

MIKHAIL Y. SHALAGINOV

Department of Materials Science & Engineering
Massachusetts Institute of Technology
77 Massachusetts Ave, Rm 13-4150, Cambridge, MA, USA 02139
Tel: +1 (765) 588-7186, E-mail: mys@mit.edu
Web page: <http://web.mit.edu/mys/www/>
Academic record accounts: [Google Scholar](#), [ORCID](#)
June 20th, 2021; 15 pages

SUMMARY

Research highlights:

- demonstrated a varifocal metalens with diffraction-limited performance
- implemented a single-element aberration-free metalens with extremely wide field of view
- developed an ultracompact on-chip, single-layer integration of diamond spins with optical and microwave channels
- enabled a room-temperature single-photon source with a record-high photon rate
- pioneered broadband enhancement of single-photon emitters with hyperbolic metamaterials

Publications summary: h-index 18, in total 1406 citations (Google Scholar); 4 co-authored book chapters; 35 journal article publications (9 as a first author) in high-profile journals, such as Nature Communications, Nano Letters, Laser & Photonics Reviews, etc; 1 US patent; numerous presentations at international conferences.

Highest awards:

- 2019 MRS Fall Meeting, Best poster award, given to 5 out of 700 international presenters
- 2017 College of Engineering Outstanding Graduate Student Research Award, given to 2 graduate students (out of 700+) from ECE at Purdue University

EDUCATION

Ph.D., School of Electrical & Computer Engineering, 08/2017
Purdue University, West Lafayette, IN, USA
Thesis: Novel Plasmonic Materials and Nanodevices for Integrated Quantum Photonics
Advisor: Dr. Vladimir M. Shalaev

B.S., Applied Mathematics and Physics (summa cum laude), 06/2010
Moscow Institute of Physics and Technology,
Department of General and Applied Physics, Dolgoprudny, Moscow Region, Russia
Thesis: Investigation of the temperature dependence of the surface impedance of iron pnictides at different frequencies
Advisor: Dr. Artem F. Shevchun

PROFESSIONAL CAREER

Postdoctoral Associate, Department of Materials Science & Engineering, 08/2017-present
Massachusetts Institute of Technology, MA, USA

Research Assistant, Birck Nanotechnology Center, 08/2010-08/2017
School of Electrical & Computer Engineering, Purdue University, IN, USA

Research Assistant, Institute of Solid-State Physics, 04/2009-06/2010
Russian Academy of Sciences, Russia

HONORS & AWARDS

Finalist of the Activate Fellowship Program 2020	12/17/2020
Finalist of the MIT Kavanaugh Fellowship Program 2020	10/16/2020
1 st prize awards of the AVS 2020 International Twitter Poster Competition in the categories: Nanoscience and Nanomanufacturing and Top Postdoc	07/20/2020
Best poster award, 2019 MRS Fall Meeting *awarded to top 5 out of almost 700 poster presenters from all over the world	12/02/2019
Best poster presentation prize at MIT Materials Day 2018 *awarded to top 5 out of 60 participants from the MIT Department of Material Science & Engineering	10/10/2018
Top 10 pitch presentation award at MARC 2018 prize for presenting the work "All-dielectric phase-change nanoantennae and metasurfaces in mid-IR"	01/30/2018
2017 College of Engineering Outstanding Graduate Student Research Award *awarded to 2 graduate students (out of 700+) from the School of Electrical & Computer Engineering at Purdue University	04/2017
2015 SPIE Officer Travel Grant	08/2015
Graduate Ambassador of Birck Nanotechnology Center *awarded to top 10 graduate students at the Birck Nanotechnology Center	2013-2017
Leadership and Service Award from ECE Graduate Student Association	12/2013
Semi-finalist in the 2013 OSA Foundation's Maiman Outstanding Student Paper Competition, for the paper titled: "Broadband enhancement of spontaneous emission from nitrogen-vacancy centers in nanodiamonds by hyperbolic metamaterials." *highest scoring student paper in the category Metamaterials and Complex Media	04/2013
3 rd prize, Second International Olympiad in Mathematical Physics, Samara State University, Russia	09/2010
1 st prize, research project competition, International Summer School "Schola ludus 2010", Institute of Physical Biology South Bohemia University, Czech Republic. Project title: Modeling of hydrogen storage materials	07/2010
1 st team prize & personal award for the best solutions of certain problems, Students Training Contest Olympiad in Mathematical and Theoretical Physics, Samara State University, Russia	05/2010
1 st team prize, 3 rd personal prize, Open Students' Olympiad in Mathematical Physics, Samara State University, Russia	04/2009
Winner certificate, All-Russian Olympiad in Applied Physics and Mathematics 2009, Moscow Institute of Physics & Technology, Russia	04/2009

RESEARCH EXPERIENCE HIGHLIGHTS

Reconfigurable metasurfaces based on phase-change materials in mid-IR (MIT): demonstrated for the first time high-performance non-mechanically-actuated metalens with a switchable focal length. Metalens was constructed of a newly developed low-loss phase-change material Ge-Sb-Se-Te.

journal article: J[29] M. Y. Shalaginov, Nature Communications. 2020 (in press)

A single-element planar metalens with ultra-wide field of view (MIT): implemented a high-efficiency mid-infrared metalens with diffraction-limited focusing and record-high field of view exceeding 170°.

journal article: J[27] M. Y. Shalaginov, et al, Nano Letters, 20 (10), 7429–7437, 2020

***front page of mit.edu on Sep. 21st, 2020**

***2nd top MIT News story in Sep. 2020**

Nonlinear Mid-infrared Metasurface based on a Phase-Change Material (MIT): fabricated and analyzed a phase-change metasurface for enhancing third harmonic generation in mid-infrared.

journal article: J[28] F. Yue†, R. Piccoli†, M. Y. Shalaginov†, et al, Laser Photon. Rev. (under review)

On-chip integrated spin-microwave-plasmon interface (Purdue University): designed and experimentally validated a single-layer on-chip quantum interface composed of electron spins in nanodiamonds coupled to v-groove optical collectors and microwave channels.

journal article: J[22] M. Y. Shalaginov, et al, ACS Photonics, 7, 2018–2026, 2020

Ultra-bright room-temperature single-photon emitter (Purdue University): developed a nanophotonic single-photon source with record-high emission rates up to 30 million photons per second at room temperature. Extremely high emission was achieved by coupling robust nitrogen-vacancy centers to nano-patch plasmonic antennae made of low-loss silver.

journal article: J[16] S. Bogdanov, M. Y. Shalaginov, et al, Nano Letters, 18 (8), 4837-4844, 2018

***highlighted in Purdue News Release**

***featured in the OPN special issue "Optics in 2018"**

Electron spin contrast of Purcell-enhanced color centers in nanodiamonds (Purdue University): experimentally studied the influence of spontaneous emission rate enhancement on electron spin readout properties of nitrogen-vacancy ensembles at low excitation regime.

