

Curriculum Vitae

Alexey G. Yamilov

Associate Professor

Department of Physics

Missouri University of Science and Technology (Missouri S&T)

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Academic Experience

- 1997 - 2001 PhD in Physics
The City University of New York, New York, NY
Advisor: Alexander A. Lisyansky
Thesis: *“Concept of local polaritons and optical properties of mixed crystals and quantum heterostructures”* (4.0 GPA)
- 1995 - 1997 MS in Physics/Engineering (summa cum laude)
Donetsk State University Donetsk, Ukraine
Advisor: Alexander E. Filippov
Thesis: *“Study of multicomponent systems in the framework of the renormalization group equation”*
- 1992 - 1995 BS in Physics
Donetsk State University Donetsk, Ukraine
Advisor: Anatoly Yu. Zakharov
Thesis: *“Application of Kadanoff-Baym kinetic equations to calculation of electro-conductivity in disordered systems”*

Research Interests

- Wave propagation in complex (random, aperiodic, partially or fully ordered) media
- Coherent control of wave transport and imaging in turbid media
- Wave diffusion in confined geometries, localization phenomena
- Lasing in complex photonic media
- Compressive sensing algorithms and optimization

Work Experience

- | | | |
|----------------|------------------------------|--|
| 2014 - present | Associate Professor | Department of Physics, Missouri S&T |
| 2008 - 2014 | Assistant Professor | Department of Physics, Missouri S&T |
| 2005 - 2008 | Research Assistant Professor | Department of Physics, Missouri S&T |
| 2003 - 2004 | Summer Adjunct Lecturer | Department of Physics & Astronomy
Northwestern University |
| 2003 - 2005 | Research Associate | Department of Physics & Astronomy
Northwestern University |
| 2001 - 2003 | Postdoctoral research fellow | Department of Physics & Astronomy
Northwestern University |
| 2000 - 2001 | Adjunct Lecturer | Department of Physics
Queensborough College, CUNY |
| 1997 - 2001 | Research Assistant | Department of Physics, Queens College, CUNY |

Scholarly Contributions: Publications

Names of the supervised graduate and undergraduate students are highlighted.

Book Chapters

1. “*Self-optimization of optical confinement and lasing action in disordered photonic crystals,*”
A. Yamilov and H. Cao, book chapter in “Optical properties of photonic structures: interplay between order and disorder,” ed. by M. Limonov and R. De La Rue (Taylor & Francis, 2012) ISBN 978-143-9871-91-1
2. “*Dual-Periodic Photonic Crystal Structures,*”
A. Yamilov and M. Herrera, in “Recent Optical and Photonic Technologies,” Ed. by Ki Young Kim, pp. 1–30 INTEH, (2010) ISBN 978-953-7619-71-8

Magazine Articles

1. “*UASER: Ultrasound Amplification by Stimulated Emission of Radiation,*” (invited)
A. Yamilov, R. Weaver, and O. Lobkis, Photonic Spectra pp. 90-94 (August 2006)

Refereed Publications

1. “*Control of energy density inside disordered medium by coupling to open or closed channels,*”
R. Sarma, A. Yamilov, S. Petrenko, Y. Bromberg, H. Cao, Physical Review Letters (accepted)
2. “*Detection of a diffusive cloak via second-order statistics,*”
M. Koirala, A. Yamilov, Optics Letters 41, 3860 (2016)
3. “*Shape-dependence of transmission, reflection and absorption eigenvalue densities in disordered waveguides with dissipation,*”
A. Yamilov, S. Petrenko, R. Sarma, H. Cao, Physical Review B 93, 100201(R) (2016)
4. “*Control of mesoscopic transport by modifying transmission channels in opaque media,*”
R. Sarma, A. Yamilov, S. F. Liew, M. Guy, H. Cao, Physical Review B 92, 214206 (2015)
5. “*Using geometry to manipulate long-range correlation of light inside disordered media,*”
R. Sarma, A. Yamilov, P. Neupane, H. Cao, Physical Review B 92, 180203(R) (2015)
6. “*Applicability of the position-dependent diffusion approach to localized transport through disordered waveguides,*”
P. Neupane, A. Yamilov, Physical Review B 92, 014207 (2015)
7. “*Critical states embedded in the continuum,*”
M. Koirala, A. Yamilov, A. Basiri, Y. Bromberg, H. Cao, T. Kottos, New Journal of Physics 17, 013003 (2015)
8. “*Light localization induced by random refraction index,*”
A. Basiri, Y. Bromberg, A. Yamilov, H. Cao, T. Kottos, Physical Review A 90, 043815 (2014)
9. “*Controlling diffusion inside a disordered nanophotonic waveguide using geometry,*”
R. Sarma, T. Golubev, A. Yamilov, and H. Cao, Applied Physics Letters 105, 041104 (2014)
10. “*Probing Long-range intensity correlations inside disordered photonic nanostructures,*”
R. Sarma, A. Yamilov, P. Neupane, B. Shapiro, and H. Cao, Physical Review B 90, 014203 (2014)
11. “*Position-dependent diffusion of light in disordered waveguides,*”
A. Yamilov, R. Sarma, B. Redding, B. Payne, H. Noh, and H. Cao, Physical Review Letters 112, 023904 (2014)
12. “*Interplay between localization and absorption in disordered waveguides,*”
A. Yamilov and B. Payne, Optics Express 21, 11688-11697 (2013)
13. “*Effect of evanescent channels on position-dependent diffusion in disordered waveguides,*”
B. Payne, T. Mahler, and A. Yamilov, Waves in Random and Complex Media 23, 43-55 (2013)

