth";
Proc. 12th Photonics Workshop, Kopaonik, 11-14 March 2019, Book of Abstracts, Oral presentation, p. ;

6. D. Ćević, M. S. Rabasović, J. Križan, S. Savić-Ćević, M. D. Rabasović, B. Marinković, M. Nikolić;
"Effects of temperature on luminescent properties of Gd₂O₃: Er, Yb nanophosphors";
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Effects of temperature on luminescent properties of YVO₄:Eu³⁺ nanophosphor;
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8.Svetlana Savić-Ćević, Dejan Pantelić, Dušan Grujić, Branislav Jelenković Ordered multilayer structure with randomly distributed nanospheres and nanopillars, Osma radionica fotonike, Kopaonik, 8-12 marta, 2015, Zbornik apstrakata, p 23.

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10.Svetlana Savić-Ćević, Dejan Pantelić, Branislav Jelenković Hetero-strukture generisane kombinacijom holografske metode i samouredjivanja, Ćesta radionica fotonike, Kopaonik, 4-8 marta, 2013, Zbornik apstrakata, p 19.

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14. Savić-Ćević, D. Pantelić, B. Jelenković Hetero-strukture generisane kombinacijom holografske metode i samouredjivanja, Ćesta radionica fotonike, Kopaonik, 10-14 marta, 2012, Zbornik apstrakata, p7.

15. Savić-Ćević, D. Pantelić, B. Jelenković Hetero-strukture generisane kombinacijom holografske metode i samouredjivanja, Ćesta radionica fotonike, Kopaonik, 10-14 marta, 2012, Zbornik apstrakata, p7.

16. Savić-Ćević, D. Pantelić, B. Jelenković Hetero-strukture generisane kombinacijom holografske metode i samouredjivanja, Ćesta radionica fotonike, Kopaonik, 10-14 marta, 2012, Zbornik apstrakata, p7.

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18. Savić-Ćević, D. Pantelić, B. Jelenković Hetero-strukture generisane kombinacijom holografske metode i samouredjivanja, Ćesta radionica fotonike, Kopaonik, 10-14 marta, 2012, Zbornik apstrakata, p7.

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22. Savić-Ćević, D. Pantelić, B. Jelenković Hetero-strukture generisane kombinacijom holografske metode i samouredjivanja, Ćesta radionica fotonike, Kopaonik, 10-14 marta, 2012, Zbornik apstrakata, p7.

23. Savić-Ćević, D. Pantelić, B. Jelenković Hetero-strukture generisane kombinacijom holografske metode i samouredjivanja, Ćesta radionica fotonike, Kopaonik, 10-14 marta, 2012, Zbornik apstrakata, p7.

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6. КВАНТИФИКАЦИЈА НАУЧНИХ РЕЗУЛТАТА КАНДИДАТА

И тежиО теј ЛЗДСО	И теј ндсфјс теј ЛЗДСО (1 тафдсГ 2)	У љзјфОзбтас' теј ЛЗДСО (ЛзјфОзбтас' теј ЛЗДСО џтс'д'т'шдј х л дстдјтеО л)	У љзјфОзбтас' бтштсО (ЛзјфОзбтас' бтштсО дџтсдз дстдјтеО О)
ј 21О	20	3 (1)	60 (56.67)
М21О	12	5 (2)	60 (52.07)
ј 21	8	14 (6)	112 (95.43)
М22	5	12 (5)	60 (53.00)
М33	1	5 (1)	5 (4.71)
М34	0.5	23 (8)	11.5 (10.34)
М45	1.5	2 (2)	3 (2.5)
М52	1.5	2 (1)	3 (2.57)
ј 63	1	2 (1)	2 (1.56)
М64	0.5	12 (0)	6 (6)
УКУПНО		80 (27)	322.5 (284.86)

Поређење са минималним квантитативним условима за избор у тражено научно звање

Г дџј теј дзјф'Озбтас' лџтсО ЛОтсџј џсОзј тјј таф'ш ЛОд'ЛБтс л дџтс ЛОО ј: научни саветник	л јтјф'шдс	Остварени нормирани број бодова
У љзјфдс	70	284.86
ј бОј Лдј: М11+М12+ М21+М22+ј 91+ј 92+ј 93	40	257.17

УНИВЕРЗИТЕТ У НОВОМ САДУ
МЕДИЦИНСКИ ФАКУЛТЕТ НОВИ САД
НАСТАВНО-НАУЧНО ВЕЋЕ
Број: 05-14/42-2022/4 (41-2022/4-4.1)
Дана: 11. 02. 2022. године
Нови Сад

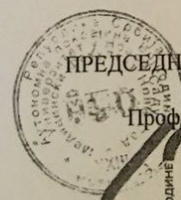
На основу члана 65. Закона о високом образовању („Сл. гласник РС“ бр. 88/2017, 27/2018-други закон, 73/2018, 67/2019, 6/2020-др. закон, 11/2021-аутентично тумачење, 67/2021 и 67/2021-др. закон), члана 20. ст. 1. *Правила докторских студија Универзитета у Новом Саду* (Сенат Универзитета, бр. 01-134/3 од 25. 02. 2021. године), члана 157. *Статута Медицинског факултета Нови Сад* бр. 02-1260 од 02. 04. 2019. године и члана 44. ст. 1 *Правилника о стицању научног назива доктора наука на Медицинском факултету Нови Сад* од 16. 07. 2021. године и 14. 09. 2021. године-пречишћен текст, на 42. електронској седници Наставно-научног већа, одржаној од 10. 02. 2022. године, од 08 часова до 11. 02. 2022. године, до 14 часова, од укупно 49 чланова са правом одлучивања, од којих је, у наведеном периоду, гласало 39 чланова а није гласало 10 чланова, са 39 гласова „за“ једногласно је донето

РЕШЕЊЕ

Констатује се да је Сенат Универзитета у Новом Саду дао сагласност **Евгенију Новти** за израду докторске дисертације под насловом: „**Утицај светлосних водича на својства полимеризационе реакције денталних композитних материјала**“.

Др Тијана Лаиновић, научни сарадник (Медицински факултет Нови Сад, Универзитет у Новом Саду) и др Светлана Савић Шевић, виши научни сарадник (Институт за физику Београд), именују се за менторе наведеном кандидату.

Доставити:
-Служби за докторске студије и специјализације
-кандидату
-менторима
-архиви



ПРЕДСЕДНИК НАСТАВНО-НАУЧНОГ ВЕЋА

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To **Svetlana Savić-Šević**

Date **2021-03-14 22:28**

Message Body

Poštovana Svetlana Savić-Šević,

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Srdačno,
Ljilja Mijatov Ukropina
Univerzitet u Novom Sadu, Medicinski fakultet, Zavod za anatomiju
ljilja.mijatov@gmail.com

Medical Review Society of Physicians of Vojvodina of the Medical Society of Serbia Vase Stajića 9 21000 Novi Sad Tel/fax: +381 21 528 767 Fax: +381 21 521 096 E-mail: dlv@neobee.net http://www.dlv.org.rs/izdavacka_medicki.html <http://aseestant.ceon.rs/index.php/medpreg>

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To **Svetlana Savic-Sevic**
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Date **2017-11-21 11:56**

Message Body

Dear Dr. Savic-Sevic,

Thank you very much for your review of manuscript

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Reply-To **Micron**

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Message Body

Manuscript Number: JMIC_2020_67R1

Comparative study of nanostructures present in the wing of various orange-coloured Nymphalid butterflies

ArRa Abhinay; Harekrushna Sahoo; Monalisa Mishra

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SPIE-The International Society for Optical Engineering Ukrainian Chapter

Second Announcement
International Conference

Optical Holography and its Applications **28 September -2 October 2000** **Kiev, Ukraine**

The Conference is organized by the Ukrainian Chapter of SPIE, Institute of Applied Optics, Institute of Semiconductor Physics and Institute of Physics of the National Academy of Sciences of Ukraine (Kiev) and under auspice of the Ministry of Education of Ukraine and National Academy of Science of Ukraine. The conference is supported by SPIE/UKRAINE and Ukrainian Physical and Optical Society. The present conference is the fourth meeting on this topic organized in Kiev. Previous meeting were held in Kiev in 1989 (The International UNESCO Seminar "Three-Dimensional Holography: Science, Culture, Education), 1997 and 1999 (International conference Optical Holography and its Applications), and their reports were published in SPIE Proceeding (volume 1238 and 3486) and Journal of Semiconductor Physics, Quantum Electronics and Optoelectronics.

Optical holography is emerging from research laboratories to find wider and more effective applications in different areas of human activity, including engineering, cultural, medical and other applications. This conference will focus on recent advances of holography especially in such areas as, holographic NDT and its practical applications, real-time holography and non-linear recording materials for that.

The topics of particular interest include:

- fundamental properties of 3-D holography
- holographic recording materials and their processing
- holographic interferometry, including non-destructive testing systems and its practical applications in engineering, culture, material study, etc.
- coherent and incoherent optical effects in holography (multi-beam interaction, beam coupling and combining, coherent scattering, image processing, etc.)
- holographic data storage
- optical security elements

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Preliminary List of Speakers

1. COMMERCIALIZING OF INNOVATIVE, OPTO-ELECTRONIC TIRE TESTING,
Hans Rottenkolber, Bergweg 47, D-83123 Amerang/Germany
e-mail: rottenkolber.rotech@t-online.de
2. A NEW LASER BASED METHOD OF NON-DESTRUCTIVE TESTING FOR THE DETECTION AND QUANTIFICATION OF HIDDEN CORROSION
John M. Webster, Holographics Inc., USA
Jackie Mew, Robert Topp, University of Portsmouth, UK
3. AMBIENT HUMIDITY CONTROL FOR MAXIMISING REPLAY INTENSITY AND RESOLUTION IN ABERRATION-COMPENSATED OFF-AXIS HOLOGRAMS OF UNDERWATER OBJECTS
JJ Nebrensky (a), G Craig (b), PR Hobson (a), H Nareid (b), J Watson (b)
(a) Dept. of Electronic and Computer Engineering, Brunel University, Uxbridge, Middlesex UB8 3PH, England
(b) Dept. of Engineering, Aberdeen University, Aberdeen AB24 3UE, Scotland
Tel: +44 1895 203199; Fax: +44 1895 272391 e-mail: j.nebrensky@brunel.ac.uk
4. ALL-OPTICAL ACTUATORS BASED ON MOVING HOLOGRAPHIC GRATINGS IN PHOTSENSITIVE MEDIA,
Sergey Sarkisov, Department of Physics, Alabama A&M University, 4900 Meridian Street, P.O.Box , 1268, Normal, Alabama 35762, USA,
Michael Curley, Department of Physics, Alabama A&M University, 4900 Meridian Street, P.O.Box, 1268, Normal, Alabama 35762, USA, Aisha Fields, Department of Physics, Alabama A&M University, 4900 Meridian Street, P.O.Box , 1268, Normal, Alabama 35762, USA,
Nikolai Kukhtarev, Department of Physics, Alabama A&M University, 4900 Meridian Street, P.O.Box, 1268, Normal, Alabama 35762, USA
Mykola Kulishov, Adtek Photomask, Montreal, Quebec, Canada.
5. REAL-TIME HOLOGRAPHY AND SPECTROSCOPY BASED ON REVERSIBLE PHOTBLEACHING IN ORGANIC DYES,
Lantukh Yuri Dmitrievich., Bondarenko Viktor Anatolievich., Ketsle Garry Albertovich, Letuta Sergey Nikolaevich, Pashkevitch Sergey Nikolaevich., 3. Orenburg State University, Institute of Micro- and Nanotechnologies, Pobedy 13, Orenburg, 460352, RUSSIA. E-mail: lantukh@ic.osu.ru,
6. DICHROMATED PULLULAN: REAL-TIME EFFECTS AND HOLOGRAPHIC PROPERTIES,
Svetlana Savic (1), Dejan Pantelic (1), Dragica Jakovljevic(2)
(1) Institute of Physics, Pregrevica 118, 11080 Zemun, Belgrade, Yugoslavia, (2) Institute of Chemistry, Technology and Metallurgy-Center for Chemistry, Njegoseva 12, 11000 Belgrade, Yugoslavia, Svetlana Savic, Institute of Physics, Pregrevica 118, 11080 Zemun, Belgrade, Yugoslavia, phone: 381-11-3160-793, fax: 381-11-3162-190, e-mail: savic@phy.bg.ac.yu. Submit to: Holographic recording materials
7. FEEDBACK-OPTIMIZED HOLOGRAMS RECORDING IN $\text{LiNbO}_3:\text{Fe}$
Sergiy L. Pavlyuk, Konstantin V. Shcherbin, Serguey G. Odoulov,
Institute of Physics, National Academy of Sciences, Prospekt Nauki 46, 03650 Kiev, Ukraine, Phone: +380 - 44 2650818, Fax: +380 44 2652359, pavlyuk@iop.kiev.ua, kshcherb@iop.kiev.ua, odoulov@iop.kiev.ua,
Boris Sturman,
International Institute for Nonlinear Studies, Koptyg Ave.1, 630090 Novosibirsk, Russia, sturman@iae.nsk.ru,
Klaus H. Ringhofer, Vlado Kamenov,
Fachbereich Physik der Universitaet, D-49069 Osnabrueck, FRG, ringhofe@uos.de, vlado@physik.uni-osnabrueck.de,
8. GALVANOMAGNETIC PROPERTIES OF $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$ POLYCRYSTALLINE PRESSED SAMPLES
F.S. Terra, M. Abdel-Rafea, and M. Monir*, Solid State Physics Department, National Research Centre, Dokki, Cairo, Egypt., *Physics Department, Faculty of Science, Cairo University, Cairo, Egypt.
9. HOLOGRAPHIC IMAGING BY MEANS OF THE EFFECT OF SECOND HARMONIC CROSS-CORRELATION OF THE WAVEFIELDS IN IN THE NONLINEAR LIGHT-SENSITIVE MATERIAL,
Yury N.Denisyuk *) Alessandra Andreoni, Maria Bondani, and Marco A.C.Potenza,
Dipartimento di Scienze Chimiche, Fisiche e Matematiche, Università degli Studi dell Insubria, 22100 Como and INFN Milano-Università, 20133 Milano, Italy, ph.+(39)031 326225.Fax +(39)031 326230,e-mail:andreoni@fis.unico.it, *) Ioffe Physico -Technical Institute, 194021 St.Petersburg,Russia. ph.+(7)812 2479384 Fax.(7)812 2479384, e-mail:denis_@holo.ioffe.rssi.ru, Submit to: Coherent optical effects and holography in linear and non-linear media.
10. WAVEGUIDE HOLOGRAPHY WITH SURFACE PLASMON MODES,

Guo Ping Wang, Department of Physics, Wuhan University, Wuhan 430072, China., Fax: 86-27-87654569, E-mail: kp_wang@hotmail.com)