journal article: J[12] S. Bogdanov, M. Y. Shalaginov, et al, Phys. Rev. B, 96, 035146, 2017

Enhancement of single-photon emission from diamond color centers coupled to metamaterials (Purdue University): pioneered experimental studies of broadband emission enhancement on single solid-state emitters coupled to hyperbolic metamaterials.

journal articles: J[6] M. Y. Shalaginov, et al, Laser Photon. Rev., 9 (1), 120-127, 2015

J[3] M. Y. Shalaginov, et al, Appl. Phys. Lett. 102, 173114, 2013

J[13] O. A. Makarova, M. Y. Shalaginov, et al, Opt. Lett., 42 (19), 3968-3971, 2017

***front cover, highlighted in Purdue News Release**

Plasmonic waveguides cladded by hyperbolic metamaterials (Purdue University): performed analytical derivations of mode dispersion in arbitrary anisotropic multilayer waveguides and 2D numerical studies of plasmonic waveguides with a dielectric core and hyperbolic-media claddings.

journal articles: J[5] S. Ishii, M. Y. Shalaginov, et al Opt. Lett. 39 (16), 4663-4666, 2014

J[7] V. E. Babicheva, M. Y. Shalaginov, et al, Opt. Express, 23 (8), 9681, 2015

J[8] V. E. Babicheva, M. Y. Shalaginov, et al, Opt. Express, 23 (24), 31109, 2015

***in top downloads of Optics Letters from August 2014**

GRANT PROPOSAL EXPERIENCE

Experience in drafting successfully funded grant proposals:

- DURIP ONR 2016 (\$280k)

- DoE 2016 (\$1.3M)
- MIT.nano seed grant by NCSOFT 2019 (\$140k)
- MIT-Skoltech pilot grant 2020 (\$200k)

TEACHING EXPERIENCE

Content developer for online MIT edX courses on Integrated Photonics 08/2020 – 03/2021

Instructor of Quantum Computing Lab at Winter College in Optics: 02/12/2020
 Developed and delivered a 2hr workshop; taught a group of 80 students the basics of programming quantum logic circuits using Qiskit framework and executing the developed codes on IBM quantum nodes.

Participant of Kaufman Teaching Certificate Program (MIT Teaching & Learning Lab) 06/2018
 Learnt and practiced the basics of developing a course, planning & facilitating class sessions, implementing active learning techniques, constructing effective assignments, creating inclusive learning environment.

Teaching assistant

ECE 412 “Introduction to Engineering Optics” (Fall semesters) 08/2013 – 12/2015

ECE 414 “Elements of Electro- and Fiber Optics” 01/2015 – 05/2015

Purdue University, West Lafayette, IN, USA

Assisted in teaching, substituted instructor in giving lectures, conducted review sessions and office hours, graded exams and homework assignments

Teaching assistant

GK-12 Program, Lafayette Tecumseh Junior High School, 01/2013 – 04/2013

Lafayette, IN, USA

Designed and delivered a lesson “Exploring the world of optical devices: Building a telescope”; obtained funding for community service/service learning projects; assisted in teaching 7th grade Math

Teaching assistant,

Distance Education Physics and Mathematics School, 09/2006 – 06/2009

Moscow Institute of Physics and Technology, Russia

Graded homework assignments and wrote reviews

MENTORING

undergraduate students at Purdue University

[1] Ran Cui 11/2014 – 05/2017

[2] Oksana Makarova 09/2015 – 08/2017

[3] Nathan Campbell 09/2016 – 12/2016

[4] Jihan Salsabila 11/2016 – 03/2017

undergraduate students at Massachusetts Institute of Technology

[5] Fan Yang 03/2018 – 09/2018

[6] Raja B. Azhar 04/2019 – 07/2019

[7] Marilyn R. Meyers 12/2020 – 06/2021

high-school students

[7] Helena Jiang (RSI program at MIT) 07/2019 – 08/2019

[8] Seoyoung Joo 07/2019 – 08/2019

PROFESSIONAL AFFILIATIONS

OSA, Optical Society of America, student member since 2011

MRS, Material Research Society, student member since 2011

SPIE, Society of Photographic Instrumentation Engineers, student member	since 2012
IEEE, Institute of Electrical and Electronics Engineers, student member	since 2013
APS, American Physical Society, student member	since 2013
ACES, Applied Computational Electromagnetics Society	since 2020

OUTREACH & SERVICE

Editorial Board Member of SPIE Career Lab (community of 2000+ participants)	02/2021 – 01/2022
Facilitator of SPIE Student Chapter Leadership Workshop (invited and funded by SPIE)	08/2019
MIT DMSE postdoctoral representative	09/2018
Organizer of Purdue Quantum Journal Club	09/2015 – 09/2016
<u>Founder of SPIE Purdue Student Chapter</u>	11/2014
President of SPIE Purdue Student Chapter Purdue University, West Lafayette, IN, USA	11/2014 – 05/2015
Session Chair and Judge at SURF Research Symposium 2013 Purdue University, West Lafayette, IN, USA	07/2013
President of Nanotechnology Student Advisory Council Purdue University, West Lafayette, IN, USA	06/2013 – 06/2014
President of OSA Purdue Student Chapter, President of ECE Graduate Student Association, Research and Awareness Committee Member of Nanotechnology Student Advisory Council, Purdue University, West Lafayette, IN, USA	09/2012 – 09/2013
Vice-President of OSA Purdue Student Chapter, Purdue University, West Lafayette, IN, USA	06/2011– 06/2012
<u>Founder of OSA Purdue Student Chapter</u> , Purdue University, West Lafayette, IN, USA	06/2011
Volunteer, NanoDays (educational activities for K-12 students) Purdue University, West Lafayette, IN, USA	04/2011-2016
Participant of GK-12 Program	01/2013 – 04/2013
Judge, 2013 Undergraduate Research Poster Symposium Purdue University, West Lafayette, IN, USA	03/2013
Reviewer for peer-reviewed scientific journal: Nano Letters, ACS Nano, JOSA A, JOSA B, Optics Letters, Optics Express, Optical Material Express, Applied Physics Letters, Physical Review A, Physical Review B, Scientific Reports, Nanoscale, PNAS, Nanophotonics	
Organizer, Guest Olympiad in Mathematics and Physics of Moscow Institute of Physics and Technology, Kirov, Russia	02/2010
Organizer, All-Russian School Physics Olympiad 2008 (regional stage), Moscow region, Russia	11/2008

CONFERENCE & WORKSHOP ORGANIZATION

CO[4] Co-organizer and chair of the session "Time domain modeling of switchable and tunable devices in Photonics" at 2020 ACES (Applied Computational Electromagnetics Society) Symposium, Monterey, CA, USA, March 22-26, 2020.