14. *“Artificially disordered birefringent optical fibers,”*
S. Herath, N. P. Puente, E.I. Chaikina, and A. Yamilov, Optics Express 20, 3620-3632 (2012)
15. *“Fabrication, characterization and theoretical analysis of controlled disorder in the core of the optical fibers,”*
N. P. Puente, E.I. Chaikina, S. Herath and A. Yamilov, Applied Optics 50, 802 (2011)
- Highlighted in “Spotlight on Optics” by the Optical Society of America as a significant impact article
- Top 10 most downloaded Applied Optics article in March and April 2011.
16. *“Relation between transmission and energy stored in random media with gain,”*
B. Payne, J. Andreasen, H. Cao, and A. Yamilov, Physical Review B 82, 104204 (2010)
17. *“Classification of regimes of wave transport in non-conservative random media,”*
A. Yamilov and B. Payne, Journal of Modern Optics 57, 1916 (2010)
18. *“Anderson localization as position-dependent diffusion in disordered waveguides,”*
B. Payne, A. Yamilov, S. E. Skipetrov, Physical Review B 82, 024205 (2010)
19. *“Criterion for light localization in random amplifying media,”*
B. Payne, H. Cao, and A. Yamilov, Physica B 405, 3012 (2010)
20. *“Five-fold reduction of lasing threshold near the first Γ L-pseudogap of ZnO inverse opals,”*
M. Scharrer, H. Noh, X. Wu, M. A. Anderson, A. Yamilov, H. Cao, and R. P. H. Chang, Journal of Optics 12, 024007 (2010)
21. *“Relation between channel and spatial mesoscopic correlations in volume-disordered waveguides,”*
A. Yamilov, Physical Review B 78, 045104 (2008)
22. *“Slow-light effect in dual-periodic photonic lattice,”*
A. Yamilov, M. R. Herrera and M. F. Bertino, Journal of Optical Society of America B 25, 599-608 (2008)
23. *“Entrainment and stimulated emission of auto-oscillators in an acoustic cavity,”*
R. L. Weaver, O. I Lobkis, and A. Yamilov, Journal of Acoustical Society of America 122, 3409-18 (2007)
24. *“Effect of local pumping on random laser modes,”*
X. Wu, J. Andreasen, H. Cao, and A. Yamilov, Journal of Optical Society of America B 24, A26 (2007)
25. *“Quantum dots by ultraviolet and X-ray lithography,”*
M. F. Bertino, R. R. Gadipalli, L. A. Martin, L. E. Rich, A. Yamilov, B. R. Heckman, N. Leventis, S. Guha, J. Katsoudas, R. Divan and D. C. Mancini, Nanotechnology 18, 315603 (2007)
26. *“Disorder-immune coupled resonator optical waveguide,”*
A. Yamilov and M. Bertino, Optics Letters 32, 283-285 (2007)
27. *“Effect of amplification on conductance distribution of a disordered waveguide,”*
A. Yamilov, and H. Cao, Physical Review E 74, 056609 (2006)
28. *“Lasing with coherent feedback in weakly scattering media,”*
X. Wu, W. Fang, A. Yamilov, A. Chabanov, A. A. Asatryan, L. C. Botten, and H. Cao, Physical Review A 74, 053812 (2006)
29. *“An ultrasonic analog for a laser,”*
R. Weaver, O. Lobkis, and A. Yamilov, Journal of Acoustical Society of America 119, 3413 (2006)
Research reported in the media; featured in the UMR magazine
30. *“Ultraviolet lasing in high-order bands of three-dimensional ZnO photonic crystals,”*
M. Scharrer, A. Yamilov, X. Wu, H. Cao, and R. P. H. Chang, Applied Physics Letters 88, 201103 (2006)