11. RELIEF HOLOGRAMS ON SILVER HALIDE MATERIALS: ONE MORE ATTEMPT,
A.N.Timoshenko, Institute of Applied Optics
12. INVESTIGATION OF OPTICAL MICROSTRUCTURE FORMATION IN RESIST LAYER OF AS-S-SE,
Sergey Kostuykevych, Eugen Venger, Petr Shepeliavyi, Vladimir Girnyk, Igor Tverdohleb, Andrey Ivanovski,
13. Holography in real time and protective holographic elements in the securities of Ukraine,
14. V.Komarov, V.Belorus
15. HOLOGRAPHIC RECORDING IN AMORPHOUS CHALCOGENIDE SEMICONDUCTOR THIN FILMS,
Janis Teteris, Institute of Solid State Physics, University of Latvia
16. DYNAMIC PHASE HOLOGRAPHIC MEDIUM WITH DIMERIZABLE ANTHRACENE DERIVATIVES,
Prof. **Vladimir V. Mogilny**, Dr. Yuri V. Gritsai, Belarus State University, Physical Optics Department, F. Skoriny av.,4, Minsk, 220050, Rep. of Belarus. Telephone: (017) 206-62-28, E-mail: mogilny@phys.bsu.unibel.by .
Submit to: Holographic recording materials
17. COHERENT-OPTICAL NDT TECHNIQUES IN SEMI-INDUSTRIAL APPLICATIONS
P.Boone, Gent University, Belgium
18. POLARIZATION HOLOGRAPHIC MEMORY OF SUPERHIGH CAPACITY,
Barbara N. Kilosanidze, Shermazan D. Kahkhashvili, Optical Research Department, Institute of Cybernetics of the Georgian Academy of Sciences, Sandro Euli str. 5, 380086 Tbilisi, Georgia,
19. COMPARATIVE INFORMATION CHARACTERISTICS OF OPTICAL BY-BIT AND VOLUME HOLOGRAPHIC MEMORIES,
S.B.Gurevich¹, A.A.Akaev², K.M.Zhumaliev², B.S.Gurevich³, S.A.Alymkulov², A.A.Sagymbaev²,
1 - A.F.Ioffe Physical-Technical Institute, St.Petersburg, Russia,
2 - Institute of Physics, National Academy of Sciences of Kyrgyzstan,
3 - ELAN Co. St. Petersburg, Russia.
20. THE REASONS OF INFORMATION CAPACITY LIMITATIONS IN VOLUME HOLOGRAPHIC MEMORY DEVICES,
S.B.Gurevich¹, B.S.Gurevich², K.M.Zhumaliev³, S.A.Alymkulov³, A.A.Sagymbaev³,
1 - A.F.Ioffe Physical-Technical Institute, St.Petersburg, Russia, 2 - ELAN Co. St. Petersburg, Russia, 3 - Institute of Physics, National Academy of Sciences of Kyrgyzstan.
21. NEW PRINCIPLES OF DEVELOPMENT OF ASSOCIATIVE 2D-MEMORIES BASED ON MATRIX-TENSOR EQUIVALENT MODELS,
Vladimir G.Krasilenko, A.E.Nikolsky, V.M.Voloshin, A.V.Zaitsev, Vinnitsa, Ukraine.
22. HIGH-DENSITY HOLOGRAPHIC DATA STORAGE WITH RANDOM ENCODED REFERENCE BEAM
V. Markov, MetroLaser Inc., USA
23. VOLUME HOLOGRAPHIC DATA STORAGE AT IBM
Geoffrey W. Burr, Hans Coufal, John A. Hoffnagle, C. Michael Jefferson, Mark Jurich, Brian Marcus, Roger M. Macfarlane, and Robert M. Shelby
IBM Almaden Research Center, D2/K18, 650 Harry Road, San Jose, California 95120
23. "Out Bragg-Plane" Angular selectivity of Volume Holographic Grating,
V.Markov, A.Khizhnyak, R.Amezquita (a),
MetroLaser Inc., USA,
(a) Institute of Applied Optics, Bogota, Colombia.
24. Single-layer color holograms and their dispersive characteristics,
Gert von Bally (a) A. Timoshenko (b), Vladimir Markov (a), Anatoliy Khizhnyak,
(a) Munster University, Germany
(b) Institute of Applied Optics, Kiev, Ukraine
(c) MetroLaser Inc., USA,
25. BIOMOLECULAR OPTOELECTRONICS WITH BACTERIODOPSIN
A. Lal, J. Trolinger,
MetroLaser Inc., USA.
26. HIGH RESOLUTION OPTICAL PROFILOMETRY,
J. Millerd, N. Brock,
4D Vision Technology, USA.
27. REAL TIME HOLOGRAM COUPLED-LASER CAVITIES WITH MOVING OUTPUT MIRROR
A. Khizhnyak, V. Markov, J. Trolinger,
MetroLaser Inc., USA.
28. Influence of usage of approximation in diffraction equations on quality of reconstructed from hologram images in digital holography.

S. Paśko¹, R. Jóźwicki², Institute of Micromechanics and Photonics, Warsaw University of Technology, Chodkiewicza 8, 02-525 Warsaw, Poland

29. Multiexposure digital holography in multimedia applications

M. Sutkowski¹, M. Kujawińska², Institute of Micromechanics and Photonics
Warsaw University of Technology, ul. Chodkiewicza 8, 02-525 Warsaw, Poland

¹ e-mail: sut@mech.pw.edu.pl, fax: +48 (22) 660-86-01

² e-mail: mkzto@mp.pw.edu.pl, fax: +48 (22) 660-86-01

30. "High-capacity holographic memory with ultra-high data transfer rate"

L. Hesselink, S.Orlov, W. Phillips, Stanford University, USA.

31. Optoelectronic device for identification of credit cards

Leonid I. Muravsky, Yaroslav P. Kulynych, Olexander P. Maksymenko, Taras I.Voronyak, Volodymyr M. Fitio,
Mykhailo V. Shovgenyuk, G.V. Karpenko Institute of Physics and Mechanics NASU, 5, Naukova str., Lviv, Ukraine.

32. Characterization of fractal surfaces and the angular incidence

M. Lehman, Lisboa 14-A, Col. Juárez, Del. Cuauhtemoc, 06600 México DF (MEXICO)

Phone: 0052-5566-5472, Fax: 0052-5566-5196, e-mail: mlehman@ole.com

33. An analysis of computer-generated holograms with fractal characteristics

M. Lehman, Lisboa 14-A, Col. Juárez, Del. Cuauhtemoc, 06600 México DF (MEXICO)

Phone: 0052-5566-5472, Fax: 0052-5566-5196, e-mail: mlehman@ole.com

34. Experimental investigation of solar light coherence

Dmitry V. Panenko, National Taurida V.Vernadsky University, Simferopol, 95007, Ukraine

e-mail: panenko@ccssu.crimea.ua

35. Real-time holography and spectroscopy based on reversible photobleaching in organic dyes

Lantukh Yuri Dmitrievich., Bondarenko Viktor Anatolievich., Ketsle Garry Albertovich, Letuta Sergey Nikolaevich,
Pashkevitch Sergey Nikolaevich, Orenburg State University,
Institute of Micro- and Nanotechnologies, Pobedy 13, Orenburg, 460352, RUSSIA.

E-mail: lantukh@ic.osu.ru

The Conference-Colloquium will be held in the capital of Ukraine - in Kiev, which is an important center of scientific research and higher education in Ukraine. More than ten museums, many art galleries and theaters testify Kiev's flourishing cultural life. With its historical buildings, and churches Kiev represents an exciting place to visit.

GENERAL INFORMATION

Location: The Conference will be held in the capital of Ukraine - in Kiev which is an important center of scientific research and education in Ukraine. More than ten museums, many art galleries and theaters testify Kiev's flourishing cultural life. With its historical buildings, churches Kiev represents an exciting place to visit, especially in October.

Language: The official language of the Conference is English.

Registration and Accommodation: The Registration Fees for participants and accompanying persons are US \$ 150 and US \$ 50, respectively. It can be paid in time of registration. The Fee includes: -participation in all scientific sessions at the Conference; -all printed materials of the Conference, including the receiving the Proceedings (after their publishing); - lunches during the Conference; -coffee-breaks at sessions; -transport and accommodation services; main excursion program. The participants of conference should be aware that stay in a hotel is not included in Registration Fees.

Hotel reservation will be made according to the participant's arrival and departure dates.

The Organizing Committee will provide transportation of the participants from the Kiev airport "Borispol" or the Kiev Central railway station.

Attendees should make their own travel arrangement to/from Ukraine.

Facilities: Session rooms will be equipped with a slide and also overhead projectors. Fax, E-mail and Copy machines will be available.

A participant can receive messages at: Fax: +380 (44) 2655430; E-mail: sekret@spie.org.ua.

Visas: In general, both a valid passport and Ukrainian visa are required for entry into Ukraine, however, citizens of the countries having a special agreement with Ukraine don't need visas. A visa may be obtained at Ukrainian Embassy or Consulate.

Social Programs: Excursions to historical, cultural sites of Kiev and sightseeing are planned.

Organizing Committee can also help to arrange an individual scientific or tourist program for participants around Ukraine. The participants are welcome to inform in advance Organizing Committee about their travel plans.

For further information please contact:

Sergey Kostioukevitch, Executive Director of SPIE/UKRAINE, <http://www.spie.org.ua>

Phone: +380 (44) 265-62-05, Fax: +380 (44) 265-54-30, E-mail: sekret@spie-ukr.kiev.ua;

Mailing address: SPIE/UKRAINE. 45, Prospect Nauki, Kiev, 252028, UKRAINE

Dr. Vladimir B. Markov, Head, Applied Optics Group

MetroLaser Inc., 18010 Skypark Circle, Suite 100

Irvine, CA 92614-6428, USA

Phone: (949) 553-0688, Fax. (949) 553-0495, E-mail: vmarkov@metrolaserinc.com

<http://www.metrolaserinc.com>

SPIE - The International Society for Optical Engineering

Ukrainian Chapter

Dear Authors: *Svetlana Savic, Dejan Pantelic, Dragica Jakovljevic*

On behalf of the Program and Organizing Committee of the International Conference "*Optical Holography and its Applications*", 28 September - 1 October 2000, it is our pleasure to invite you to present your paper *Dichromated pullulan: real-time effects and holographic properties*, as an invited oral presentation.

Plenary and poster sessions will be held in the Conference Hall of the House of Sciences (Vladimirska St. 45) 29 September - 1 October 2000.

We will appreciate any information regarding your participation in the Conference "Optical Holography and its Applications" as soon as possible.

SPIE/Ukraine is ready to arrange with the hotel reservation for all participants. You can choose to stay in a downtown hotel(s) (price 85.00 USD to 150.00 USD) or in the Academy of Sciences' hotel (price ~ 65.00 USD). The last one is outside of the city central area, but easy to reach with city transportation system (a block from metro station). Please inform the Organizing Committee your date of arrival and preferred type of hotel.

We hope you will be able to come to Kiev in September and attend the conference.

Best regards and hope to see you in Kiev soon.



Sergey Kostyukevych
Executive Director of SPIE/UKRAINE
Secretary of Program Committee

Република Србија
МИНИСТАРСТВО ПРОСВЕТЕ,
НАУКЕ И ТЕХНОЛОШКОГ РАЗВОЈА
Комисија за стицање научних звања

Број:660-01-00006/79

27.09.2017. године

Београд

ИНСТИТУТ ЗА ФИЗИКУ			
ПРИМЛЕНО: 26-10-2017			
Рад.јед.	б р о ј	Арх.шифра	Прилог
2801	1456/1		

На основу члана 22. став 2. члана 70. став 5. и члана 86. ст. 1. и 2. Закона о научноистраживачкој делатности ("Службени гласник Републике Србије", број 110/05 и 50/06 – исправка, 18/10 и 112/15), члана 3. ст. 1. и 3., члана 32. став 1., члана 35. став 2. и члана 40. Правилника о поступку, начину вредновања и квантитативном исказивању научноистраживачких резултата истраживача ("Службени гласник Републике Србије", број 24/16, 21/17 и 38/17) и захтева који је поднео

Инстџиџуџ за физику у Београду

Комисија за стицање научних звања на седници одржаној 27.09.2017. године, донела је

**ОДЛУКУ
О СТИЦАЊУ НАУЧНОГ ЗВАЊА**

Др Свејлана Савић Шевих

стиче научно звање

Виши научни сарадник

Р е и з б о р

у области природно-математичких наука - физика

О Б Р А З Л О Ж Е Њ Е

Инстџиџуџ за физику у Београду

утврдио је предлог број 179/1 од 07.02.2017. године на седници Научног већа Института и поднео захтев Комисији за стицање научних звања број 198/1 од 13.02.2017. године за доношење одлуке о испуњености услова за реизбор у научно звање ***Виши научни сарадник***.

Комисија за стицање научних звања је по претходно прибављеном позитивном мишљењу Матичног научног одбора за физику на седници одржаној 27.09.2017. године разматрала захтев и утврдила да именована испуњава услове из члана 70. став 5. и члана 86. ст. 1. и 2. Закона о научноистраживачкој делатности ("Службени гласник Републике Србије", број 110/05 и 50/06 – исправка, 18/10 и 112/15), члана 3. ст. 1. и 3., члана 32. став 1., члана 35. став 2. и члана 40. Правилника о поступку, начину вредновања и квантитативном исказивању научноистраживачких резултата истраживача ("Службени гласник Републике Србије", број 24/16, 21/17 и 38/17) за реизбор у научно звање ***Виши научни сарадник***, па је одлучила као у изреци ове одлуке.

Доношењем ове одлуке именована стиче сва права која јој на основу ње по закону припадају.

Одлуку доставити подносиоцу захтева, именованој и архиви Министарства просвете, науке и технолошког развоја у Београду.

ПРЕДСЕДНИК КОМИСИЈЕ

Др Станислава Стошић-Грујичић,
научни саветник

С. Стошић-Грујичић

МИНИСТАР

Младен Шарчевић



Univerzitet u Novom Sadu
Medicinski fakultet Novi Sad
Katedra za stomatologiju
Hajduk Veljkova 3
Novi Sad

01-36/1-2011

POTVRDA

Potvrđuje se da je dr Svetlana Savić-Šević, sa Instituta za fiziku u Beogradu, rukovodila eksperimentom sprovedenim u okviru izrade doktorske disertacije doc. dr Tatjane Puškar sa Medicinskog fakulteta u Novom Sadu. Doktorska disertacija pod naslovom "Holografsko ispitivanje deformacije zubnog patrljka endodontski lečenog zuba u toku pripreme za protetičku krunu", odbranjena je na Medicinskom fakultetu u Novom Sadu 3. jula 2009. godine.

U Novom Sadu, 22.11.2011.g.



Šef Katedre za stomatologiju

prof. dr Dubravka Marković

Napomena: potvrda se izdaje na lični zahtev dr Svetlane Savić-Šević

Karolina Mudrinski | Konačna polja | 05-17.07.2005.



Dom omladine Beograda

Poetika | Po umetnikovom mišljenju, teorija Galoa predstavlja prevođenje beskonačnog prostora u konačni. U konačnoj 3D rešetki, preko tablica Galoa se dobijaju skupovi tačaka koji formiraju prave i ravni, čime nastaju neki od mogućih idealnih rasporeda u prostoru.

Na osnovu zakona generisanja, u okviru rešetke se javlja veliki broj asimetričnih oblika, koji su u međusobnoj harmoniji. Radeći sa tako dobijenim oblicima, umetnik posredstvom intuicije istražuje njihove odnose i forme.

Video | U programu C++, proračunavani su parametri tablice Galoa, na osnovu kojih su generisani oblici i strukture paralelnih ravni. Napravljena je animacija kao vizuelizacija tako dobijenih formi u okviru 3D rešetke.