CO[3] Workshop coordinator and leading member of the Organizing Committee
Purdue Quantum Center Workshop 2017 "Coherent Effects in Physics & Chemistry"
West Lafayette, IN, USA, April 28, 2017.

CO[2] Member of the Organizing Committee
International Workshop "Quantum Control of Light & Matter" (Purdue Quantum Center Kickoff),
West Lafayette, IN, USA, October 14-15, 2015.

CO[1] Member of the Organizing Committee
International Workshop "Novel Ideas in Optics: From Advanced Materials to Revolutionary Applications", West Lafayette, IN, USA, May 31–June 2, 2012.

JOURNAL ARTICLES

released on arXiv

J[35] C. Ríos, Q. Du, Y. Zhang, C.-C. Popescu, **M. Y. Shalaginov**, P. Miller, C. Roberts, M. Kang, K. A. Richardson, T. Gu, S. A. Vitale, J. Hu, "Ultra-compact nonvolatile photonics based on electrically reprogrammable transparent phase change materials", arXiv: 2105.06010.

J[34] S. An, B. Zheng, **M. Y. Shalaginov**, H. Tang, H. Li, L. Zhou, Y. Dong, M. Haerinia, A. M. Agarwal, C. Rivero-Baleine, M. Kang, K. A. Richardson, T. Gu, J. Hu, C. Fowler, H. Zhang, "Deep convolutional neural networks to predict mutual coupling effects in metasurfaces", arXiv:2102.01761.

published in international peer-reviewed journals

J[33] Y. Zhang, C. Ríos, M. Y. Shalaginov, M. Li, A. Majumdar, T. Gu, J. Hu, "Myths and truths about optical phase change materials: A perspective", Appl. Phys. Lett. 118, 210501, 2021.

J[32] P. Su, **M. Shalaginov**, T. Gu, S. An, D. Li, L. Li, H. Jiang, S. Joo, L. Kimerling, H. Zhang, J. Hu, A. Agarwal, "Large-area optical metasurface fabrication using nanostencil lithography", Opt. Lett., 46 (10), 2324-2327, 2021.

J[31] Y. Zhang, C. Fowler, J. Liang, B. Azhar, **M. Y. Shalaginov**, S. An, J. B. Chou, C. M. Roberts, V. Liberman, M. Kang, C. Ríos, K. A. Richardson, C. Rivero-Baleine, T. Gu, H. Zhang, J. Hu, "Electrically reconfigurable non-volatile metasurface using low-loss optical phase-change material", Nature Nanotechnology 16, 661–666, (2021)

***highlighted in Nature Nanotechnology News & Views: Tunable phase-change metasurfaces**

J[30] S. An, B. Zheng, H. Tang, **M. Y. Shalaginov**, L. Zhou, H. Li, M. Kang, K. A. Richardson, T. Gu, J. Hu, C. Fowler, H. Zhang, "Multifunctional metasurface design with a generative adversarial network", Adv. Opt. Mater., 9 (5), 2001433, 2021.

***cover picture**

J[29] **M. Y. Shalaginov**, S. An, Y. Zhang, F. Yang, P. Su, V. Liberman, J. B. Chou, C. M. Roberts, M. Kang, C. Ríos, Q. Du, C. Fowler, A. Agarwal, K. Richardson, C. Rivero-Baleine, H. Zhang, J. Hu, T. Gu, "Reconfigurable all-dielectric metalens with diffraction limited performance", Nature Communications 12 (1225), 1-8, 2021.

***highlighted in MIT News**

J[28] F. Yue†, R. Piccoli†, **M. Y. Shalaginov**†, T. Gu, K. Richardson, R. Morandotti, J. Hu, L. Razzari, "Nonlinear mid-infrared metasurface based on a phase-change material", *Laser Photon. Rev.* 15, 2000373, 2021.

†*equal contribution*

J[27] **M. Y. Shalaginov**, S. An, F. Yang, P. Su, D. Lyzwa, A. Agarwal, H. Zhang, J. Hu, T. Gu, "Single-element diffraction-limited fisheye metalens", *Nano Lett.*, 20 (10), 7429–7437, 2020.

***front page of mit.edu on Sep. 21st, 2020**

***top 10 MIT research stories of 2020**

J[26] C. Ríos, Y. Zhang, **M. Shalaginov**, S. Deckoff-Jones, H. Wang, S. An, H. Zhang, M. Kang, K. A. Richardson, C. Roberts, J. B. Chou, V. Liberman, S. A. Vitale, J. Kong, T. Gu, J. Hu, "Multi-level electro-thermal switching of optical phase-change materials using graphene", *Adv. Photonics Res.* 2000034, doi:10.1002/adpr.202000034, 2020.

J[25] S. An, B. Zheng, **M. Y. Shalaginov**, H. Tang, H. Li, L. Zhou, J. Ding, A. M. Agarwal, C. Rivero-Baleine, M. Kang, K. A. Richardson, T. Gu, J. Hu, C. Fowler, H. Zhang, "Deep learning modeling approach for metasurfaces with high degrees of freedom", *Opt. Express.* 28 (21), 31932-31942, 2020.

***editor's pick**

***in top downloads of Optical Express from October 2020**

J[24] H.-I. Lin, C.-C. Wang, K.-C. Shen, **M. Y. Shalaginov**, P. K. Roy, K. P. Bera, M. Kataria, C. R. P. Inbaraj, Y.-F. Chen, "Enhanced laser action from smart fabrics made with rollable hyperbolic metamaterials", *npj Flexible Electronics*, 4 (20), 2020.

J[23] **M. Y. Shalaginov**, S. An, Y. Zhang, S. D. Campbell, F. Yang, C. Ríos, L. Kang, D. H. Werner, H. Zhang, J. Hu, T. Gu, "Design for quality: reconfigurable flat optics based on active metasurfaces", *Nanophotonics*, 9, 3505–3534, 2020. **[invited review]**

J[22] **M. Y. Shalaginov**, S. Bogdanov, A. S. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "On-chip single-layer integration of diamond spins with microwave and plasmonic channels", *ACS Photonics*, 7, 2018–2026, 2020.

J[21] L. Shen, X. Lin, **M. Y. Shalaginov**, T. Low, X. Zhang, B. Zhang, H. Chen, "Broadband enhancement of on-chip single-photon extraction via tilted hyperbolic metamaterials", *Appl. Phys. Rev.*, 7, 021403, 2020.

J[20] J. R. Rodriguez, Z. Qi, H. Wang, **M. Y. Shalaginov**, C. Goncalves, M. Kang, K. A. Richardson, J. Guerrero-Sanchez, M. G. Moreno-Armenta, V. G. Pol, "Ge₂Sb₂Se₅ glass as high-capacity promising lithium-ion battery anode", *Nano Energy*, 104326, 2019.