31. *"Self-optimization of optical confinement in ultra-violet photonic crystal slab laser,"*
A. Yamilov, X. Wu, X. Liu, R. P. H. Chang, and H. Cao, Physical Review Letters 96, 083905 (2006)
32. *"Photonic band structure of ZnO photonic crystal slab laser,"*
A. Yamilov, X. Wu, and H. Cao, Journal of Applied Physics 98, 103102 (2005)
33. *"Absorption-induced confinement of lasing modes in diffusive random medium,"*
A. Yamilov, X. Wu, H. Cao, and A. L. Burin, Optics Letters 30, 2430 (2005)
34. *"Analysis of high-quality modes in open chaotic microcavities,"*
W. Fang, A. Yamilov, and H. Cao, Physical Review A 72, 023815 (2005)
35. *"Near-field intensity correlations in semicontinuous metal-dielectric films,"*
K. Seal, A. K. Sarychev, H. Noh, D.A. Genov, A. Yamilov, V. M. Shalaev, Z. C. Ying, H. Cao, Physical Review Letters 94, 226101 (2005)
36. *"Fabrication of inverse opal ZnO photonic crystals by atomic layer deposition,"*
M. Scharrer, X. Wu, A. Yamilov, H. Cao, R.P.H. Chang, Applied Physics Letters 86, 151113 (2005)
37. *"Field and intensity correlations in amplifying random media,"*
A. Yamilov, A. Burin, H. Cao, S. H. Chang, and A. Taflove, Physical Review B 71, 092201 (2005)
38. *"Effect of ZnO Nanostructures on 2-dimensional random lasing properties,"*
X. Liu, A. Yamilov, X. Wu, J. Zheng, H. Cao, R.P.H. Chang, Chemistry of Materials 16, 5414 (2004)
39. *"Ultraviolet photonic crystal laser,"*
X. Wu, A. Yamilov, X. Liu, S. Li, V. P. Dravid, R. P. H. Chang and H. Cao, Applied Physics Letters 85, 3657 (2004)
Research highlighted in "Laser Focus World," "Photonics Spectra," and "Optics and Photonics News" magazines
40. *"Effects of localization and amplification on intensity distribution of light transmitted through random media,"*
A. Yamilov, and H. Cao, Physical Review E 70, 037603 (2004)
41. *"Numerical study of light correlations in a random medium close to the Anderson localization threshold,"*
S. H. Chang, A. Taflove, A. Yamilov, A. Burin, H. Cao, Optics Letters 29, 917 (2004)
42. *"Random lasing in closely packed resonant scatterers,"*
X. H. Wu, A. Yamilov, H. Noh, H. Cao, E. W. Seelig, and R. P. H. Chang, Journal of Optical Society of America B 21, 159 (2004)
43. *"Statistics of transmission in one-dimensional disordered systems: universal characteristics of states in the fluctuation tails,"*
L. I. Deych, M. V. Erementchouk, A. A. Lisyansky, A. Yamilov, H. Cao, Physical Review B 68, 174203 (2003)
44. *"Highest-quality modes in disordered photonic crystals,"*
A. Yamilov and H. Cao, Physical Review A 69, 031803(R) (2004)
45. *"Large spontaneous emission enhancement in InAs quantum dots coupled to microdisk whispering gallery modes,"*
G.S. Solomon, Z. Xie, W. Fang, J.Y. Xu, A. Yamilov, H. Cao, Y. Ma, S.T. Ho, Physica Status Solidi B 238(2) 309-312 (2003)
46. *"Effect of Kerr nonlinearity on defect lasing modes in weakly disordered photonic crystals,"*
B. Liu, A. Yamilov, and H. Cao, Applied Physics Letters 83, 1092 (2003)