Hologrami | Hologram, kao medij koji pruža potpun 3D utisak, pokazao se kao najinteresantniji za vizuelizaciju oblika dobijenih iz teorije Galoa. U laboratoriji za holografiju Instituta za fiziku u Beogradu, specijalno za ovu priliku, konstruisan je uređaj za holografsko snimanje kompjuterski generisanih oblika. Na taj način je umetniku omogućeno da svoju viziju iskaže na potpuno novi način, prvi put u našoj zemlji.

Stručni saradnici | Programerski tim: dr Vojislav Mudrinski, Vedran Radivojkov | Holografski tim: dr Dejan Pantelić, mr Svetlana Savić-Sević, dipl.ing. Dušan Vukić



Karolina Mudrinski | Karolina Mudrinski rođena je u Novom Sadu 1973. godine. Apsolvent je postdiplomskih studija Univerziteta umetnosti u Beogradu, Odsjek za digitalnu umetnost, smer totalno digitalno stvaralaštvo. Diplomirala grafiku na Akademiji umetnosti u Novom Sadu, 2000. godine. Do sad je imala preko 20 izložbi u zemlji i inostranstvu.

Adresa | Karolina Mudrinski, Bulevar cara Lazara 49, 21000 Novi Sad (SCG) | tel: 021 63 63 994 | 064 165 81 43
e-mail: kmudrinski@neobee.net

Izabrane samostalne izložbe

- 2002. Galerija Zlatno oko, Novi Sad- Bilbord prostorna instalacija i video "I Want To Be Your Lucky Star" (Kežman)
- 2001. Galerija SULUJ, Beograd - Bilbord prostorna instalacija i video "I Want To Be Your Lucky Star" (Kežman)
- 2000. Galerija Kulturnog centra, Novi Sad- Prostorna instalacija "Thera"
- 1999. Galerija Doma kulture "Studentski grad", Novi Beograd—grafike i kolaži iz ciklusa Thera

Posebno se zahvaljujem Institutu za fiziku u Beogradu, Milošu Vujanoviću i Predragu Kešelju.



Република Србија
Министарство за науку
и технолошки развој

НАЈБОЉА ТЕХНОЛОШКА НОВАЦИЈА 2008.

Министарство за науку и технолошки
развој Републике Србије
додељује

ДИПЛОМУ

ТИМУ:
ПОЛИМЕР

за освојено пето место

на Такмичењу за најбољу технолошку иновацију
у Србији 2008. године, у категорији "Корак напред" и одслушане тренинге:

- 1) Резиме: "Слика мог иновативног пословања"
- 2) "Начини продаје иновације и технике преговарања"
- 3) "Како направити видео прилог"

Чланови тима:

Светлана Савић-Шевић

Лариса Блажић

Тамара Панић

Братимир Панић

Бранислав Јеленковић

Илија Марела

Дејан Пантелић

Милан Минић

У име Министарства за
науку и технолошки развој

Мр Божидар Ђелић, министар

Београд, 23. децембар 2008. године

Република Србија
МИНИСТАРСТВО ПРОСВЕТЕ
И НАУКЕ
Комисија за стицање научних звања

Број:06-00-75/736

09.05.2012. године

Београд

ИНТЕРНЕТ ЗАПИСНИК			
Број:	29	06	2012
Ред. бр.	Број	Датум	Година
0201	737/1		

На основу члана 22. става 2. члана 70. став 6. Закона о научноистраживачкој делатности ("Службени гласник Републике Србије", број 110/05 и 50/06 – исправка и 18/10), члана 2. става 1. и 2. тачке 1 – 4.(прилози) и члана 38. Правилника о поступку и начину вредновања и квантитативном исказивању научноистраживачких резултата истраживача ("Службени гласник Републике Србије", број 38/08) и захтева који је поднео

Инстџиџуџи за физику у Београду

Комисија за стицање научних звања на седници одржаној 09.05.2012. године, донела је

**ОДЛУКУ
О СТИЦАЊУ НАУЧНОГ ЗВАЊА**

Др Свеклана Савић-Шевих

стиче научно звање

Виши научни сарадник

у области природно-математичких наука - физика

О Б Р А З Л О Ж Е Њ Е

Инстџиџуџи за физику у Београду

утврдио је предлог број 161/1 од 03.02.2012. године на седници научног већа Института и поднео захтев Комисији за стицање научних звања број 204/1 од 28.02.2012. године за доношење одлуке о испуњености услова за стицање научног звања ***Виши научни сарадник***.

Комисија за стицање научних звања је по предходно прибављеном позитивном мишљењу Матичног научног одбора за физику на седници одржаној 09.05.2012. године разматрала захтев и утврдила да именована испуњава услове из члана 70. став 6. Закона о научноистраживачкој делатности ("Службени гласник Републике Србије", број 110/05 и 50/06 – исправка и 18/10), члана 2. става 1. и 2. тачке 1 – 4.(прилози) и члана 38. Правилника о поступку и начину вредновања и квантитативном исказивању научноистраживачких резултата истраживача ("Службени гласник Републике Србије", број 38/08) за стицање научног звања ***Виши научни сарадник***, па је одлучила као у изреци ове одлуке.

Доношењем ове одлуке именована стиче сва права која јој на основу ње по закону припадају.

Одлуку доставити подносиоцу захтева, именованој и архиви Министарства просвете и науке у Београду.

ПРЕДСЕДНИК КОМИСИЈЕ
др Станислава Стошић-Грујичић,

научни саветник

С. Стошић-Грујичић

МИНИСТАР
Проф. др Жарко Обрадовић

РЕПУБЛИКА СРБИЈА



ФИЗИЧКИ ФАКУЛТЕТ
УНИВЕРЗИТЕТА У БЕОГРАДУ

ДИПЛОМА

О СТЕЧЕНОМ НАУЧНОМ СТЕПЕНУ ДОКТОРА НАУКА

САВИЋ-ШЕВИЋ (Недељко) СВЕТЛАНА

РОЂЕНА 1. ЈУНА 1962. ГОДИНЕ У АПАТИНУ, РЕПУБЛИКА СРБИЈА, ДАНА 1. ЈУЛА 1999. ГОДИНЕ СТЕКЛА ЈЕ АКАДЕМСКИ НАЗИВ МАГИСТРА ФИЗИЧКИХ НАУКА, А 8. ФЕБРУАРА 2007. ГОДИНЕ ОДБРАНИЛА ЈЕ ДОКТОРСКУ ДИСЕРТАЦИЈУ НА ФИЗИЧКОМ ФАКУЛТЕТУ ПОД НАЗИВОМ „ФИЗИЧКЕ ОСОБИНЕ ХОЛОГРАФСКИХ ДИФРАКЦИОНИХ РЕШЕТАКА НА НОВИМ ДИХРОМИРАНИМ МАТЕРИЈАЛИМА”.

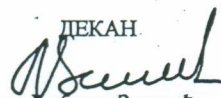
НА ОСНОВУ ТОГА ИЗДАЈЕ ЈОЈ СЕ ОВА ДИПЛОМА О СТЕЧЕНОМ НАУЧНОМ СТЕПЕНУ

ДОКТОРА ФИЗИЧКИХ НАУКА

Редни број из евиденције о издатим дипломама 12 672

У Београду, 6. маја 2008. године

ДЕКАН


др Љубиша Зековић

(М. П.)

РЕКТОР


др Бранко Ковачевић

ICTON 2010 Technical Program

Sunday, June 27

14:00 – 17:00 Registration is open at Technische Universität München

17:00 – 18:00 City tours start at the fish fountain (Fischbrunnen) on Marienplatz

Monday, June 28

7:30 Registration

Opening Ceremony (8:30 – 9:00) Plenary hall

Chair: Norbert Hanik

SESSION Mo.A (9:00 – 10:00) Plenary hall

Plenary

Chair: Hans-Georg Unger

Mo.A.1 European and American research toward next-generation optical access networks (Invited)

9:00 L.G. Kazovsky, C. Popp Larsen, D. Breuer, A. Gavler, M. Popov, K. Wang, G. Jacobsen, E. Weis, C. Lange, S.W. Wong, S.-H. Yen, V. Gudla, P. Afshar

Mo.A.2 Optical technologies that enable Green networks (Invited)

9:20 K.-I. Sato

Mo.A.3 Micro-/nano-photononic device structures: Analysis and applications in communications and sensing (Invited)

9:40 R.M. De La Rue

10:00 – 10:30 Coffee break

10:00 – 10:30 Coffee break

10:00 – 10:30 Coffee break

10:00 – 10:30 Coffee break

SESSION Mo.B1

(10:30 – 12:30) Plenary hall

ICTON I – General I

Chair: Naoya Wada

Mo.B1.1 Advanced modulation formats and digital signal processing for fiber optic communication (Invited)

A. Gorshstein, D. Sadot

Mo.B1.2 Performance of adaptive low-density parity check codes in a low cost spectrum-sliced WDM network (Invited)

S. Sun, M.S. Leeson

Mo.B1.3 Light-by-light polarization control for telecommunication applications (Invited)

J. Fatome, S. Pitois, F. Morin, C. Finot, G. Millot

Mo.B1.4 All-optical RZ-to-NRZ format converters based on nonlinearity and walk-off in optical fibers

P. Honzatko, M. Karasek

Mo.B1.5 All-optical variable delay buffer for next generation optical networks

I. Ashry, H.M.H. Shalaby

Mo.B1.6 Phase-preserving multilevel amplitude regeneration using a modified nonlinear amplifying loop mirror

M. Hierold, T. Roethlingshoefer, K. Sponkel, G. Onishchukov, B. Schmauss, G. Leuchs

Mo.B1.7 Red and orange tunable fiber laser

R. Al-Mahrous, R. Caspary, W. Kowalsky

SESSION Mo.B2

(10:30 – 12:30) Auditorium A

SWP I (WG1)

Chair: Alex Nosich

Mo.B2.1 Homogenization of metamaterials: Parameters retrieval methods and intrinsic problems (Invited)

A. Andryeuskii, R. Malureanu, A.V. Lavrinenko

Mo.B2.2 Design, synthesis and photophysical study of fluorophore modified noble metal nanoparticles (Invited)

P. Angelova, N. Kuchukova, G. Dobrikov, I. Petkova, I. Tintcheva, K. Radosva, E. Vauthier, E. Giorgetti

Mo.B2.3 Thin metamaterials as antireflection coating (Invited)

E. Popov, S. Enck

Mo.B2.4 Designing metamaterials for the optical regime (Invited)

M. Kafesaki, R. Pendu, T. Koschny, N.H. Shen, E.N. Economou, C.M. Soukoulis

Mo.B2.5 Diffractive effects in 1D and 2D gain/loss periodic spatial modulated materials (Invited)

R. Herrero, M. Eotey, K. Staliunas

Mo.B2.6 Metal nanoisland films for the enhancement of the chemical-physical properties of molecular adsorbates (Invited)

E. Giorgetti, G. Margheri, T. Del Rosso, S. Scitini, M. Muniz-Miranda, S. Cicchi

SESSION Mo.B3

(10:30 – 12:30) Auditorium B

WAOR I

Chair: Carmen Mas-Machuca

Mo.B3.1 Analysis of traffic engineering information dissemination strategies in PCE-based multi-domain optical networks (Invited)

S. Spadaro, J. Perelló, G. Hernández-Sola, A. Moreno, F. Agraz, J. Comellas, G. Junyent

Mo.B3.2 Scalable and agnostic optical packet switch subsystem for optical packets with multiple modulation formats and data rates (Invited)

N. Calabretta, W. Wang, T. Dilewig, O. Raz, F. Gomez-Pique, S. Zhang, H. de Waardt, H.J.S. Corren

Mo.B3.3 A collision-free WDMA strategy for ring MANs to affect traffic management: A performance optimization study

P. Baziana, I. Pountourakis

Mo.B3.4 Hopfield neural networks for routing in all-optical networks

C.J.A. Bastos-Filho, R.A. Santana, D.R.C. Silva, J.F. Martins-Filho, D.A.R. Chaves

Mo.B3.5 A receiver collisions WDMA protocol study with propagation delay latency analysis

P. Baziana, I. Pountourakis

Mo.B3.6 Analysis of unbalanced WDM/OCDM transparent optical networks with physical constraints

L.H. Boneni, L. Galdino, R.R. Duran, E. Moschini

Mo.B3.7 Application of internal traffic characterization to all-optical networks (Invited)

P.M. Santiago del Rio, J. Ramos, A. Salvador, J.E. López de Vergara, J. Aracil, A. Cuadra, M. Cutanda

SESSION Mo.B4

(10:30 – 12:25) "Einsäulen" hall

PICAW

Chair: Stefano Taccheo

Mo.B4.1 Interfacing of silicon-on-insulator nanophotonic circuits to the real world (Invited)

L. Wosinski, Z. Wang, Y. Tang

Mo.B4.2 Modelling and optimising planar waveguide devices (Invited)

L. Cahill, T. Clapp

Mo.B4.3 Low-cost optical components based on organic-inorganic hybrids produced using direct UV writing technique (Invited)

R.A.S. Ferreira, C. Vicente, L.R. Xavier, V. Fernandes, L.D. Carlos, P.S. André, E. Pecoraro, V. De Zea Bermudez, P. Monteiro, P.V.S. Marques

Mo.B4.4 Analysis and integration of plasmonic wires and rings for VLSI photonics (Invited)

E.-H. Lee

Mo.B4.5 Designing wavelength-division-multiplexed optical access networks using reflective photonic components (Invited)

E. Kehayas

Mo.B4.6 Research progress on free-space-wave add/drop multiplexing for WDM optical-interconnect system in packaging (Invited)

S. Ura, K. Kintaka

12:30 – 14:00 Lunch break

12:30 – 14:00 Lunch break

12:30 – 14:00 Lunch break

12:25 – 14:00 Lunch break

SESSION Mo.C1

(14:00 – 15:40) Plenary hall

ICTON II – Devices

Chair: Roger Green

Mo.C1.1 Application of trapped pulse amplification in birefringent fibers (Invited)

N. Nishizawa, E. Shimki, K. Itoh

SESSION Mo.C2

(14:00 – 15:40) Auditorium A

SWP II (WG1)

Chair: Anírea Chiappini

Mo.C2.1 From plasmonics to supercontinuum generation: Subwavelength scale devices based on hybrid photonic crystal fibers (Invited)

M. Schmidt, H. Tyagi, H. Lee, N. Granzow, N. Da, M. Peng, L. Wondraczek, P. St. J. Russell

SESSION Mo.C3

(14:00 – 16:00) Auditorium B

WAOR II

Chair: Niccolò Calabretta

Mo.C3.1 On the physical limitations constraint in OBS networks (Invited)

O. Pedrola, D. Careglio, M. Klinkowski, J. Solé-Pareta

SESSION Mo.C4

(14:00 – 15:40) "Einsäulen" hall

MAESI

Chair: Giorgio M. Tosi Beleggi

Mo.C4.1 A techno-economic case-study for an FTTH network deployment (Invited)

I. Tomkos

SESSION We.A1

(10:30) Plenary hall

ICON V – Networks I

Chair: Paulo André

We.A1.1 Optimizing multi-layered networks towards a transparently optical Internet (Invited)
R.G. Addie, D. Fatseas, M. Zukerman