J[19] S. An, C. Fowler, B. Zheng, **M. Y. Shalaginov**, H. Tang, H. Li, L. Zhou, J. Ding, A. M. Agarwal, C. Rivero-Baleine, K. A. Richardson, T. Gu, J. Hu, H. Zhang, "A deep learning approach for objective-driven all-dielectric metasurface design", *ACS Photonics*, 6, 3196–3207, 2019.

J[18] Y. Zhang, J. B. Chou, J. Li, H. Li, Q. Du, A. Yadav, S. Zhou, **M. Y. Shalaginov**, Z. Fang, H. Zhong, C. Roberts, P. Robinson, B. Bohlin, C. Ríos, H. Lin, M. Kang, T. Gu, J. Grossman, J. Warner, V. Liberman, K. Richardson, J. Hu, "Broadband transparent optical phase change materials for high-performance nonvolatile photonics", *Nature Communications*, 10 (1), 1-9, 2019.

J[17] S. Geiger, Q. Du, B. Huang, **M. Y. Shalaginov**, J. Michon, H. Lin, T. Gu, A. Yadav, K. A. Richardson, X. Jia, J. Hu, "Understanding aging in chalcogenide glass thin films using precision resonant cavity refractometry", *Opt. Mater. Express*, 9 (5), 2252-2263, 2019.

J[16] S. Bogdanov, **M. Y. Shalaginov**, A. Lagutchev, C.-C. Chiang, D. Shah, A. S. Baburin, I. A. Ryzhikov, I. A. Rodionov, A. Boltasseva, V. M. Shalaev, "Ultrabright room-temperature single-photon emission from nanodiamond nitrogen-vacancy centers with sub-nanosecond excited-state lifetime", *Nano Letters*, 18 (8), 4837-4844, 2018.

***highlighted in Purdue News Release**

***featured in the OPN special issue "Optics in 2018"**

J[15] L. Zhang, J. Ding, H. Zheng, S. An, H. Lin, B. Zheng, Q. Du, G. Yin, J. Michon, Y. Zhang, Z. Fang, **M. Y. Shalaginov**, L. Deng, T. Gu, H. Zhang, J. Hu, "Ultra-thin high-efficiency mid-infrared transmissive Huygens meta-optics", *Nature Communications*, 9 (1481), 1-9, 2018

***highlighted in MIT News**

***among the 50 most read Nature Communications physics articles published in 2018**

J[14] S. K. H. Andersen, S. Bogdanov, O. Makarova, Y. Xuan, **M. Y. Shalaginov**, A. Boltasseva, S. I. Bozhevolnyi, V. M. Shalaev, "Hybrid Plasmonic Bullseye Antennas for Efficient Photon Collection", *ACS Photonics*, 5(3), 692-698, 2018.

J[13] O. A. Makarova, **M. Y. Shalaginov**, S. Bogdanov, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Patterned multilayer metamaterial for fast and efficient photon collection from dipolar emitters", *Opt. Lett.*, 42 (19), 3968-3971, 2017.

J[12] S. Bogdanov, **M. Y. Shalaginov**, A. Akimov, A. S. Lagutchev, P. Kapitanova, J. Liu, D. Woods, M. Ferrera, P. Belov, J. Irudayaraj, A. Boltasseva, V. M. Shalaev, "Electron spin contrast of Purcell-enhanced nitrogen-vacancy ensembles in nanodiamonds", *Phys. Rev. B*, 96, 035146, 2017.

J[11] R. Chandrasekar, Z. Wang, X. Meng, S. I. Azzam, **M. Y. Shalaginov**, A. Lagutchev, Y. L. Kim, A. Wei, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Lasing action with gold nanorod hyperbolic metamaterials", *ACS Photonics*, 4(3), 674-680, 2017.

J[10] V. Vorobyov, A. Kazakov, V. Soshenko, A. Korneev, **M. Y. Shalaginov**, S. Bolshedvorskii, V. N. Sorokin, A. Divochiy, Yu. Vakhtomin, K. V. Smirnov, B. Voronov, V. M. Shalaev, A. Akimov, G. Goltsman, "Superconducting detector for visible and near-infrared quantum emitters", *Opt. Mater. Express*, 7 (2), 513-526, 2017.

J[9] S. Bogdanov, **M. Y. Shalaginov**, A. Boltasseva, V. M. Shalaev, "Material platforms for integrated quantum photonics", *Opt. Mater. Express*, 7 (2), 111-132, 2017. **[invited review]**

***in top downloads of Optical Materials Express since Dec. 2016**

J[8] V. E. Babicheva, **M. Y. Shalaginov**, S. Ishii, A. Boltasseva, A. V. Kildishev, "Long-range plasmonic waveguides with hyperbolic cladding", *Opt. Express*, 23 (24), 31109-31119, 2015.

J[7] V. E. Babicheva, **M. Y. Shalaginov**, S. Ishii, A. Boltasseva, A. V. Kildishev, "Finite-width plasmonic waveguides with hyperbolic multilayer cladding", *Opt. Express*, 23 (8), 9681-9689, 2015.

J[6] **M. Y. Shalaginov**, V. V. Vorobyov, J. Liu, M. Ferrera, A. V. Akimov, A. Lagutchev, A. N. Smolyaninov, V. V. Klimov, J. Irudayaraj, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Enhancement of single-photon emission from nitrogen-vacancy centers with TiN/(Al,Sc)N hyperbolic metamaterial", *Laser Photonics Rev.*, 9 (1), 120-127, 2015.

***cover picture, highlighted in Purdue News Release**

J[5] S. Ishii, **M. Y. Shalaginov**, V. E. Babicheva, A. Boltasseva, A. V. Kildishev, "Plasmonic waveguides cladded by hyperbolic metamaterials" *Opt. Lett.* 39 (16), 4663-4666, 2014.

***in top downloads of Optics Letters from August 2014**

J[4] **M. Y. Shalaginov**, S. Ishii, J. Liu, J. Liu, J. Irudayaraj, A. Lagutchev, A. V. Kildishev, V. M. Shalaev, "Broadband enhancement of spontaneous emission from nitrogen-vacancy centers in nanodiamonds by hyperbolic metamaterials", *Appl. Phys. Lett.* 102, 173114, 2013.

J[3] **M. Y. Shalaginov**, G. V. Naik, S. Ishii, M. N. Slipchenko, A. Boltasseva, J. X. Cheng, A. N. Smolyaninov, E. Kochman, V. M. Shalaev, "Characterization of nanodiamonds for metamaterial applications", *Appl. Phys. B*, 105, 191-195, 2011.