47. “*Dynamic nonlinear effect on lasing in random medium,*”
B. Liu, [A. Yamilov](#), Y. Ling, J. Y. Xu and H. Cao, Physical Review Letters 91, 063903 (2003)
48. “*Manifestation of photonic band structure in small clusters of spherical particles,*”
[A. Yamilov](#) and H. Cao, Physical Review B 68, 085111 (2003)
49. “*Large enhancement of spontaneous emission rates of InAs quantum dots in GaAs microdisks,*”
W. Fang, J. Y. Xu, [A. Yamilov](#), H. Cao, Y. Ma, S. T. Ho, G. S. Solomon, Optics Letters 27, 948 (2002)
50. “*Self-assembled 3D photonic crystals from ZnO colloidal spheres,*”
E. W. Seelig, B. Tang, [A. Yamilov](#), H. Cao, R. P. H. Chang, Materials Chemistry and Physics 80, 257-263 (2003)
51. “*Optical spectra and inhomogeneous broadening in CdTe/CdZnTe MQW structures with defects,*”
L.I. Deych, [A. Yamilov](#), and A.A. Lisyansky, Nanotechnology 13, 114 (2002)
52. “*Tunable local polariton states,*”
M. Foygel, [A. Yamilov](#), L.I. Deych, and A.A. Lisyansky, Physical Review B, 64, 115203 (2001)
53. “*Single parameter scaling in presence of absorption,*”
L.I. Deych, [A. Yamilov](#), and A.A. Lisyansky, Physical Review B 64, 024201 (2001)
54. “*Local polariton modes and resonant tunneling of electromagnetic waves through periodic Bragg multiple quantum well structures,*”
L.I. Deych, [A. Yamilov](#), and A.A. Lisyansky, Physical Review B 64, 075321 (2001)
55. “*Polariton local states in periodic Bragg multiple quantum well structures,*”
L.I. Deych, [A. Yamilov](#), and A.A. Lisyansky, Optics Letters 25, 1705 (2000)
56. “*Concept of local polaritons and optical properties of mixed polar crystals,*”
L.I. Deych, [A. Yamilov](#), and A.A. Lisyansky, Physical Review B 62, 6301 (2000)
57. “*Impurity-induced polaritons in a one-dimensional chain,*”
[A. Yamilov](#), L.I. Deych, and A.A. Lisyansky, Journal of Optical Society of America B 17, 1498 (2000)
58. “*Polariton impurity band,*”
[A. Yamilov](#), L.I. Deych, and A.A. Lisyansky, Annals of Physics 8, 293 (1999)
59. “*Effects of resonant tunneling in electromagnetic wave propagation through a polariton gap,*”
L.I. Deych, [A. Yamilov](#), and A.A. Lisyansky, Physical Review B 59, 11339 (1999)
60. “*Defect-induced resonant tunneling of electromagnetic waves through a polariton gap,*”
L.I. Deych, [A. Yamilov](#), and A.A. Lisyansky, Europhysics Letters 46, 524 (1999)

Conference Proceedings

1. “*Teaching an Undergraduate Nanotechnology Course Online,*”
[A. Yamilov](#), Proceedings of the Midwest Section Conference of the ASEE, Rolla, (2012)
2. “*Investigations of mode coupling in optical fibers with controlled volume disorder,*”
N. P. Puente, E.I. Chaikina, S. Herath and [A. Yamilov](#), SPIE Proceedings: Specialty Optical Fibers and Their Applications **7839**, 78391O-1 (2010)
3. “*ZnO photonic crystal lasers,*”
X. Wu, [A. Yamilov](#), X. Liu, S. Li, V. P. Dravid, R. P. H. Chang, and H. Cao, Proc. SPIE 6122, 612205 (2006)
4. “*Laser resonators formed by two nanoparticles,*”
X. Wu, W. Fang, [A. Yamilov](#), A. Chabanov, and H. Cao, Proc. SPIE 6101, 61010M (2006)
5. “*Interplay between amplification and absorption in diffusive random lasers,*”
H. Cao, [A. Yamilov](#), A. L. Burin, and X. Wu, Proc. SPIE Int. Soc. Opt. Eng. 5924, 59240A (2005)