We.A1.2 Requirements and limitations of optical interconnects for high-capacity network elements (Invited)
S. Aleksic, N. Fehralovic

We.A1.3 Converged optical networking for packetized bandwidth delivery (Invited)
M. Cvjetic

We.A1.4 GMPLS energy efficiency scheme for Green photonic networks (Invited)
M. Nazri, M. Warip, I. Glesk, I. Andonovic

We.A1.5 Optical transparency and network energy efficiency (Invited)
D.C. Kilper, G. Atkinson, S. Korotky

We.A1.6 Physical layer cryptography in optical networks: A lattice-based approach (Invited)
N. Boudriga, W. Abdallah, M. Hamdi

SESSION We.A2

(8:30 – 10:30)

SWP VII (WG2) Auditorium A

Chair: Katia Gallo

We.A2.1 Nonlinear optics at the nanoscale (Invited)
C. Sibilia, M. Centini, A. Benedetti

We.A2.2 Enhanced Raman amplification by hybrid photonic crystals (Invited)
A. Seyedfaraji, V. Ahmadi

We.A2.3 Exact transparent boundary condition for beam propagation in rectangular domain (Invited)
R.M. Feshchenko, A.V. Popov

We.A2.4 Silica aerogel in optical fibre devices (Invited)
T.A. Birks, M.D.W. Grogan, L.M. Xiao, M.D. Rollings, R. England, W.J. Wadsworth

We.A2.5 Plasmonic absorption enhancement in organic photovoltaics (Invited)
B. Maes, A. Abass, H. Shen, P. Biensman

We.A2.6 Holographic photonic structures generated in dichromated collulan (Invited)
S. Savic-Savic, D. Pantelid, B. Jelenkovic

SESSION We.A3

(8:30 – 10:25) Auditorium B

GOWN I

Chair: Prince Anandarajah

We.A3.1 The impact of receiver sensitivity in the convergence of diverse services over future integrated optical access networks (Invited)
C.P. Tsekrekos, T. Papachristos, I. Tomkos

We.A3.2 Signal processing techniques for transmission impairments compensation in optical systems (Invited)
J.M.B. Oliveira, L.M. Pessoa, H.M. Saigado, I. Darwazeh

We.A3.3 Optical technologies for multi-Gbit/s ultra-wideband radio: from the access to the picocell (Invited)
R. Llorente, V. Murat, M. Beltran

We.A3.4 60 GHz radio-over-fiber transmission impairments for broadband wireless signals (Invited)
R. Avó, F. Laurencio, M.C.R. Medeiros

We.A3.5 On supporting multiple radio channels over a SCM-based distributed antenna system: A feasibility assessment (Invited)
S. Pato, F. Ferreira, F. Monteiro, H. Silva

We.A3.6 Transparent transportation of digitized microwave environments over 10 Gbps optical networks: Transportation of multi-channel digital broadcast signals
Y. Shoji, Y. Takayama, M. Toyoshima, H. Ohta

SESSION We.A4

(8:30 – 10:45) "Einsäulen" hall

Industrial

Chair: Karin Ennser

We.A4.1 A novel all-optical system of the chaotic encryption for optical networks (Invited)
Y. Ben-Ezra, B.I. Lembrikov, Yu. Yurchenko

We.A4.2 Monitoring of the transparent fibre infrastructure for FTTx networks: An operator's view (Invited)
A. Ehrhardt, H.-M. Foisel, F. Escher, A. Templin, M. Adamy

We.A4.3 Optical OFDM for the data center (Invited)
Y. Benlatchar, R. Bouziane, R.I. Kilay, C.F. Berger, P. Milder, R. Koutsoyannis, J.C. Hoe, M. Püschel, M. Glick

We.A4.4 Impact of topology on layer 2 switched QoS sensitive services (Invited)
B. Puype, G. Verbanck, J. Michiels, M. Moeskops, W. Tavemier, D. Colle, M. Pickavet, P. Demeester

We.A4.5 Open access networks, the Swedish experience (Invited)
M. Forzati, C. Popp Larsen, C. Mattsson

We.A4.6 An energy-efficient node interface for optical core networks
C. Donze, A. Morea, O. Rival, B. Berde

We.A4.7 Standardization in optical access networks: Status and possible directions (Invited)
A. Teixeira

10:30 – 11:00 Coffee break

SESSION We.B1

(11:00 – 12:55) Plenary hall

ICON VI – General II

Chair: Moshe Zukerman

We.B1.1 Queue-based resource management strategy for enabling shared infrastructures over optical networks (Invited)
J.A. Garcia-Espin, X. Hesselbach

We.B1.2 Algorithms for virtual topology reconfiguration under multi-hour traffic using Lagrangian relaxation and label-based approaches (Invited)
F. Aparicio-Pardo, P. Pavon-Marino, N. Skorin-Kapov, B. Garcia-Marrubiz, J. Garcia-Ham

We.B1.3 Multiobjective sparse regeneration placement algorithm in optical networks considering network performance and CAPEX (Invited)
D.A.R. Chaves, C.F.C.L.C. Ayres, R.V.B. Carvalho, H.A. Pereira, C.J.A. Bastos-Filho, J.F. Martins-Filho

We.B1.4 Investigation of binary modulation implementations for use in wavelength-switched networks (Invited)
J.A. Chiles, C.A. Brannin, V. Bessie, A.D. Ellis

We.B1.5 De-multiplexing of 107 Gb/s OTDM signal based on pulsed pump optical parametric amplifier
M. Karasek, P. Honzatko

10:30 – 11:00 Coffee break

SESSION We.B2

(11:00 – 12:35) Auditorium A

SWP VIII (WG3)

Chair: George Stanciu

We.B2.1 Second and third harmonic generation in disordered quadratic nonlinear media: Application to short-pulse characterization (Invited)
V. Roppo, W. Wang, K. Kalinowski, R. Vilaseca, J. Trull, C. Cojocaru, K. Staliunas, W. Krolkowski, Yu. Kivshar

We.B2.2 Second-harmonic generation in disordered quadratic media: Role of a ferroelectric domain structure (Invited)
V. Roppo, K. Kalinowski, W. Wang, C. Cojocaru, J. Trull, R. Vilaseca, M. Scudova, W. Krolkowski, Yu. Kivshar

We.B2.3 Nonlinear optical properties of hexagonal boron nitride (Invited)
J. Albo, M. Ebrahim, F. E. Quazzani, M. Benise, B. Sahravai

We.B2.4 Photopolymer recording materials: Characterization, modelling and applications (Invited)
J. L. Cruz

We.B2.5 Influence of ultra-ensemble energy transfer on the properties of nanocrystal quantum dot structures and devices
M. Loni, A.L. Bradley, W.-T. Chen, V.A. Serato, S.J. Byrne, Y.A. Gorko, V. Lesnyak, N. Saponik

10:25 – 11:00 Coffee break

SESSION We.B3

(11:00 – 12:55) Auditorium B

GOWN II

Chair: Carlos Medeiros

We.B3.1 Gain coupling in the optical generation of modulated millimetre waves (Invited)
F.M. Aguiar, H. Shams, P. Parry, L.P. Barry

We.B3.2 Figures of merit for microwave photonic phase shifters based on coherent population oscillation slow and fast light effects (Invited)
F. Gaspar, J. Sanchez, J. Lorel, D. Sales, J. Capmany

We.B3.3 Microwave signal processing based on hybrid dynamics in quantum dot waveguide (Invited)
Y. Chai, J. Mark

We.B3.4 Theoretical and experimental study of the linearity of semiconductor optical amplifier-based optical modulator in multi-channel multiplexed systems (Invited)
K. Ouyang, L. Beaud

We.B3.5 Photonic and microwave signal processing by means of slow and fast light (Invited)
M. Santaguida, G.G. Somenza

10:45 – 11:15 Coffee break

SESSION We.B4

(11:15 – 12:55) "Einsäulen" hall

Glasses I

Chair: Reinhard Caspary

We.B4.1 The optical properties of chalcogenide glasses: From measurement to electromagnetic simulation tools (Invited)
H.G. Dantanarayana, A. Vukovic, P. Sewell, Z.G. Lian, D. Furniss, A.B. Seddon, E.A. Romanova, A. Koryukhov, B. Derkowska, J. Orava, T. Wagner, T.M. Benson

We.B4.2 Thermal diffusion in chalcogenide glass irradiated by a train of femtosecond laser pulses (Invited)
E. Romanova, A. Koryukhov, S. Murevan, A. Andrianov

We.B4.3 First-time microwave-synthesis of As₂S₃ chalcogenide glass: With potential for mid-infrared photonics (Invited)
R. Prasad, A.B. Seddon

We.B4.4 Elaboration of photonic crystal fibers for telecom and mid infrared wavelengths (Invited)
J. Toubert, I. Adam, L. Brilland, Q. Chénouet, T. Chartier

We.B4.5 Study of nonlinear optical properties of Er³⁺- and Yb³⁺-doped oxyfluoride glasses (Invited)
B. Derkowska, Y.L. Wong, D. Furniss, T.M. Benson, A.B. Seddon

Holographic Photonic Structures Generated in Dichromated Pullulan

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ABSTRACT

Holographic method was used to fabricate volume Bragg gratings, i.e., 1-D photonic crystals, in dichromated pullulan (DCP). Wide and complete band gaps were obtained in transmission spectra of light from the halogen lamp. SEM images of cross sections of DCP film show large voids right under the film surface, followed by regularly spaces bright and dark regions of Bragg grating filled with nano-size air voids. This work presents potentials of DCP as a material for photonic crystals, which so far has not been used for generation of photonic crystals.

Keywords: photonic crystals, band gaps, holograms, polysaccharide.

1. INTRODUCTION

Holography is one of several methods for successful fabrication of photonic crystals [1], but it is the most promising technique in the practical sense. Large areas can be written to produce 3D PC using holographic lithography with significant degree of geometry control (by varying number of interfering beams, their orientation and state of polarization) [1]. Photonic crystals can be constructed as a two or three dimensional lattice, i.e., an extension of Bragg reflector, with a simple holographic recording using a small number of plane waves [2].

Several materials such as dichromated gelatin, polymers with TiO_2 , photoresists, sol-gel materials and silver halide emulsions have been used for fabrication of photonic structures using holographic techniques.

In this work we have investigated the optical properties of one-dimensional photonic crystal in dichromated biopolymer. We used the pullulan sensitized with ammonium dichromate (DCP) as recording material [3]. Pullulan is a natural linear polysaccharide, produced from starch by *Aureobasidium pullulans*. It is non poisonous, and easily soluble in water to make clear and viscous solution. So far this material has not been used for generation of photonic crystals. Simple holographic polymerization was done using a single laser beam, exposing DCP to direct and retro-reflecting laser beam which creates a standing wave pattern in the material.

2. EXPERIMENT

Volume gratings are produced using a single laser beam set-up in counter-propagating geometry. DCP is placed in a close contact with the plane mirror and illuminated with the expanded direct and retro-reflected laser beams. Hologram recording was achieved by exposing dichromate pullulan to the single-frequency, diode pumped Nd-YAG laser, at 532 nm, at 20 mW/cm^2 of optical power, for 10 min. After exposure the material is chemically processed. Processing involves washing the plates in the mixture of water and isopropyl alcohol for 120 seconds, and drying for 120 seconds in pure isopropyl alcohol.

Transmission and reflection spectra of light from halogen lamp with nearly perpendicular incidence on the DCP film were recorded point wise using microscope and fibre coupled Ocean Optics spectrometer. To study morphology of DCP films and investigate surface and volume structures responsible for observed properties of DCP series of SEM images were made and analysed.

3. RESULTS

Figure 1 shows typical transmission spectra of DCP obtained using $20 \mu\text{m}$ thick film (solid line). The sharp dip in the transmission with nearly 100 % diffraction efficiency indicates formation of volume holograms with appreciable modulation of the refractive index. Although we measured complete band gap in this and not in other directions, it was pretty remarkable to achieve wide and complete band gap by using material of low refractive index. The thick solid line is the $1/\lambda^4$ curve normalized to the experimental transmission spectra, on the blue side of the band gap.

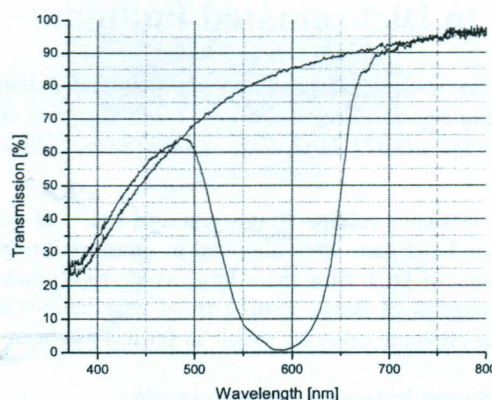


Figure 1. Transmission spectrum of DCP (solid line) and $1/\lambda^4$ fit, normalized to the experiment at 800 nm.

We made series of SEM images along self-induced vertical cracks in DCP. One example is the image in Fig. 2. Volume holograms are formed beneath porous, diffusing surface layer which shows large cracks and voids between them. As seen in the Fig. 2, below this surface layer is a continuous layered structure, with alternating dark and bright regions. The period of layers is of the order of 100 nm, in line with expected spacing of volume Bragg gratings in our DCP film. Volume Bragg gratings have a granular structure with average size below the recording wavelength. Small cracks and voids are also present along the grating layers. We postulate that the $1/\lambda^4$ dependence of the transmission spectrum of Fig. 1. is due to Rayleigh scattering and that a wide bandgap is a consequence of material scattering and Bragg grating.

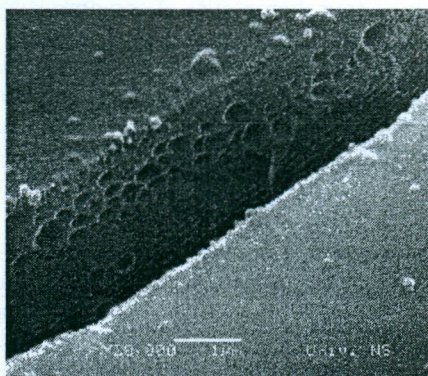


Figure 2. SEM photograph of the DCP around two cracks developed on the on the surface during processing.

4. CONCLUSIONS

We have shown properties of DCP as a new material for holographically generated photonic crystals. Widths of nearly complete band gaps of around 100 nm were obtained. Surface and volume structures, as revealed by SEM photographs, show nano-sized air voids present along layers of Bragg gratings in the volume of DCP. In the small transition region under the surface of the DCP, layers are absent, but large voids are present. In contrast to DCG this material is extremely resistant to humidity. Our results show that DCP is a very promising optical material for photonic crystals. It is also very stable material. We have the layers with holographic structures lasting for more than 10 years under ordinary conditions.

ACKNOWLEDGEMENTS

Work is supported by Serbian Ministry of Science and Technological Development under the project number 141003.

REFERENCES

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- [3] S. S. Šević, D. Pantelić, *Appl. Opt.*, vol. 46, 287, 2007.