J[2] Ali H. Reshak, **M. Y. Shalaginov**, Yasir Saeed, I. V. Kityk, S. Auluck, "First-principles calculations of structural, elastic, electronic, and optical properties of perovskite-type KMgH_3 crystals: Novel hydrogen storage material", *J. Phys. Chem. B*, 115 (12), 2836-2841, 2011.

published in Russian journals

J[1] **M. Y. Shalaginov**, M. G. Ivanov, M. V. Dolgoplov, "Problems with Laplace operator on topological Surfaces" (in Russian), *Vestn. Samar. Gos. Tekhn. Univ. Ser. Fiz.-Mat. Nauki*, 2(23), 2011.

PATENTS

P[1] J. Hu, T. Gu, **M. Shalaginov**, "Ultra-wide field-of-view flat optics", US Patent App. 16/894,945

BOOK CHAPTERS

B[4] **M. Y. Shalaginov**, F. Yang, J. Hu, T. Gu, "Dancing Angels on the Point of a Needle: Nanofabrication for Subwavelength Optics", chapter in the book "Nanoantennas and Plasmonics: Modeling, Design and Fabrication"; Ed: D. Werner, IET, ISBN-13: 978-1-78561-837-6, pp. 381-443 (2020).

B[3] **M. Y. Shalaginov**, R. Chandrasekar, S. Bogdanov, Z. Wang, X. Meng, O. A. Makarova, A. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Hyperbolic Metamaterials for Single-Photon Sources and Nanolasers", chapter in the book "Quantum Plasmonics"; Eds: S. I. Bozhevolnyi, L. Martin-Moreno, F. J. Garcia-Vidal, Springer International Publishing, ISBN 978-3-319-45819-9, pp. 97-120 (2017).

B[2] **M. Y. Shalaginov**, S. Bogdanov, V. V. Vorobyov, A. S. Lagutchev, A. V. Kildishev, A. V. Akimov, A. Boltasseva, and V. M. Shalaev, "Enhancement of Single-Photon Sources with Metamaterials", chapter in the book "From Atomic to Mesoscale: The Role of Quantum Coherence in Systems of Various Complexities"; Eds: S. A. Malinovskaya and I. Novikova, World Scientific Publishing Co. PTE. LTD, ISBN: 978-981-4678-69-8, pp. 123-148 (2015).

B[1] G. S. Beloglazov, A. L. Bobrick, S. V. Chervon, B. V. Danilyuk, M. V. Dolgoplov, M. G. Ivanov, O. G. Panina, E. Yu. Petrova, I. N. Rodionova, E. N. Rykova, **M. Y. Shalaginov**, I. S. Tsirova, I. V. Volovich, A. P. Zubarev, "Mathematical Physics: Problems and Solutions of The Students Training Contest Olympiad in Mathematical and Theoretical Physics" (May 21st - 24th, 2010), ISBN 978-5-86465-494-1 (2011).

SELECTED CONFERENCES, SEMINARS, WEBINARS, WORKSHOPS (* presenting author)

C[63] "Reconfigurable all-dielectric metasens for diffraction-limited imaging", **M. Y. Shalaginov**, S. An, Y. Zhang, F. Yang, P. Su, V. Liberman, J. B. Chou, C. M. Roberts, M. Kang, C. Rios, Q. Du, C. Fowler, A. Agarwal, K. A Richardson, C. Rivero-Baleine, H. Zhang, J. Hu*, T. Gu, SPIE Optics + Photonics 2020, August 24-28, 2020.

C[62] "Optical electron spin relaxometry in diamond nitrogen-vacancy centers for applications in quantum and nanoscale photonics", S. Bogdanov*, A. Solanki, Z. Martin, **M. Shalaginov**, X. Xu, P. Upadhyaya, A. V. Kildishev, A. Boltasseva, V. M Shalaev,

SPIE Optics + Photonics 2020, August 24-28, 2020.

C[61] "Assembly and integration of plasmon-enhanced single-photon sources",
S. I. Bogdanov*, O Makarova, **M. Shalaginov**, C-C Chiang, X Xu, I. A. Rodionov, A Boltasseva,
V. M. Shalaev,
SPIE Optics + Photonics 2020, August 24-28, 2020.

C[60] "Reconfigurable All-dielectric Metasurfaces based on Optical Phase change Materials: Design Approaches" (**invited**),
M. Y. Shalaginov*, S. An, Y. Zhang, F. Yang, C. Fowler, H. Zhang, J. Hu, T. Gu
2020 International ACES Symposium, July 27-31, 2020.

C[59] "Reshaping Light with Metasurfaces: from fisheyes to reconfigurable optics",
M. Y. Shalaginov*,
Harvard CNS seminar, July 9, 2020

C[58] "Reconfigurable Non-volatile High-performance Metalens",
M. Y. Shalaginov*, S. An, Y. Zhang, F. Yang, P. Su, V. Liberman, J. Chou, C. Roberts, M. Kang, C. Rios, Q. Du, C. Fowler, A. Agarwal, K. Richardson, C. Rivero-Baleine, H. Zhang, J. Hu, and T. Gu,
Conference on Lasers and Electro-Optics 2020, May 10-15, 2020.

C[57] "All-dielectric Metasurface Designs Enabled by Deep Neural Networks",
S. An*, C. Fowler, B. Zheng, **M. Y. Shalaginov**, H. Tang, H. Li, J. Ding, M. Kang, A. M. Agarwal, C. Rivero-Baleine, K. A. Richardson, T. Gu, J. Hu, and H. Zhang,
Conference on Lasers and Electro-Optics 2020, May 10-15, 2020.

C[56] "Reconfigurable meta-optics with chalcogenide alloys",
M. Y. Shalaginov*,
MIT.nano webinar series "Nano Explorations", May 4, 2020.

C[55] "Advanced imaging optics enabled by ultra-thin, all-dielectric metasurfaces",
T. Gu*, **M. Y. Shalaginov**, S. An, F. Yang, Q. Du, Y. Zhang, C. Fowler, C. Rivero-Baleine, H. Zhang,
J. Hu,
SPIE Defense + Commercial Sensing 2020, April 27-May 8, 2020.

C[54] "High-performance reconfigurable meta-optics based on optical phase change materials",
T. Gu*, **M. Y. Shalaginov**, S. An, S. D. Campbell, Y. Zhang, C. Ríos, L. Kang, M. Kang, C. Gonçalves,
C. Rivero-Baleine, K. Richardson, D. H. Werner, H. Zhang, J. Hu,
SPIE Defense + Commercial Sensing 2020, April 27-May 8, 2020.

C[53] "Single-layer Planar Metasurface Lens with $> 170^\circ$ Field of View",
M. Y. Shalaginov*, S. An, F. Yang, P. Su, A. Agarwal, H. Zhang, J. Hu, T. Gu,
Frontiers in Optics, Washington, DC, USA, September 15-19, 2019.