6. “*Dynamic nonlinear effect on lasing in random media,*”
H. Cao, [A. Yamilov](#), B. Liu, J.-Y. Xu, Y. Ling, E. Seelig, R. P. H. Chang, Proc. SPIE Int. Soc. Opt. Eng. 5508, 216 (2004)
7. “*Lasing in disordered media,*”
H. Cao, [A. Yamilov](#), J. Xu, E. Seelig, R. P. Chang, Proceedings of SPIE 4995, 134 (2003)
8. “*Polariton local states in periodic Bragg multiple quantum well structures,*”
L.I. Deych, [A. Yamilov](#), and A.A. Lisyansky, ”Nanostructures: Physics and Technology”, pp. 273–275, Ioffe Physico-Technical Institute Press (2001) ISBN 5-93634-005-8

Scholarly Contributions: Presentations

Conference Presentations

1. CLEO/QELS 2016, San Jose, CA, June 2016
Critical States Embedded in the Continuum
[M. Koirala](#), [A. Yamilov](#)
2. Frontiers in Optics 2015, San Jose CA, Oct. 2015
Control of Transmission Eigenchannels by Modifying the Geometry of Turbid Media
R. Sarma, [A. Yamilov](#), H. Cao
3. CLEO/QELS 2015, San Jose, CA, May 2015
Critical States Embedded in the Continuum
[A. Yamilov](#), [M. Koirala](#), A. Basiri, Y. Bromberg, H. Cao, T. Kottos
4. 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META15), New York, NY, Aug. 2015
Light Localization in the Presence of Non-Hermitian Defects
A. Basiri, [M. Koirala](#), [A. Yamilov](#), Y. Bromberg, H. Cao, T. Kottos
5. Frontiers in Optics 2014, Tucson, AZ, October 2014
Probing Long Range Intensity Correlations inside Disordered Photonic Waveguides
R. Sarma, [A. Yamilov](#), [P. Neupane](#), B. Shapiro, H. Cao
6. Frontiers in Optics 2014, Tucson, AZ, October 2014
Controlling Diffusion of Light inside a Disordered Photonic Waveguide
R. Sarma, [T. Golubev](#), [A. Yamilov](#), H. Cao
7. Frontiers in Optics 2014, Tucson, AZ, October 2014
Wave localization as position-dependent diffusion: analytical results
[P. Neupane](#), [A. Yamilov](#)
8. Frontiers in Optics 2014, Tucson, AZ, October 2014
Critical States Embedded in the Continuum
[M. Koirala](#), [A. Yamilov](#), A. Basiri, Y. Bromberg, H. Cao, T. Kottos
9. APS March meeting, Denver, CO, March 2014
Transverse Light Localization in waveguide arrays with random absorption or amplification
A. Basiri, Y. Bromberg, [A. Yamilov](#), H. Cao, and T. Kottos
10. CLEO/EUROPE, Munich, May 2013
Position-Dependent Diffusion of Light in Disordered Waveguides
[A. Yamilov](#), R. Sarma, B. Redding, [B. Payne](#), H. Noh, and H. Cao
11. Teaching and Learning Technology Conference, Rolla, MO, March 2013
Teaching Nanotechnology with Technology
[A. Yamilov](#)

12. Midwest Section Conference of the ASEE, Rolla, November 2012
Teaching an Undergraduate Nanotechnology Course Online [A. Yamilov](#)
13. Frontiers in Optics 2012, Rochester, NY, October 2012
Artificially disordered birefringent optical fibers
[S. Herath](#), N. P. Puente, E.I. Chaikina, and [A. Yamilov](#)
14. Frontiers in Optics 2012, Rochester, NY, October 2012
2D Thue-Morse array of optical cavities: tight-binding model
[B. Payne](#), L. Siskin, H. Noh, H. Cao, and [A. Yamilov](#)
15. Frontiers in Optics 2012, Rochester, NY, October 2012
Universality of wave transport in absorbing random media
[A. Yamilov](#) and [B. Payne](#)
16. APS March meeting, Boston MA, March 2012
Position-dependent diffusion coefficient as localization criterion in non-conservative random media
[B. Payne](#) and [A. Yamilov](#)
17. Physics of Quantum Electronics (PQE) 2012, Snowbird, UT, January 2012
Characterization of wave transport in non-conservative random media (invited)
[A. Yamilov](#) and [B. Payne](#)
18. Frontiers in Optics 2011, San Jose, CA, October 2011
Position-Dependent Diffusion Coefficient as Localization Criterion in non-Conservative Random Media
[B. Payne](#) and [A. Yamilov](#)
19. Recent developments in wave physics of complex media, Cargese, Corsica, France, May 2011
Classification of regimes of wave transport in non-conservative random media
[B. Payne](#) and [A. Yamilov](#)
20. 2nd Workshop on Specialty Optical Fibers and Their Applications, Oaxaca, Mexico, October 2010
Investigations of mode coupling in optical fibers with controlled volume disorder
N. P. Puente, E.I. Chaikina, [S. Herath](#) and [A. Yamilov](#)
21. Frontiers in Optics 2010, Rochester NY, October 2010
Frequency correlation between eigenmodes of disordered waveguides
[B. Payne](#) and [A. Yamilov](#)
22. Frontiers in Optics 2010, Rochester NY, October 2010
Anderson localization as position-dependent diffusion in disordered waveguides
[B. Payne](#), [A. Yamilov](#), and S. E. Skipetrov
23. Frontiers in Optics 2010, Rochester NY, October 2010
Fabrication and characterization of controlled disorder in the core of the optical fibers
N. P. Puente, E. I. Chaikina, [S. Herath](#), and [A. Yamilov](#)
24. Physics of Quantum Electronics (PQE) 2010, Snowbird, UT, January 2010
Survey of regimes of wave transport in random waveguides with gain or absorption
[A. Yamilov](#) and [B. Payne](#)
25. Electrical Transport and Optical Properties of Inhomogeneous Media (ETOPIM 8), Greece, June 2009
Criterion for light localization in random amplifying media
[B. Payne](#), J. Andreasen, H. Cao and [A. Yamilov](#)
26. Frontiers in Optics 2009, San Jose, CA, October 2009
Classification of regimes of wave transport in non-conservative random media
[B. Payne](#) and [A. Yamilov](#)