Y. Sun, M.J. Adams, N. Balkan 18 Tu.P.18 Optical characterization of the GaInNAs/GaAs n-type as-grown and annealed modulation doped quantum well structures O. Donmez, A. Erol, M.C. Arkan, F. Ungan, E. Kasapoglu, H. San, J. Puustinen, M. Guina 19 Tu.P.19 Electronic transport properties of the GaInNAs/GaAs p-type as-grown and annealed modulation doped quantum well structures A. Erol, F. Sarcan, M. Gunes, M.C. Arkan, J. Puustinen, M. Guina 20 Tu.P.20 Optical and electrical properties of non-intentionally doped InN/GaN and GaN/InN/GaN heterostructures M. Gunes, O. Donmez, M. Yilmaz, A. Erol, M.C. Arkan, B. Ulug, A. Ulug, N. Balkan, A.O. Ajagunna, E. Iliopoulos, A. Georgakilas 21 Tu.P.21 Analysis and design of novel photonic active devices based on dilute nitrides G. Calò, D. Alexandropoulos, A. D'Orazio, V. Petruzzelli 22 Tu.P.22 Electron transport dynamics in dilute nitrides N. Vogiatzis, J.M. Rorison 23 Tu.P.23 Design considerations for dilute nitride n-i-p-i structure solar cells B. Royall, N. Balkan, M. Guina, A.J. Smith 24 Tu.P.24 Optimum band gap of single and two junction series connected solar cells O. Kengradomying, J.M. Rorison 25 Tu.P.25 FTIR spectroscopy of quantum well infrared photodetectors F. Nutku, M.Ç. Arkan, A. Erol, Y. Ergün 26 Tu.P.26 Provisioning concepts for the Future Internet IIP initiative P. Cho-da, J. Gozdecki, M. Kantor, M. Wielgosz, A.R. Pach, K. Wajda, J. Rak					
Coffee break (15:35 – 16:00)	Coffee break (15:40 – 16:10)	Coffee break (15:30 – 16:00)	Coffee break (15:25 – 16:00)	Coffee break (15:40 – 16:00)	Coffee break (15:55 – 16:20)
SESSION Tu.D1 (16:00 – 17:40) ICTON VI Chair: Fary Ghassemlooy	SESSION Tu.D2 (16:10 – 17:50) SWP VI (WG3 III) Chair: Pavel Cheben	SESSION Tu.D3 (16:00 – 17:35) GOC I In honor of Fabio Neri Chair: Carmen Mas Machuca	SESSION Tu.D4 (16:00 – 17:40) ESPC I Chair: Katia Gallo	SESSION Tu.D5 (16:00 – 18:00) ICTON-FSO Chair: Roger Green	SESSION Tu.D6 (16:20 – 18:00) PICAW I Chair: Jose Pozo
16:00 Tu.D1.1 Software-defined optical transmission (Invited) W. Freude, R. Schmogrow, B. Nebendahl, D. Hillerkuss, J. Meyer, M. Dreschmann, M. Huebner, J. Becker, C. Koos, J. Leuthold	16:10 Tu.D2.1 Recent developments in the characterisation, modelling and application of photopolymer materials (Invited) J.T. Sheridan	16:00 Tu.D3.1 Energy-efficient IP over VDM networks with data centres (Invited) X. Dong, T. El-Gorashi, J.M.H. Elmirghani	16:00 Tu.D4.1 Photonic crystal and related devices fabricated by CMOS compatible process (Invited) T. Baba	16:00 Tu.D5.1 Free space optical wireless network (Invited) V.W.S. Chan	16:20 Tu.D6.1 Integrated silicon nanophotonics: A solution for computer interconnects (Invited) L. Wosinski, Z. Wang
16:20 Tu.D1.2 Capacity approaching coded modulation in optical communications (Invited) T.H. Lotz, W. Sauer-Greff, R. Urbansky	16:30 Tu.D2.2 Biologically inspired photonic structures in dichromated pullulan (Invited) S. Saviae-Sevise, D. Pantelias, S. Aeurèiae, B. Aeurèiae, B. Jelenkovic	16:20 Tu.D3.2 Network and system architectures for energy-efficient metro and access networks employing reflective photonics (Invited) E. Kehayas, A.M. Clarke, A. Borghesani, K. Vyrsoinos, D.W. Smith, P. Ossieur, D.G. Moodie, R. Jensen, N. Parsons, P.D. Townsend	16:20 Tu.D4.2 InP-based photonic crystal waveguide technology for filtering and sensing applications (Invited) S. Anand, N. Shahid, M. Swillo	16:20 Tu.D5.2 Exploring the potentials of optical-wireless communication using white LEDs (Invited) K.-D. Langer, J. Vuèiae, C. Kottke, L. Fernández, K. Habel, A. Paraskevopoulos, M. Wendt, V. Markov	16:40 Tu.D6.2 VLSI photonic interconnection of dielectric and plasmonic nano-wires and devices (Invited) El-Hang Lee
16:40 Tu.D1.3 Optical quantization and coding for 5bit photonic A/D conversion (Invited) T. Konishi, K. Takahashi, H. Matsui, T. Satoh	16:50 Tu.D2.3 Laser-induced micro- and nanostructures at polymer surfaces for applications in cell biology (Invited) J. Heitz, B. Reisinger, S. Yakunin, N. Voelcker, Q. Peng, A.L. Hook, C. Romanin, M. Fahrner	16:40 Tu.D3.3 How to save energy in passive optical networks (Invited) L. Valcarenghi, D. Pham Van, P. Castoldi	16:40 Tu.D4.3 Vector bend sensor on the base of three-core microstructured fiber (Invited) I. Goncharenko, M. Marciniak	16:40 Tu.D5.3 Using tapers for efficient coupling of received FSO-signals into fibres (Invited) E. Leitgeb, S. Stögner, M. Löschnigg	17:00 Tu.D6.3 Agile photonic integrated systems-on-chip enabling WDM terabit networks (Invited) Ch. Kouloumentas, M. Bougioukos, M. Spyropoulou, D. Klonidis, G. Giannoulis, D. Kalavrouziotis, A. Maziotis, P. Gkroumas, D. Apostolopoulos, P. Bakopoulos, A. Poustie, G. Maxwell, K.O. Velthaus, R. Kaiser, L. Moerl, I. Tomkos, H. Avramopoulos
17:00 Tu.D1.4 Filterless optical WDM core networks based on coherent systems (Invited) C. Tremblay, A. Enriquez Castillo, M.P. Bélanger, F. Gagnon	17:10 Tu.D2.4 Oxygen-isotope exchange between CO ₂ and solid Ti ¹⁸ O ₂ (Invited) S. Civiš, M. Ferus	17:00 Tu.D3.4 Introducing optical switching in high-capacity commercial routers (Invited) B. Garcia-Manrubia, P. Pavon-Marino	17:00 Tu.D4.4 Prospects on hollow-core photonic crystal fibers for unconventional fibered laser sources (Invited) R. Jamier, F. Gèrôme, G. Humbert, J.-L. Auguste, J.-M. Blondy, F. Benabid	17:00 Tu.D5.4 Auto tracking system for free space optical communications (Invited) R. Ghimire, S. Mohan	17:20 Tu.D6.4 Improved techniques for the design of planar multimode lightwave circuits (Invited) L.W. Cahill, T.V. Clapp
17:20 Tu.D1.5 Passive wide area network solutions: Filterless and semi-filterless optical networks (Invited) J. Chen, S. Khanmohamadi, F. Abtahi	17:30 Tu.D2.5 Picosecond reading of optically poled azophenylcarbazole (Invited) G. Navickaite, G. Seniutinas, R. Tomašiusas, R. Petruškevičius, V. Getautis	17:20 Tu.D3.5 Hierarchical wireless and optical access networking: Convergence and energy efficiency M.C. Parker, R. Martin, K. Guild, S.D. Walker	17:20 Tu.D4.5 Inhibition of the emission of electromagnetic modes of photonic crystal cavities with a top mirror (Invited) N. Le Thomas, R. Houdré	17:20 Tu.D5.5 Block transmission with frequency domain equalization in the presence of colored noise (Invited) M. Wolf, L. Grobe	17:40 Tu.D6.5 Techniques for embedding non-linear materials in TLM (Invited) H.G. Dantanarayana, X. Meng, P. Sewell, A. Vuković, T.M. Benson

Biologically Inspired Photonic Structures in Dichromated Pullulan

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ABSTRACT

We present properties of surface and volume photonic structures generated in Dichromated pullulan (DCP) using holographic technique. Volume Bragg gratings have properties of photonic crystals – wide bandgaps of the order of 100 nm. The bandgap is centered at 560 nm at room temperature, and can be tuned with the substrate temperature to 480 nm at 100 °C. The process is reversible; bandgap goes back to 560 nm if substrate is cooled to 25 °C. Both surface and volume structure of DCP are complex: beneath structured surface there are porous, diffusing surface layer followed by the volume gratings. We have found that such structure resemblance structures found in nature. We present a detailed study of wings of two butterfly species *Apatura iris* (Linnaeus, 1758) and *A. ilia* with respect to their optical properties and the relationship of these properties to the microscopic structure of the wing scales. We are presenting also a close analogy between defects on the butterfly wing scales and fork-holograms used to generate vortex beams. We propose using pullulan for generation of butterfly like structures.

Keywords: photonic crystals, holography, biomimetics.

1. INTRODUCTION

Holography offers a way to obtain photonic crystals with wide band gaps in a relatively simple manner. Two or more laser beams interfere and produce intricate structures inside suitable photosensitive materials, thus producing periodic dielectric structures which exhibit properties of photonic crystals [1]. Here we use a dichromated pullulan (DCP) as a holographic material for fabrication of photonic crystals. We show rather complex structure of DCP films, which enables its specific properties as a photonic crystal. In this work special emphasize is on a close relation between advanced optical devices generated holographically and naturally arising structures.

It was shown that very intricate, nanometer-sized structures can be observed on the insect integument and eyes. Butterfly wings possess structures acting as directional and spectral filters, whose behaviour can be described by formalism of photonic structure physics. Depending on habitat vast range of structures was discovered, acting as different types of spectral filters. They can be broad or narrow, UV, visible or infrared, directional. These structures can be used as an inspiration for man-made filters [2]. Compound insect eyes present interesting templates as well [3]. They are each a lenslet array, where ommatidium (together with microlens) is acting as a non-imaging device. On nanometer level each lens is covered with tiny structures providing smooth gradient of equivalent refractive index. As a result, reflection losses are significantly reduced, presenting an interesting inspiration for solar cells with increased efficiency [4].

Special attention will be given to defect structures on *Apatura iris* (Linnaeus, 1758) and *A. ilia* (Denis & Schiffermüller, 1775) butterfly cover scales in males (Lepidoptera: Nymphalidae). It will be shown that these naturally arising patterns are capable of generating vortex beams [5]. However, recent research shows that diffraction of vortex beams on regular apertures produces a distinct pattern. Possibly, diffraction on hexagonally shaped ommatidia might produce a pattern that can be detected by photosensitive cells.

2. PHOTONIC STRUCTURES IN DICHROMATED PULLULAN

DCP was obtained following this preparation procedure. Holographic photosensitive material was prepared by mixing 10 % aqueous solution of pullulan (from Sigma-Aldrich) and 10 % of the ammonium dichromate. DCP solution was stirred and warmed to 50 °C to achieve homogeneity. The solution was coated onto a thoroughly cleaned glass slides placed on the flat horizontal surface. Film was dried overnight under normal laboratory conditions. The thicknesses of the dried layers, was 14 µm. Next, periodic structures in a DCP were fabricated using a single-beam method hologram recording, exposing DCP to a single longitudinal mode, diode pumped Nd-YAG laser, at 532 nm. The laser beam was expanded and pullulan layer was exposed at normal incidence. After propagation through emulsion, the beam was reflected back from a mirror behind the holographic plate. The two counter-propagating beams interfere, creating a standing wave pattern within an emulsion. After the exposure, plates were chemically processed. Processing involves washing the plates in a mixture of water and isopropyl alcohol (3:1 ratio) for 120 seconds, and drying for 60 seconds in pure isopropyl alcohol.

SEM images shows very complex, both surface and volume structures, of DCP. Volume gratings are formed below porous diffusing surface layer, see Fig. 1a. Zoomed images reveals that Bragg gratings are not uniform, they have granular structure, the size of granules being below recording wavelength, Fig. 1b. Such structure enables low index material like pullulan to have properties of photonic crystals. We have measured relatively

wide photonic gaps, of the order of 100 nm. We have also show that it is possible to move this gap towards lower wavelength by increasing temperature of the DCP substrate.

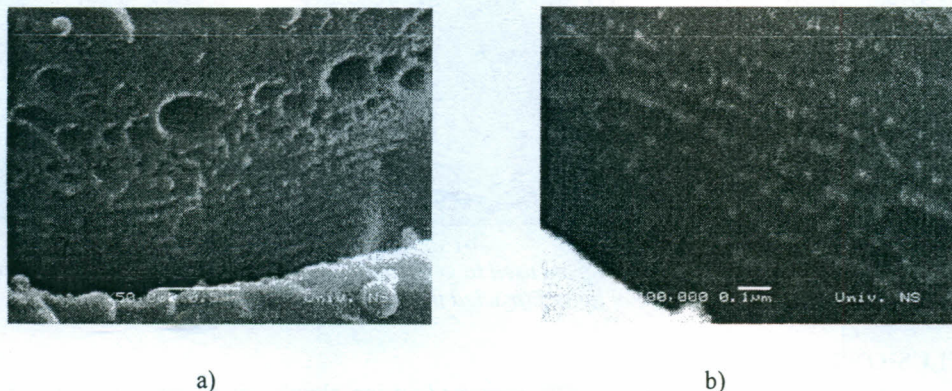


Figure 1: a) and b) SEM images along the vertical crack normal to the surface of DCP.

3. VORTEX PHOTONICS STRUCTURES ON COVER SCALES ON BUTERFLIES

Butterflies, *Apatura iris* and *A. ilia* can be found from Europe to China and are characterized by remarkable purple-UV iridescence present only in males. This is the consequence of ultrastructure of cover scales on dorsal side of their wings. In contrast to many other butterfly species the iridescence is quite narrow, both in spectral (20 nm) and angular distribution (18 degrees). As found by SEM, cover scales are covered with ridges at mutual distance of the order of micrometer, as shown in Figs. 2a and 2b respectively. But zooming further on its upper part shows that each ridge is a multilayer structure, consisting of 5-7 pairs of lamellar projections (Fig. 2c). In fact, the scale structure is a combination of surface relief and Bragg diffraction grating.

We have investigated interesting fork-like structures (see inside the red circle in Fig. 2c) on the butterfly cover scales. It looks as if one ridge splits into two. This bifurcation is not an exceptional feature, since we were able to observe many of them on completely randomly chosen areas of the wing (Figs. 2a and 2b). There can be up to 20 defects on a single cover scale (with approximately $50 \mu\text{m} \times 100 \mu\text{m}$ size). These features are not present in ground scales of the analyzed butterflies. Defects of similar type can be found in literature [6], but there are not as many defects as in the case of *Apatura iris*. Nobody to our knowledge paid any attention to structures like these.