C[52] "High-performance mid-IR metasurface optics",
M. Shalaginov, S. An, H. Zheng, L. Zhang, C. Fowler, J. Ding, T. Gu, H. Zhang, J. Hu*,
SPIE Optics + Photonics, San Diego, CA, USA, August 11-15, 2019.

C[51] "A hybrid plasmonic-dielectric platform for high-speed, room-temperature quantum nanophotonics",
S. Bogdanov, **M. Y. Shalaginov**, Z. Kudyshev, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev*,
SPIE Optics + Photonics, San Diego, CA, USA, August 11-15, 2019.

C[50] "Time domain modeling of bi-anisotropic media and phase change materials with generalized dispersion",

L. J. Prokopeva*, V. Liberman, J. Chou, C. Roberts, **M. Shalaginov**, Y. Zhang, J. Hu, Z. Kudyshev, A. Kildishev,
SPIE Optics + Photonics, San Diego, CA, USA, August 11-15, 2019.

C[49] "Designing nonvolatile integrated photonics with low-loss optical phase change materials",
Y. Zhang, Q. Zhang, J. B. Chou, R. Soref, J. Li, C. Roberts, M. Kang, C. Gonçalves, C. Ríos, **M. Shalaginov**, K. Richardson, V. Liberman, T. Gu, J. Hu*,
SPIE Optics + Photonics, San Diego, CA, USA, August 11-15, 2019.

C[48] "Reconfigurable Infrared Flat Optics with Novel Phase Change Materials", V Liberman*, Y Zhang, **M Shalaginov**, C Rios, P Robinson, C Roberts, K Tibbetts, M Kang, K Richardson, J Hu, J. B. Chou, OSA Advanced Photonics Congress (AP) 2019, Burlingame, CA, USA, July 29-August 1, 2019.

C[47] "Electrically reconfigurable nonvolatile metasurface using optical phase change materials",
Y. Zhang*, J. Liang, **M. Shalaginov**, S. Deckoff-Jones, C. Ríos, J. B. Chou, C. Roberts, S. An, C. Fowler, S. D. Campbell, B. Azhar, C. Gonçalves, K. Richardson, H. Zhang, D. H. Werner, T. Gu, J. Hu,
Conference on Lasers and Electro-Optics 2019, San Jose, CA, USA, May 5-10, 2019.

C[46] "Reversible switching of optical phase change materials using graphene microheaters",
C. Ríos*, Y. Zhang, S. Deckoff-Jones, H. Li, J. B. Chou, H. Wang, **M. Shalaginov**, C. Roberts, C. Gonçalves, V. Liberman, T. Gu, J. Kong, K. Richardson, J. Hu,
Conference on Lasers and Electro-Optics 2019, San Jose, CA, USA, May 5-10, 2019.

C[45] "Reshaping light: reconfigurable photonics enabled by broadband low-loss optical phase change materials",
Y. Zhang, J. B Chou, **M. Shalaginov**, C. Rios, C. Roberts, P. Robinson, B. Bohlin, Q. Du, Q. Zhang, J. Li, M. Kang, C. Gonçalves, K. Richardson, T. Gu, V. Liberman, J. Hu*,
SPIE Defense + Commercial Sensing 2019, Baltimore, MD, USA, April 14-18, 2019.

C[44] "High-index-contrast dielectric metasurface optics for MWIR imaging",
M. Shalaginov, S. An, L. Li, H. Zheng, J. Ding, L. Zhang, C. Rivero-Baleine, T. Gu, H. Zhang, J. Hu*,
SPIE Defense + Commercial Sensing 2019, Baltimore, MD, USA, April 14-18, 2019.

C[43] "Modeling of all-dielectric metasurfaces using deep neural networks",
S. An*, C. Fowler, **M. Y. Shalaginov**, Y. Zhang, P. Su, M. Kang, B. Zheng, H. Tang, H. Li, A. M. Agarwal, C. Rivero-Baleine, K. A. Richardson, T. Gu, J. Hu, H. Zhang,
2019 International Applied Computational Electromagnetics Society Symposium (ACES), Miami, FL, USA, April 14-19, 2019.

C[42] "Assembling nanoscale quantum photonic devices",
S. Bogdanov*, O. Makarova, **M. Shalaginov**, C.-C. Chiang, A. S. Lagutchev, A. Boltasseva, A. V. Kildishev, V. M. Shalaev,
SPIE Photonics West, OPTO, San Francisco, CA, USA, February 2-7, 2019.

C[41] "Ultra-thin, reconfigurable meta-optics using optical phase change materials" (**invited**),
M. Shalaginov, Y. Zhang, S. An, J. Chou, Q. Du, A. Yadav, M. Kang, C. Blanco, P. Su, M. Driggers, A. Kirk, E. Baleine, A. Agarwal, C. Rivero-Baleine, V. Liberman, K. Richardson, H. Zhang, J. Hu, T. Gu*,
SPIE Optics + Photonics, San Diego, CA, USA, August 19-23, 2018.

C[40] "Ultra-compact metallic interface for NV spin readout",
M. Y. Shalaginov, S. Bogdanov*, A. Lagutchev, A. Boltasseva, V. M. Shalaev,
SPIE Optics + Photonics, San Diego, CA, USA, August 19-23, 2018.

C[39] "Room-temperature high-speed control of quantum emitters with plasmonic" (**invited**),

S. Bogdanov*, **M. Y. Shalaginov**, O. Makarova, C.-C. Chiang, A. Lagutchev, A. Boltasseva, V. M. Shalaev,
SPIE Optics + Photonics, San Diego, CA, USA, August 19-23, 2018.

C[38] "Spin readout of nitrogen-vacancy centers with plasmonic nanostructures" (**invited**),
S. Bogdanov*, **M. Y. Shalaginov**, O. Makarova, C.-C. Chiang, A. Lagutchev, A. Boltasseva, V. M. Shalaev,
SPIE Optics + Photonics, San Diego, CA, USA, August 19-23, 2018.

C[37] "Reconfigurable photonics enabled by optical phase change materials" (**invited**),
Y. Zhang, J. B Chou, Q. Zhang, J. Li, Huashan Li, Q. Du, A. Yadav, M. Kang, C. Blanco, H. Zhong, **M. Y Shalaginov**, J. C Grossman, R. Soref, V. Liberman, K. Richardson, J. Hu, T. Gu*,
SPIE Photonics Europe, Strasbourg, France, April 23-26, 2018.

C[36] "Ultrabright room-temperature emission from single plasmon-enhanced nitrogen-vacancy centers in diamond",
S. Bogdanov*, **M. Y. Shalaginov**, A Lagutchev, C.-C. Chiang, D. Shah, A. S. Baburin, I. A. Ryzhikov, I. A. Rodionov, A. Boltasseva, V. M. Shalaev,
Conference on Lasers and Electro-Optics 2018, San Jose, CA, USA, May 13-18, 2018.

C[35] "Broadband low-loss optical phase change materials and devices" (**invited**),
Y. Zhang, J. Chou, J. Li, Q. Du, Q. Zhang, H. Zhong, A. Yadav, M. Kang, Z. Fang, H. Zheng, **M. Shalaginov**, T. Gu, K. Richardson, V. Liberman, J. Hu*,
SPIE Photonics West, OPTO, San Francisco, CA, USA, January 27-February 1, 2018.

C[34] "Towards integrated plasmonic quantum devices" (**invited**),
S. Bogdanov*, **M. Y. Shalaginov**, J. C. Ndukaife, O. A. Makarova, A. V. Akimov, A. S. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev,
SPIE Optics + Photonics, San Diego, CA, USA, August 6-10, 2017.

C[33] "Massive parallel positioning of nanodiamonds on nanophotonic structures",
J. C. Ndukaife*, B. P. Isaacoff, **M. Y. Shalaginov**, S. Bogdanov, A. G. A. Nnanna, J. S. Biteen, M. Segev, V. M. Shalaev, A. Boltasseva,
Conference on Lasers and Electro-Optics 2017, San Jose, CA, USA, May 14-19, 2017.

C[32] "Spin contrast of Purcell-enhanced nitrogen-vacancy centers in diamond",
S. Bogdanov*, **M. Y. Shalaginov**, A. V. Akimov, A. Lagutchev, J. Liu, D. Woods, M. Ferrera, P. Kapitanova, P. Belov, J. Irudayaraj, A. Boltasseva, V. M. Shalaev,
Conference on Lasers and Electro-Optics 2017, San Jose, CA, USA, May 14-19, 2017.

C[31] "Material Platforms for Integrated Quantum Photonics" (**invited**),
M. Y. Shalaginov*, S. Bogdanov, A. Boltasseva, V. M. Shalaev
2nd Annual Conference on Micro & Nanoscale Science for Addressing Grand Challenges, West Lafayette, IN, USA, April 12, 2017.

C[30] "Towards a plasmonic quantum register" (**invited**),
V. M. Shalaev*, S. Bogdanov, **M. Y. Shalaginov**, J. Ndukaife, V. Vorobyov, V. Soshenko, A. Korneev, U. Guler, A. Lagutchev, A. Boltasseva, G. Goltsman, A. Akimov
Quantum Nanophotonics Workshop, Benasque, Spain, February 26 - March 3, 2017.

C[29] "Patterning metamaterials for fast and efficient single-photon sources",
O. A. Makarova*, **M. Y. Shalaginov**, S. Bogdanov, U. Guler, A. Boltasseva, A. V. Kildishev, V. M. Shalaev,
SPIE Photonics West, OPTO, San Francisco, CA, USA, January 28-February 2, 2017.

C[28] "New material platforms and metasurface designs for quantum nanophotonics" (**invited**), **M. Y. Shalaginov**, S. Bogdanov, R. Chandrasekar, Zh. Wang, V. Vorobyov, J. Liu, X. Meng, A. S. Lagutchev, A. V. Kildishev, J. Irudayaraj, A. Boltasseva, A. V. Akimov, and V. M. Shalaev*, Metamaterials 2016, Crete, Greece, September 17-22, 2016.

C[27] "Towards sensors and quantum registers using color center in diamond and nanophotonic structures" (**invited**), V. M. Shalaev, **M. Y. Shalaginov**, S. Bogdanov*, V. V. Vorobyov, J. Liu, A. V. Akimov, A. S. Lagutchev, J. M. K. Irudayaraj, A. V. Kildishev, A. Boltasseva, SPIE Optics + Photonics, San Diego, CA, USA, August 28-September 1, 2016.

C[26] "New material platforms and metasurface designs for nanophotonics" (**keynote**), V. M. Shalaev*, N. Kinsey, A. M. Shaltout, U. Guler, J. Kim, S. Bogdanov, **M. Y. Shalaginov**, A. Boltasseva, SPIE Optics + Photonics, San Diego, CA, USA, August 28-September 1, 2016.

C[25] "Controlling quantum photonics with metamaterials" (**invited**), **M. Y. Shalaginov**, S. Bogdanov, V. Vorobyov, J. Liu, A. S. Lagutchev, A. V. Kildishev, J. Irudayaraj, A. Boltasseva, A. V. Akimov, and V. M. Shalaev*, META'16, Malaga, Spain, July 25-28, 2016.

C[24] "New materials for Plasmonics: Designs and applications from Flat Optics to Quantum Nanophotonics", U. Guler*, H. Reddy, K. Chaudhury, A. Dutta, **M. Y. Shalaginov**, S. Bogdanov, V. M. Shalaev, A. Boltasseva, Integrated Photonics Research, Silicon and Nanophotonics 2016, Vancouver, Canada, July 18-20, 2016.

C[23] "Subwavelength optics with hyperbolic metamaterials: waveguides, scattering, and optical topological transitions" (**invited**), S. Ishii*, V. E. Babicheva, **M. Y. Shalaginov**, A. Boltasseva, A. V. Kildishev, and E. Narimanov, ICTON 2016, Trento, Italy, July 10-14, 2016.

C[22] "Quantum photonics with color centers in diamond and nanophotonic structures" (**invited**), S. Bogdanov*, **M. Y. Shalaginov**, J. Liu, V. V. Vorobyev, P. V. Kapitanova, M. Ferrera, A. S. Lagutchev, A. V. Akimov, P. A. Belov, A. V. Kildishev, J. Irudayaraj, A. Boltasseva, V. M. Shalaev, SPIE Photonics West OPTO, San Francisco, CA, USA, February 13-18, 2016.

C[21] "Optical interface to the NV center in diamond", V. V. Vorobyov*, V. Soshenko, A. V. Akimov, A. N. Smolyaninov, V. Sorokin, S. Bolshedvorskyy, **M. Y. Shalaginov**, A. Lagutchev, V. M. Shalaev, Quantum Information Processing & Communication 2015, Leeds, UK, September 13-18, 2015.

C[20] "Merging Metamaterials with Quantum Photonics" (**invited**), **M. Y. Shalaginov**, S. Bogdanov, P. V. Kapitanova, A. S. Lagutchev, A. V. Kildishev, P. A. Belov, A. Boltasseva, V. M. Shalaev*, 9th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2015, Oxford, UK, September 7-12, 2015.

C[19] "Effect of photonic density of states on spin-flip induced fluorescence contrast in diamond nitrogen-vacancy center ensembles", **M. Y. Shalaginov**, S. Bogdanov*, J. Liu, A. Lagutchev, A. V. Kildishev, D. Peroulis, J. Irudayaraj, A. Boltasseva, V. M. Shalaev, SPIE Optics + Photonics, San Diego, CA, USA, August 9-13, 2015.