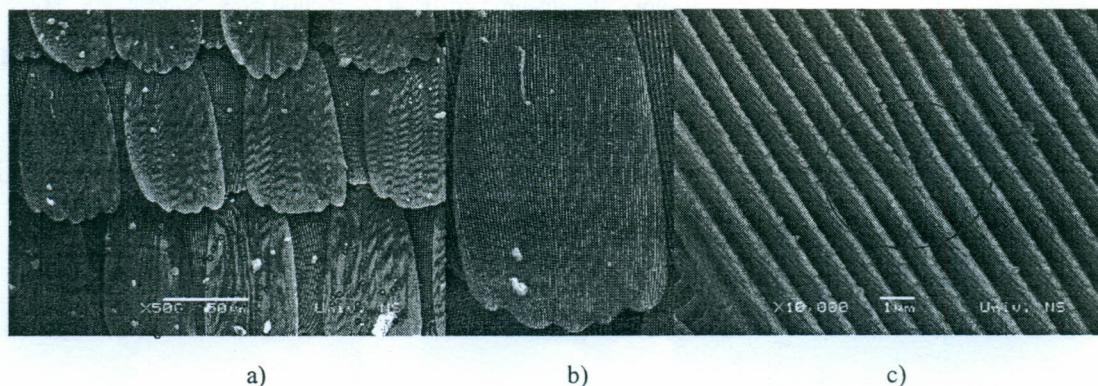


Figure 2: a) SEM image of randomly chosen area of *Apatura iris* butterfly wing. Fork-like defects of the grating are marked by red circles. b) Enlarged leftmost scale from the middle row c) fork-like defect

Now we would like to draw attention to extreme similarity between defects on the butterfly cover scales and so called fork-holograms [5] (Figs. 3a and 3b). They are used to generate vortex beams, a new class of optical beams which are characterized by spiral wavefront with a phase singularity in its centre. They have an additional, orbital angular momentum so interesting in many applications [11].

We have calculated far field distribution from a fork-hologram and *Apatura* defect structure (Figs. 3b and 3c). As can be seen, there is a strong resemblance between the two patterns. Of course, a pattern from a butterfly cover scale is distorted due to non-ideal profile. One advantage of butterfly-like vortex generation is a strong spectral selectivity in contrast to computer-generated hologram.

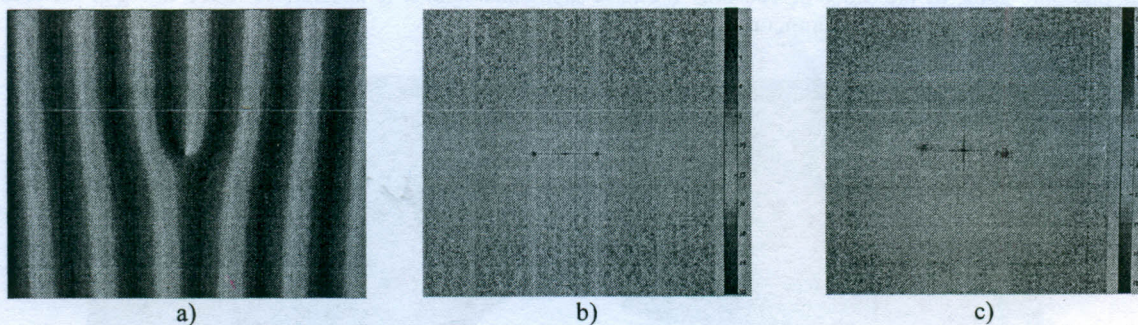


Figure 3: a) Computer-generated fork-hologram used to generate vortex beam. b) Intensity of light diffracted on fork-hologram. c) Intensity of light diffracted from fork-like structure on butterfly wing.

4. CONCLUSIONS

Photonic crystals as volume holograms in DCP were made using simple, single-beam holographic technique. Bandgaps typically between 95 nm and 120 nm wide were generated in a pullulan, material with low index of refraction due to both surface and volume structures of DCP. We have shown a close analogy between images from illuminated DCP films and structures on *Apatura iris* and *A. ilia* butterfly cover scales, as well as analogy between defect in structures their scales and computer-generated fork-holograms. As a combination of surface relief and volume hologram it is amenable for generation by holographic methods. More research is needed in order to see is it just a coincidence or there is an evolutionary advantage of vortex beams generated by fork-like structures.

ACKNOWLEDGEMENTS

Authors acknowledge support by Ministry of education and science of Serbia, under grants 45016, 171038 and 173038.

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SCIENTIFIC PROGRAMME

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Polymer nanocomposites with MWCNT and SiC: characterization, application and risk assessment, **Anita Grozdanov**

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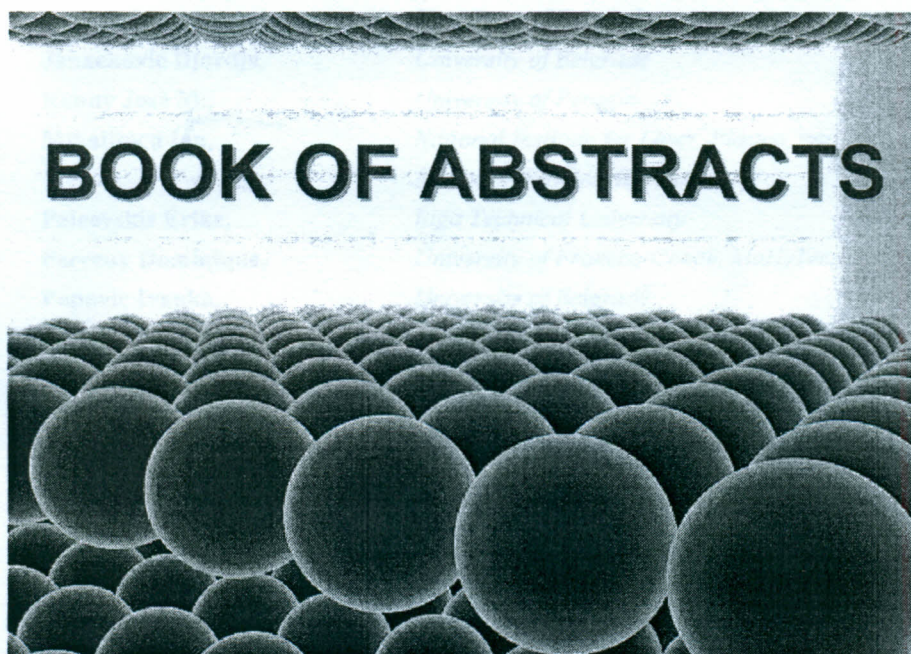
Nanostructuration of biodegradable polymeric matrices for tissue engineering, **Jose Kenny**

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Second International Workshop

Characterization, properties and applications of nanostructured ceramics, polymers and composites

BOOK OF ABSTRACTS



UNIVERSITY OF BELGRADE
FACULTY OF TECHNOLOGY AND METALLURGY
October 24 - 25, 2011

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Invited lecturers

PROGRAMME

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9.30 – 10.00	Opening session (Ivanka Popovic, Djordje Janackovic, Petar Uskokovic)
10.00 – 10.25	Nanostructuration of biodegradable polymeric matrices for tissue engineering, Jose Kenny
10.25 – 10.50	New compounds synthesized and/or deposited by PLD, c-PLD, MAPLE and LIFT for applications in nano-medicine and nano-biology, Ion Mihailescu
10.50 – 11.15	Non-equilibrium plasmas and their application in nanotechnologies and medicine, Zoran Petrovic
11.15 – 11.30	Coffee break
11.30 – 11.55	Polymer nanocomposites with MWCNT and SiC: characterization, application and risk assessment, Anita Grozdanov
11.55 - 12.20	Novel nanostructured materials for medical applications obtained by electrochemical methods, Vesna Mišković-Stanković
12.20 - 12.45	Graphene polymer nanocomposites for optoelectronic applications, Luca Valentini
12.45 - 13.10	From the idea to the market - the transfer model of a German research institute, Christian Theel
13.10 -13.40	Poster session
13.40-15.00	Lunch break
15.00 - 17.00	Walking tour to the Serbian Academy of Sciences
17.30 - 19.00	Round table: "Biomedical Engineering for Human Health: Priorities, Translation, Education" Joint Session with the Scientific Conference <i>Biomedical Engineering for Human Health</i> , <u>Serbian Academy of Sciences and Arts</u>

**Tuesday
October 25**

9.30 – 9.55	ZnO polytypoid nanowires for thermoelectric applications, Velimir Radmilović
9.55 – 10.20	Affinity-driven self-assembly nanoparticles and their application for the controlled delivery of therapeutics, Smadar Cohen
10.20 - 10.45	Lipidic and inorganic nanoparticles for drug delivery, Bianca Baroli
10.45 – 11.15	Poster session
11.15 – 11.40	Porous ceramics prepared from plasma processed alumina nanopowder, Eriks Palcevskis
11.40 – 12.05	Holographically generated photonic structures – Analogy to bioinspired structures, Branislav Jelenković
12.05 – 12.30	Concluding remarks and closing ceremony

Afternoon – PAC meeting for PAC members

Holographically generated photonic structures – Analogy to bioinspired structures

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We show a analogy between photonic structures generated holographically in Dichromated pullulan (DCP) and structures found in butterfly wing scales. DCP photonic crystals show wide bandgaps of the order of 100 nm, centered at about 560 nm. SEM images show complex volume structures of DCP: Bragg volume gratings having granular structure, the size of granules being below recording wavelength. Such structure enables low index material like pullulan to have properties of photonic crystals. We compare these structures and those found in *Apatura iris* (Linnaeus, 1758) and *A. ilia* (Denis & Schiffermüller, 1775) butterfly cover scales in males (Lepidoptera: Nymphalidae). We have also observed interesting analogy between defects in periodic structures on the butterfly wing scales (places where one ridge splits into two) and fork-holograms used to generate vortex beams.

IZJAVA

Ovim izjavljujem da je Svetlana Savić-Šević rukovodila zadatkom „holografska mimetika insekata“, u okviru projekta „Holografske metode generisanja specifičnih talasnih frontova za efikasnu kontrolu kvantnih koherentnih efekata u interakciji atoma i lasera“ (ON171038). U okviru ove teme razvila je holografsku metodu za generisanje nanostrukture sličnih onima kod leptira, koristeći dihromirani pululan kao fotoosetljivi materijal. Ovakvi hologrami imaju zanimljive primene u generisanju specifičnih talasnih frontova.



Dr Dejan Pantelić

Rukovodilac projekta ON171038

Institut za fiziku

Република Србија
МИНИСТАРСТВО ПРОСВЕТЕ
И НАУКЕ

Комисија за стицање научних звања

Број:06-00-75/736

09.05.2012. године

Београд

ИНСТИТУТ ЗА ФИЗИКУ			
ПРИЈЕМО:		29-06-2012	
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На основу члана 22. става 2. члана 70. став 6. Закона о научноистраживачкој делатности ("Службени гласник Републике Србије", број 110/05 и 50/06 – исправка и 18/10), члана 2. става 1. и 2. тачке 1 – 4. (прилози) и члана 38. Правилника о поступку и начину вредновања и квантитативном исказивању научноистраживачких резултата истраживача ("Службени гласник Републике Србије", број 38/08) и захтева који је поднео

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Комисија за стицање научних звања је по предходно прибављеном позитивном мишљењу Матичног научног одбора за физику на седници одржаној 09.05.2012. године разматрала захтев и утврдила да именована испуњава услове из члана 70. став 6. Закона о научноистраживачкој делатности ("Службени гласник Републике Србије", број 110/05 и 50/06 – исправка и 18/10), члана 2. става 1. и 2. тачке 1 – 4. (прилози) и члана 38. Правилника о поступку и начину вредновања и квантитативном исказивању научноистраживачких резултата истраживача ("Службени гласник Републике Србије", број 38/08) за стицање научног звања ***Виши научни сарадник***, па је одлучила као у изреци ове одлуке.

Доношењем ове одлуке именована стиче сва права која јој на основу ње по закону припадају.

Одлуку доставити подносиоцу захтева, именованој и архиви Министарства просвете и науке у Београду.

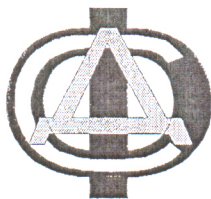
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Nemanjina 22-26

Beograd

Želimo da vas baveštimo da je Društvo fizičara Srbije učestvovalo kao jedan od partnera (partner broj 20) u konzorcijumu koji je realizovao FP6 projekt „**World Year of Physics 2005: Activities in Europe**“, **Contract Number 516938**, od 1 januara 2005 do 31 januara 2006.

Aktivnosti Društva fizičara Srbije su se odvijale u okviru pet potprojekata (Work Package-WP):

P.20.1 – PHYSARCH

Rukovodilac: Mirjana Popović-Božić

Učesnici: Dušanka Obadović, Darko Kapor, Dejan Pantelić, Tomislav Pavlović, Ilija Savić, Milan Maksimović

P.20.2 – EINSTEIN' s THOUGHT

Rukovodilac: Djordje Šijački

Učesnici: Mirjana Popović-Božić, Dejan Pantelić, Branka Murić, Svetlana Savić-Šević, Zoran Grujić, Aleksandar Krmpot, Marina Lekić

P.20.3 – ECO PHYSICS

Rukovodilac: Dragan Markušev

Učesnici: Mirjana Tasić, Dragana Milićević, Mirjana Terzić, Dragoljub Belić, Ljubiša Nešić, Vladimir Udovičić, Radomir Banjanac

P.20.4 - Physics talent search

Rukovodilac: Branislav Cvetković,

Učesnici: Ljiljana Simić, Duško Latas, Jelena Grujić, Mirjana Popović-Božić, Bojan Nikolić

P.20.5 - Open day and public lectures

Rukovodilac: Ilija Savić

Učesnici: Dragan Popović, Stevan Jokić, Djordje Šijački,

01.07.2010. godine

Beograd



Rukovodilac projekta

Prof. dr Ilija Savić



Prof. Biljana Stojanović
Nacionalni COST kordinator
Centar za Multidisciplinarne studije
Univerziteta u Beogradu

РЕПУБЛИКА СРБИЈА
УНИВЕРЗИТЕТ У БЕОГРАДУ
ИНСТИТУТ ЗА ФИЗИКУ
Бр. 1665/1
12 NOV 2008 год.

Predmet: Molba za učešće Laboratorije za fotoniku, Instituta za fiziku, Univerziteta u Beogradu u COST Akciji MP0702, "Towards functional sub wavelength photonics structure".

Molimo vas kao nacionalnog koordinatora COST-a da podržite učešće Laboratorije za fotoniku, Instituta za fiziku u COST Akciji MP0702 i inicirate odgovarajući postupak u cilju realizacije našeg učešća. Ova COST akcija nosi naziv Towards functional sub wavelength photonics structure. Koordinator ove COST akcije je professor Marian Marciniak iz Nacionalnog Instituta za tehnologiju u Varšavi. Njegova e-mail adresa je M.Marciniak@itl.waw.pl

Laboratorija za fotoniku predlaže da naš coordinator akcije bude Branislav Jelenković, rukovodilac Laboratorije, a da učesnici akcije budu dva saradnika Laboratorije, Dejan Pantelić koji predvodi grupa za holografiju i Svetlana Savić-Šević. Predlažemo da i Dejan i Svetlana budu u MC COST akcije MP0702.

Laboratorija za fotoniku želi da učestvuje u ovoj akciji jer su aktivnosti akcije u vezi sa istraživanjima i interesovanjima koje postoje u Laboratoriji već nekoliko godina. Deo naših istraživanja, a koja su i predmet ove COST akcije, su holografski fotonički kristali i generisanje spore svetlosti, odnosno fenomena koji se sastoji u velikom smanjenju grupne brzine svetlosti usled indukovanja određenih kvantno mehaničkih pojava prilikom laser-atom interakcija.