C[18] "Nitrogen-vacancy single-photon emission enhanced with nanophotonic structures" (**invited**), V. M. Shalaev, **M. Y. Shalaginov***, V. V. Vorobyov, S. Bogdanov, A. V. Akimov, A. Lagutchev, A. V. Kildishev, A. Boltasseva, SPIE Optics + Photonics, San Diego, CA, USA, August 9-13, 2015.

C[17] "Nanoscale sensing of photonic density of states with spins in diamond", S. Bogdanov*, **M. Y. Shalaginov**, P. V. Kapitanova, A. V. Akimov, J. Liu, M. Ferrera, D. Woods, A. Lagutchev, J. Irudayaraj, P. Belov, A. Boltasseva, V. M. Shalaev, Metamaterials Science & Technology Workshop, La Jolla, CA, USA, July 20-22, 2015.

C[16] "Metamaterials and transformation optics for single-photon emitters" (**keynote**), V. M. Shalaev*, **M. Y. Shalaginov**, N. Kinsey, P. R. West, M. Ferrera, A. V. Kildishev, A. Boltasseva, Progress in Electromagnetics Research Symposium (PIERS) 2015, Prague, Czech Republic, July 6-9, 2015.

C[15] "Enhanced multi-photon emission from single NV center coupled to graphene by laser-shaping", J. Liu*, Y. Hu, P. Kumar, **M. Y. Shalaginov**, A. Lagutchev, V. M. Shalaev, G. J. Cheng, J. Irudayaraj, Conference on Lasers and Electro-Optics 2015, San Jose, CA, USA, May 11-15, 2015.

C[14] "Effect of a hyperbolic metamaterial on radiation patterns of a single-photon source", **M. Y. Shalaginov***, A. Lagutchev, V. M. Shalaev, A. V. Kildishev, Conference on Lasers and Electro-Optics 2015, San Jose, CA, USA, May 11-15, 2015.

C[13] "Multilayer cladding with hyperbolic dispersion for plasmonic waveguides", V. E. Babicheva*, **M. Y. Shalaginov**, S. Ishii, A. Boltasseva, A. V. Kildishev, Conference on Lasers and Electro-Optics 2015, San Jose, CA, USA, May 11-15, 2015.

C[12] "Towards practical realization of plasmonic waveguides cladded by hyperbolic metamaterials", V. E. Babicheva*, **M. Y. Shalaginov**, S. Ishii, A. Boltasseva, and A. V. Kildishev, SPIE Photonics West OPTO, San Francisco, CA, USA, February 7-12, 2015.

C[11] "Recent progress in nanophotonics" (**invited**), M. Ferrera*, N. Kinsey, **M. Y. Shalaginov**, G. V. Naik, V. E. Babicheva, C. T. DeVault, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, SPIE/COS Photonics Asia, Beijing, China, October 9-11, 2014.

C[10] "Single-photon source based on NV center in nanodiamond coupled to TiN-based hyperbolic metamaterial" (**invited**), V. M. Shalaev, **M. Y. Shalaginov***, V. V. Vorobyov, J. Liu, M. Ferrera, A. V. Akimov, A. Lagutchev, A. N. Smolyaninov, V. V. Klimov, J. Irudayaraj, A. V. Kildishev, A. Boltasseva, SPIE Optics + Photonics, San Diego, CA, USA, August 17-21, 2014.

C[9] "From metamaterials to metadevices" (**plenary**), V. M. Shalaev*, U. Guler, G. V. Naik, B. Saha, **M. Y. Shalaginov**, A. Lagutchev, A. V. Kildishev, M. Ferrera, N. Kinsey, A. Boltasseva, 2014 IEEE Photonics Society Summer Topicals, Montreal, Canada, July 14–16, 2014.

C[8] "Toward industry suitable spin-photon interface based on NV center", A. V. Akimov*, **M. Y. Shalaginov**, V. V. Vorobyov, J. Liu, M. Ferrera, A. Lagutchev, A. N. Smolyaninov, V. V. Klimov, J. Irudayaraj, A. V. Kildishev, A. Boltasseva, and V. M. Shalaev, 9th Advanced Research Workshop NanoPeter 2014, Fundamentals of Electronic Nanosystems, Saint Petersburg, Russia, June 21-27, 2014.

C[7] "Single photon source based on NV center in nanodiamond coupled to TiN-based hyperbolic metamaterial",

M. Y. Shalaginov, V. V. Vorobyov*, J. Liu, M. Ferrera, A. V. Akimov, A. Lagutchev, A. N. Smolyaninov, V. V. Klimov, J. Irudayaraj, A. V. Kildishev, A. Boltasseva, and V. M. Shalaev, Conference on Lasers and Electro-Optics 2014, San Jose, CA, USA, June 8-13, 2014.

C[6] "Enabling nanophotonics with plasmonics and metamaterials" (**invited**), V. M. Shalaev*, U. Guler, G. V. Naik, X. Meng, **M. Y. Shalaginov**, A. Lagutchev, E. E. Narimanov, A. V. Kildishev, A. Boltasseva, SPIE Photonics West 2014, San Francisco, CA, USA, February 1-6, 2014.

C[5] "Metamaterials for Quantum Optics" (**invited**), V. M. Shalaev*, **M. Y. Shalaginov**, A. Lagutchev, and A. V. Kildishev, International Conference on Quantum Technologies ICQT-2013, Moscow, Russia, July 20-24, 2013.

C[4] "Broadband enhancement of spontaneous emission from nitrogen-vacancy centers in nanodiamonds by hyperbolic metamaterials", **M. Y. Shalaginov***, S. Ishii, J. Liu, A. V. Kildishev, and V. M. Shalaev, Conference on Lasers and Electro-Optics 2013, San Jose, CA, USA, June 9-14, 2013.

C[3] "Enhancement of spontaneous emission from NV centers by applying HMM", **M. Y. Shalaginov***, S. Ishii, J. Liu, and V. M. Shalaev, 2012 MRS Spring Meeting & Exhibit, San Francisco, USA, April 9-13, 2012.

C[2] "Characterization of nanodiamonds for metamaterial applications", **M. Y. Shalaginov***, G. V. Naik, S. Ishii, M. N. Slipchenko, A. Boltasseva, J. X. Cheng, A. N. Smolyaninov, E. Kochman, and V. M. Shalaev, International Conference on Quantum Technologies, Moscow, Russia, July 13-17, 2011.

C[1] "Modeling of hydrogen storage materials" **M. Y. Shalaginov***, Y. Saeed, and A. H. Reshak, International Summer School "Schola ludus 2010", Institute of Physical Biology South Bohemia University, Czech Republic, July 29-30, 2010.