Priključenje COST akciji omogućava da se naša istraživanja, eksperimentalna i teorijska, u holografiji i holografskim materijalima, kvantnoj i ne linearnoj optici, fotoničnim kristalima, predstave vodećim Evropskim istraživačima. Takodje, očekivana razmena znanja sa evropskim istraživačima pomoći će nam da u ovoj oblasti, koja ima važne primene, mnogo brže napredujemo i uključujemo se u evropske projekte. Rezultati istraživanja koja su relevantna za ovu akciju, omogućeni su višegodišnjim finansiranjem od strane Ministarstva za nauku preko projekata osnovnih istraživanja u navedenim oblastima. Naš sadašnji projekat kod Ministarstva za nauku, 141003,

Kvanatna i optička interferometrija (2006-2010) predstavljaće glavnu podršku ovoj akciji. Takodje pomoć će se dobiti preko evropskog FP6 projekat INCO 02362, Reinforcing the Center for Quantum and Optical Metrology (2006-2009).

Nadamo se da ćete podržati naše učešće u COST akciji MP0702.

Sa poštovanjem,

Prof. Dragan Popović
Direktor
Institut za fiziku





Citation Report: Svetlana S... > Citation Report: Svetlana Savic-Sevic (Author)

Citation Report

 Svetlana Savic-Sevic (Author)

Analyze Results

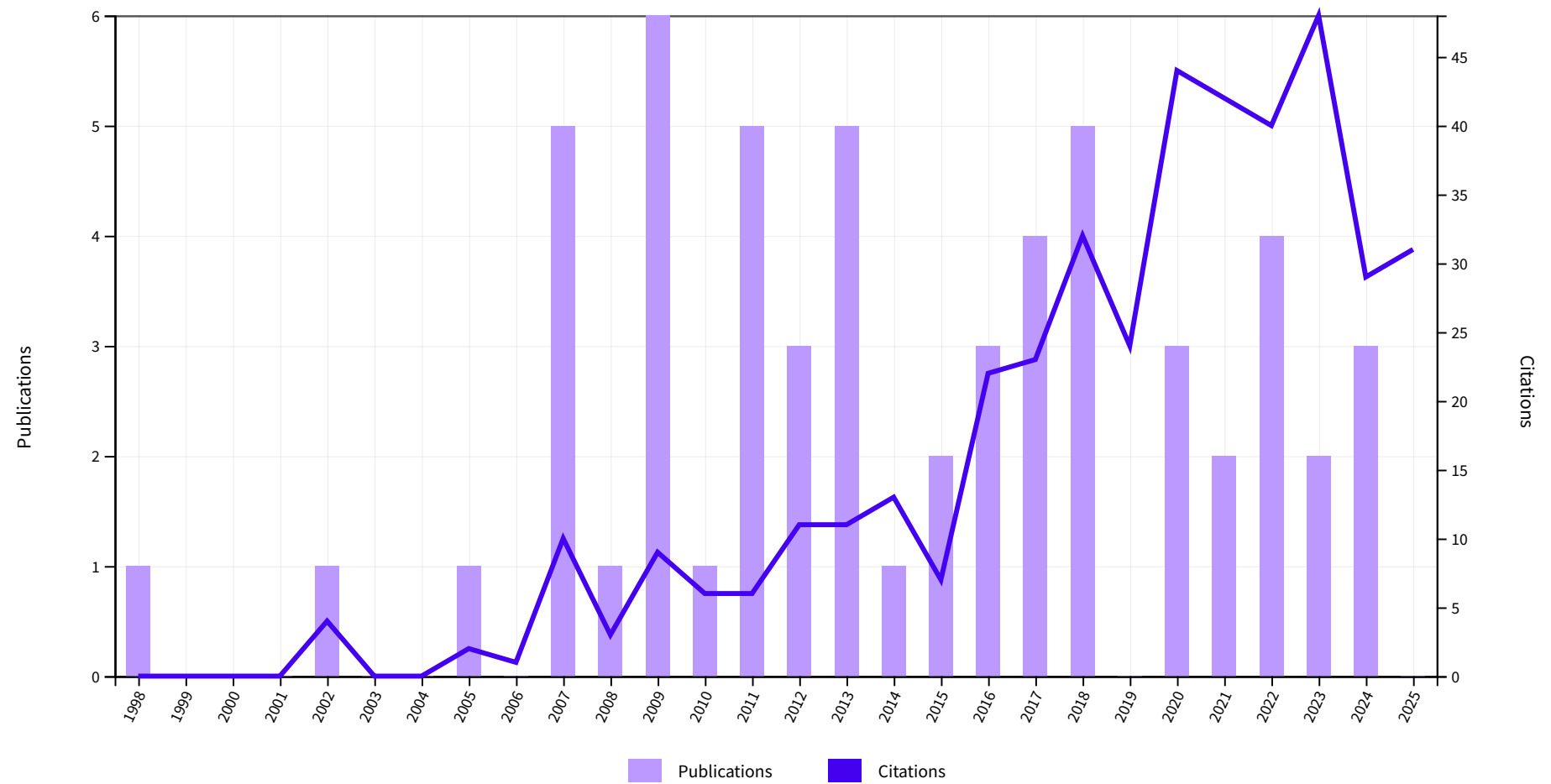
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Citations						
< Previous year					Average per year	Total 29
2021	2022	2023	2024	2025		

Total		42	40	48	29	31	17.42	418
51	Self-Assembly of Nanostructures by a Phase Separation in Holographic Layers of Dichromated Polysaccharide Savic-Sevic, S; Pantelic, D; (...); Jelenkovic, B 15th International Conference on Transparent Optical Networks (ICTON) 2013 2013 15TH INTERNATIONAL CONFERENCE ON TRANSPARENT OPTICAL NETWORKS (ICTON 2013)	0	0	0	0	0	0	0
52	Localization of Light in Photonic Crystals of Biological Origin Savic-Sevic, S; Pantelic, D; (...); Stojanovic, D 14th International Conference on Transparent Optical Networks (ICTON) 2012 2012 14TH INTERNATIONAL CONFERENCE ON TRANSPARENT OPTICAL NETWORKS (ICTON 2012)	0	0	0	0	0	0	0
53	On the Reflectivity of One-Dimensional Photonic Crystal Realized in Dichromated Pullulan Damljanovic, V; Savic-Sevic, S; (...); Jelenkovic, B 12th International Conference on Transparent Optical Networks (ICTON) 2011 2010 12TH INTERNATIONAL CONFERENCE ON TRANSPARENT OPTICAL NETWORKS (ICTON)	0	0	0	0	0	0	0
54	Biologically Inspired Photonic Structures in Dichromated Pullulan Savic-Sevic, S; Pantelic, D; (...); Jelenkovic, B 13th International Conference on Transparent Optical Networks (ICTON) 2011 2011 13TH INTERNATIONAL CONFERENCE ON TRANSPARENT OPTICAL NETWORKS (ICTON)	0	0	0	0	0	0	0



Citation Report: Svetlana S... Citation Report: Svetlana Savic-Sevic (Author)

Citation Report

 Svetlana Savic-Sevic (Author)

Analyze Results

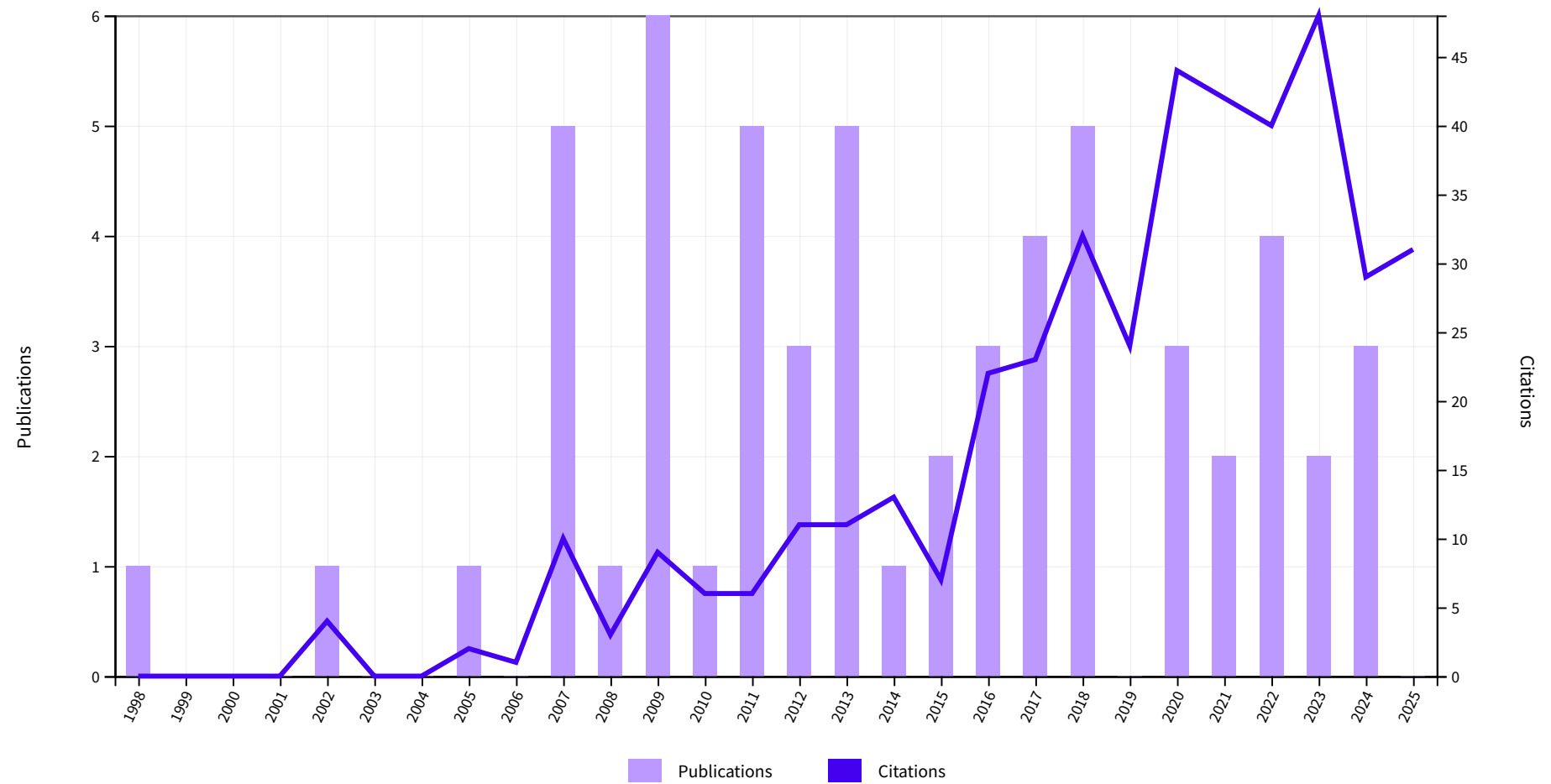
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Publications 58 Total From 1985 ▾ to 2025 ▾	Citing Articles 334 Analyze Total 293 Analyze Without self-citations	Times Cited ⓘ 418 Total 326 Without self-citations 7.21 Average per item	13 ⓘ H-Index
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Citations						
< Previous year					Average per year	Total 29
2021	2022	2023	2024	2025		

	Total	42	40	48	29	31	17.42	418
1 Structural properties and luminescence kinetics of white nanophosphor YAG:Dy Rabasovic, MS; Sevic, D; (...); Romcevic, N Dec 2015 OPTICAL MATERIALS 50, pp.250-255	3	3	5	1	2	3.27	36	
2 YVO₄:Eu³⁺ nanopowders: multi-mode temperature sensing technique Sevic, D; Rabasovic, MS; (...); Rabasovic, MD Jan 2 2020 JOURNAL OF PHYSICS D-APPLIED PHYSICS 53(1)	9	4	7	2	2	4.67	28	
3 Characterization and luminescent properties of Eu³⁺ doped Gd₂Zr₂O₇ nanopowders Rabasovic, MS; Sevic, D; (...); Romcevic, N Feb 15 2015 JOURNAL OF ALLOYS AND COMPOUNDS 622, pp.292-295	2	1	4	0	1	2.36	26	
4 Femtosecond laser induced periodic surface structures on multi-layer graphene Beltaos, A; Kovacevic, AG; (...); Gajic, R Nov 28 2014 JOURNAL OF APPLIED PHYSICS 116(20)	1	2	3	0	2	2	24	
5 Effects of temperature and pressure on luminescent properties of Sr₂CeO₄:Eu³⁺ nanophosphor Vlasic, A; Sevic, D; (...); Nikolic, MG Jul 2018 JOURNAL OF LUMINESCENCE 199, pp.285-292	4	2	3	1	2	2.88	23	
6 Orange-Reddish Light Emitting Phosphor GdVO₄:Sm³⁺ Prepared by Solution Combustion Synthesis Rabasovic, MS; Krizan, J; (...); Sevic, D 2018 JOURNAL OF SPECTROSCOPY 2018	1	3	3	2	3	2.25	18	
7 High angular and spectral selectivity of purple emperor (Lepidoptera: <i>Apatura iris</i> and <i>A. ilia</i>) butterfly wings Pantelic, D; Curcic, S; (...); Bokic, B Mar 28 2011 OPTICS EXPRESS 19(7), pp.5817-5826	1	0	1	0	0	1.2	18	
8 Real-time and postprocessing holographic effects in dichromated pullulan Savic, S; Pantelic, D and Jakovljevic, D Aug 1 2002 APPLIED OPTICS 41(22), pp.4484-4488	0	2	0	0	0	0.63	15	
9 Dichromated pullulan as a novel photosensitive holographic material Pantelic, D; Savic, S and Jakovljevic, D May 15 1998 OPTICS LETTERS 23(10), pp.807-809	1	1	0	0	0	0.54	29	

10	Bat guano-dwelling microbes and antimicrobial properties of the pygidial gland secretion of a troglomorphic ground beetle against them Dimkic, I; Stankovic, S; (...); Curcic, S May 2020 APPLIED MICROBIOLOGY AND BIOTECHNOLOGY ▼ 104(9), pp.4109-4126	3	3	4	1	2	2.17	13
11	Luminescence thermometry using Gd₂Zr₂O₇:Eu³⁺ Nikolic, MG; Rabasovic, MS; (...); Sevic, D Jun 2018 OPTICAL AND QUANTUM ELECTRONICS ▼ 50(6)	1	3	3	0	0	1.63	13
12	Characterization and luminescence kinetics of Eu³⁺ doped YVO₄ nanopowders Sevic, D; Rabasovic, MS; (...); Romcevic, N Apr 2017 MATERIALS RESEARCH BULLETIN ▼ 88, pp.121-126	1	0	2	1	0	1.44	13
13	Relief hologram replication using a dental composite as an embossing tool Sevic, SS and Pantelic, D Apr 4 2005 OPTICS EXPRESS ▼ 13(7), pp.2747-2754	1	1	0	0	0	0.62	13
14	Application of tot'hema eosin sensitized gelatin as a potential eye protection filter against direct laser radiation Muric, BD; Pantelic, DV; (...); Jelenkovic, BM Jan 2016 CURRENT APPLIED PHYSICS ▼ 16(1), pp.57-62	1	2	0	2	1	1.2	12
15	Real-time measurement of internal stress of dental tissue using holography Pantelic, D; Blazic, L; (...); Belic, I May 28 2007 OPTICS EXPRESS ▼ 15(11), pp.6823-6830	0	0	1	1	0	0.58	11
16	Dichromated pullulan diffraction gratings: influence of environmental conditions and storage time on their properties Sevic, SS and Pantelic, D Jan 20 2007 APPLIED OPTICS ▼ 46(3), pp.287-291	1	1	0	0	0	0.58	11
17	Far-infrared spectra of dysprosium doped yttrium aluminum garnet nanopowder Trajic, J; Rabasovic, MS; (...); Romcevic, N Jul 2016 INFRARED PHYSICS & TECHNOLOGY ▼ 77, pp.226-229	2	1	2	0	0	1	10
18	Holographic detection of a tooth structure deformation after dental filling polymerization Pantelic, D; Blazic, L; (...); Panic, B Mar-apr 2007 JOURNAL OF BIOMEDICAL OPTICS ▼ 12(2)	1	1	0	0	0	0.53	10 29

19	Luminescence thermometry based on Y₂O₂S:Er,Yb nanophosphor Sevic, D; Rabasovic, MS; (...); Nikolic, MG Aug 2022 OPTICAL AND QUANTUM ELECTRONICS ▼ 54(8)	0	0	5	3	1	2.25	9
20	Effects of temperature on luminescent properties of Gd₂O₃:Er, Yb nanophosphor Sevic, D; Rabasovic, MS; (...); Nikolic, MG Apr 18 2020 OPTICAL AND QUANTUM ELECTRONICS ▼ 52(5)	2	1	2	2	2	1.5	9
21	Butterfly scales as bionic templates for complex ordered nanophotonic materials: A pathway to biomimetic plasmonics Jaksic, Z; Pantelic, D; (...); Curcic, B Aug 2013 OPTICAL MATERIALS ▼ 35(10), pp.1869-1875	1	0	2	1	0	0.69	9
22	Low-temperature photoluminescence of CuSe₂ nano-objects in selenium thin films Gilic, M; Petrovic, M; (...); Romcevic, N 2017 PROCESSING AND APPLICATION OF CERAMICS ▼ 11(2), pp.127-135	1	2	1	0	0	0.89	8
23	Micro- and nanostructures of iridescent wing scales in purple emperor butterflies (Lepidoptera: <i>Apatura ilia</i> and <i>A. iris</i>) Curcic, SB; Pantelic, DV; (...); Stojanovic, DV Jul 2012 MICROSCOPY RESEARCH AND TECHNIQUE ▼ 75(7), pp.968-976	0	1	0	0	0	0.57	8
24	Scattering-enhanced absorption and interference produce a golden wing color of the burnished brass moth, <i>Diachrysis chrysis</i> Pantelic, D; Savic-Sevic, S; (...); Milosevic, V Mar 8 2017 PHYSICAL REVIEW E ▼ 95(3)	1	1	0	1	0	0.78	7
25	Measurement of Beet Root Extract Fluorescence Using TR-LIF Technique Rabasovic, MS; Sevic, D; (...); Marinkovic, BP International School and Conference on Photonics (PHOTONICA09) Oct 2009 ACTA PHYSICA POLONICA A ▼ 116(4), pp.570-572	0	0	0	0	0	0.41	7
26	Holographic Measurement of a Tooth Model and Dental Composite Contraction Pantelic, D; Savic-Sevic, S; (...); Panic, B 2009 MATERIALS AND MANUFACTURING PROCESSES ▼ 24(10-11), pp.1142-1146	1	1	0	1	0	0.35	6
27	Biopolymer holographic diffraction gratings Sevic, SS and Pantelic, D 1st International Conference on Physics of Optical Materials and Devices Mar 2008 OPTICAL MATERIALS ▼ 30(7), pp.1205-1207	0	0	0	0	0	0.28	29

⊖²⁸ Improving the Two-Color Temperature Sensing Using Machine Learning Approach: GdVO₄:Sm³⁺ Prepared by Solution Combustion Synthesis (SCS) Jelic, JZ; Dencevski, A; (...); Rabasovic, MS Jul 2024 PHOTONICS ▼ 11(7)	0	0	0	1	3	2	4
⊖²⁹ In vivo femtosecond laser nanosurgery of the cell wall enabling patch-clamp measurements on filamentous fungi Pajic, T; Stevanovic, K; (...); Rabasovic, MD Apr 7 2024 MICROSYSTEMS & NANOENGINEERING ▼ 10(1)	0	0	0	0	4	2	4
⊖³⁰ Real-time multispectral transmission of hard tooth tissues and dental composites with their heating Zebic, ML; Muric, B; (...); Pantelic, D Oct 2023 DENTAL MATERIALS ▼ 39(10), pp.903-912	0	0	0	3	1	1.33	4
⊖³¹ Thermo-osmotic metamaterials with large negative thermal expansion Savic-Sevic, S; Pantelic, D; (...); Jelenkovic, B Jul 14 2021 JOURNAL OF MATERIALS CHEMISTRY C ▼ 9(26), pp.8163-8168	1	1	0	1	1	0.8	4
⊖³² Modulated photoactivation of composite restoration: measurement of cuspal movement using holographic interferometry Blazic, L; Pantelic, D; (...); Panic, B Mar 2011 LASERS IN MEDICAL SCIENCE ▼ 26(2), pp.179-186	0	2	0	0	0	0.27	4
⊖³³ Holographic measurement of dental tissue contraction and stress, due to postpolymerization reaction Pantelic, D; Blazic, L; (...); Belic, I International School and Conference on Optics and Optical Materials Nov 2007 ACTA PHYSICA POLONICA A ▼ 112(5), pp.1157-1160	0	0	0	0	0	0.16	3
⊖³⁴ Time resolved study of temperature sensing using Gd₂O₃:Er,Yb: deep learning approach Rabasovic, MS; Savic-Sevic, S; (...); Sevic, D Nov 1 2023 PHYSICA SCRIPTA ▼ 98(11)	0	0	0	1	1	0.67	2
⊖³⁵ Internal photo-activation of a dental composite using optical fibers: a holographic, thermographic and Raman study Novta, E; Lainovic, T; (...); Blazic, L Dec 2022 OPTICAL AND QUANTUM ELECTRONICS ▼ 54(12)	0	0	0	2	0	0.5	2
⊖³⁶ Characterization and Optimization of Real-Time Photoresponsive Gelatin for Direct Laser Writing Muric, BD; Pantelic, DV; (...); Vasovic, VO	0	0	0	0	2	0.5	29

Jun 2022 POLYMERS 14(12)								
37	Golden moth-inspired structures with a synergistic effect of interference, absorption and scattering Savic-Sevic, S; Pantelic, D; (...); Stojanovic, DV Jul 21 2018 SOFT MATTER 14(27), pp.5595-5603	1	1	0	0	0	0.25	2
38	Three Dimensional Mathematical Model of Tooth for Finite Element Analysis Puskar, T; Vasiljevic, D; (...); Muric, B Jan-feb 2010 SRPSKI ARHIV ZA CELOKUPNO LEKARSTVO 138(1-2), pp.19-25	0	0	0	0	0	0.13	2
39	Application of Fourier-Pade Approximation in Analysis of Holographic Photonic Crystal Structures Sevic, D; Savic-Sevic, S; (...); Marinkovic, BP International School and Conference on Photonics (PHOTONICA09) Oct 2009 ACTA PHYSICA POLONICA A 116(4), pp.647-648	0	0	0	0	0	0.12	2
40	Impact of optical fiber-based photo-activation on dental composite polymerization Novta, E; Pantelic, D; (...); Lainovic, T Jun 2024 JOURNAL OF DENTISTRY 145	0	0	0	0	1	0.5	1
41	Synergy of interference, scattering and pigmentation for structural coloration of <i>Jordanita globulariae</i> moth Pavlovic, D; Savic-Sevic, S; (...); Pantelic, D Jul 14 2021 SOFT MATTER 17(26), pp.6477-6485	0	0	0	1	0	0.2	1
42	Zoom system for measurement of coherent backscattering of light in micro- and nanomaterials Pantelic, D; Savic-Sevic, S and Grujic, D 3rd International Conference on the Physics of Optical Materials and Devices Nov 2013 PHYSICA SCRIPTA T157	0	0	0	0	0	0.08	1
43	Biomechanical model produced from light-activated dental composite resins: a holographic analysis Pantelic, D; Vasiljevic, D; (...); Nikolic, M 3rd International Conference on the Physics of Optical Materials and Devices Nov 2013 PHYSICA SCRIPTA T157	0	0	0	1	0	0.08	1
44	Flexible design of band gaps in the biopolymer photonic crystals Savic-Sevic, S 3rd International School and Conference on Photonics Apr 2012 PHYSICA SCRIPTA T149	1	0	0	0	0	0.07	1
45	Holographic fabrication of periodic microstructures in dichromated pullulan Savic-Sevic, S; Pantelic, D; (...); Isic, G International School and Conference on Optics and Optical Materials	0	0	0	0	0	0.05	1 29

Nov 2007 ACTA PHYSICA POLONICA A ▾ 112(5), pp.1079-1082							
46	Interaction between ordered multilayer structure and randomly distributed nanopillars in biopolymer increases the width of the photonic bandgap						
		0	0	0	0	0	0



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Република Србија
**МИНИСТАРСТВО ПРОСВЕТЕ,
НАУКЕ И ТЕХНОЛОШКОГ РАЗВОЈА**
Комисија за стицање научних звања

Број:660-01-00001/2283

26.09.2022. године

Београд

ИНСТИТУТ ЗА ФИЗИКУ

ПРИМЉЕНО: 07. 10. 2022

Ред. јед.	Број	Архив. фра	Прилог
0901	1330/1		

На основу члана 24. став 2. члана 76. став 6. и члана 91. ст. 1. и 2. Закона о науци и истраживањима ("Службени гласник Републике Србије", број 49/19), члана 3. ст. 2. и 4., члана 32. став 1., члана 35. став 2. и члана 40. Правилника о стицању истраживачких и научних звања ("Службени гласник Републике Србије", број 159/20) и захтева који је поднео

Институт за физику у Београду

Комисија за стицање научних звања на седници одржаној 26.09.2022. године, донела је

**ОДЛУКУ
О СТИЦАЊУ НАУЧНОГ ЗВАЊА**

Др Свејлана Савић Шевић

стиче научно звање

Виши научни сарадник

Р е и з б о р

у области природно-математичких наука – физика

О Б Р А З Л О Ж Е Њ Е

Институт за физику у Београду

утврдио је предлог број 811/1 од 29.06.2022. године на седници Научног већа Института и поднео захтев Комисији за стицање научних звања број 817/1 од 29.06.2022. године за доношење одлуке о испуњености услова за реизбор у научно звање **Виши научни сарадник**.

Комисија за стицање научних звања је по претходно прибављеном позитивном мишљењу Матичног научног одбора за физику на седници одржаној 26.09.2022. године разматрала захтев и утврдила да именована испуњава услове из члана 76. став 6. и члана 91. ст. 1. и 2. Закона о науци и истраживањима ("Службени гласник Републике Србије", број 49/19), члана 3. ст. 1. и 3., члана 32. став 1., члана 35. став 2. и члана 40. Правилника о стицању истраживачких и научних звања ("Службени гласник Републике Србије", број 159/20) за реизбор у научно звање **Виши научни сарадник**, па је одлучила као у изреци ове одлуке.

Доношењем ове одлуке именована стиче сва права која јој на основу ње по закону припадају.

Одлуку доставити подносиоцу захтева, именованој и архиви Министарства просвете, науке и технолошког развоја у Београду.

ПРЕДСЕДНИК КОМИСИЈЕ


Др Бурђица Јововић,
научни саветник

**ПРВИ ПОТПРЕДСЕДНИК ВЛАДЕ
И МИНИСТАР**

Бранко Ружић

Потврда

о учешћу Светлане Савић Шевић на билатералном међународном пројекту између Српске академије науке и уметности и Мађарске академије науке за период 2024-2026

Потврђујем да је Светлана Савић Шевић сарадник на пројекту:

Квантна и класична биофотоника

као и да ради на задацима који се тичу примене дигиталног холографског микроскопа за осликавање биолошких узорака у микрофлуидним системима које реализују колеге из института за Биофизику у Сегедину.

Руководилца пројекта

Бранислав Јеленковић, академик



Потврда

о учешћу Светлане Савић-Шевић на међународном пројекту

Потврђујем да је Светлана Савић-Шевић сарадник на пројекту из позива Horizon Europe од 2021:

Twinning for excellence of the Serbian Research center for quantum biophotonics (2022-2026),

као и да руководи пројектним задатком који се односи на развој метода за осликавања биолошких узорака. У оквиру задатка унапређена је експериментална поставка за дигиталну холографску микроскопију и реализовано и тестирано неколико микрофлуидних система за снимање фиксираних и живих биолошких узорака на холографском микроскопу.

Руководилац пројекта

др Душан Арсеновић



Потврда

о учешћу Светлане Савић Шевић на научно-истраживачком и развојом пројекту између Републике Србије и Народне Републике Кине за период 2017-2019

Потврђујем да је Светлана Савић Шевић била сарадник на пројекту:

Био инспирисани материјали за фотонске сензоре и безбедоносне уређаје

као и да је руководила задатком *Биомиметика структуре инсеката*, у оквиру целине *Биомиметика и функционализација структуре инсекта и развој сензора на бази сличних структура*.

Руководилца пројекта

Бранислав Јеленковић



Научном већу Института за физику у Београду



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0801-2397/2

Датум

20. 11. 2025

ПРЕДМЕТ: Мишљење руководиоца Центра за Фотонику о избору др Светлане Савић-Шевић у звање научни саветник

Др Светлана Савић-Шевић је запослена у Центру за фотонику, Лабораторија за биофотонику, у Институту за физику у Београду од априла 1994. године. У истраживачком раду бави се израдом и истраживањем нових биополимерних материјала, холографским генерисањем комплексних фотонских наноструктура, њиховом структурном и оптичком анализом, и применом у области сензора, оптичке заштите докумената. Њена област интересовања је и биофизика где се истраживање може се поделити у два правца, 1) примена како класичне, тако и дигиталне холографске интерферометрије у испитивању полимеризације и деформације зубних ткива и 2) проучавање структурних и оптичких особина инсеката (са структуром природног фотонског кристала) као и њиховом биомиметиком.

С обзиром да испуњава све услове предвиђене Правилником о стицању истраживачких и научних звања Министарства науке, технолошког развоја и иновација (Службени Гласник Републике Србије бр. 80/2024) који се примењује од 01. јуна 2025., сагласан сам са покретањем поступка за избор др Светлане Савић-Шевић у звање научни саветник.

За састав комисије за избор др Светлане Савић-Шевић у звање научни саветник предлагам:

1. академик Бранислав Јеленковић, научни саветник, Институт за физику у Београду
2. др Душан Арсеновић, научни саветник, Институт за Физику у Београду
3. др Сузана Петровић, научни саветник, Институт за нуклеарне науке Винча

Руководилац Центра за фотонику

др Душан Арсеновић
научни саветник