27. Frontiers in Optics 2009, San Jose, CA, October 2009
Effect of evanescent modes on conductance distribution in disordered waveguides
B. Payne, T. Mahler and A. Yamilov
28. Frontiers in Optics 2008, Rochester, NY, October 2008
On criterion for light localization in random amplifying media
Ben Payne, A. Yamilov, Jonathan Andreasen, H. Cao
29. Frontiers in Optics 2008, Rochester, NY, October 2008
Relation between channel and spatial mesoscopic correlations in volume-disordered waveguides
A. Yamilov
30. The Quantum Electronics and Laser Science Conference (QELS), San Jose CA, May 2008
Trench Waveguide in Photonic Crystal Slab
A. Yamilov, M. Herrera
31. Frontiers in Optics 2007, San Jose CA, September 2007
Mesoscopic Correlations in Disordered Waveguide: Dependence on Channel Indexes
A. Yamilov
32. Frontiers in Optics 2007, San Jose CA, September 2007
Effect of Local Pumping on 1-D Random Laser Modes
X. Wu, J. Andreasen, H. Cao, A. Yamilov
33. Frontiers in Optics 2007, San Jose CA, September 2007
Waveguiding in Photonic Crystal Slab with Variable Thickness
M. Herrera, M. Bertino, A. Yamilov
34. The Photonic Metamaterials: From Random to Periodic Topical Meeting, Jackson Hole WY, June 2007
Effect of Local Pumping on Random Laser Modes,
X. Wu, J. Andreasen, H. Cao, A. Yamilov
35. The Photonic Metamaterials: From Random to Periodic Topical Meeting, Jackson Hole WY, June 2007
Factorization of Mesoscopic Intensity Correlations,
A. Yamilov, A. Chabanov, A. Z. Genack, H. Cao
36. Frontiers in Optics 2006, Rochester NY, October 2006
Quasi-Modes in Disordered Waveguide with Gain
A. Yamilov
37. Frontiers in Optics 2006, Rochester NY, October 2006
UV Lasing near the First Γ -Pseudogap of ZnO Inverse Opals
M. Scharrer, X. Wu, A. Yamilov, H. Cao, R. P. H. Chang
38. Frontiers in Optics 2006, Rochester NY, October 2006
Light Propagation through Dual-Periodic 1D Photonic Crystal
A. Yamilov, M. Herrera, M. Bertino
39. Frontiers in Optics 2006, Rochester NY, October 2006
An Ultrasonic Analogue for a Random Laser
A. Yamilov, R. W. Weaver, Oleg Lobkis
40. SPIE, Optics and Photonics: Nanophotonics, Complex Mediums, San Diego, CA, July 2005
Lasing in disordered photonic crystals
H. Cao, A. Yamilov, X. Wu, M. Scharrer, R.P.H. Chang

41. Frontiers in Optics 2005, Tuscon AZ, October 2005
Disorder Optimizes the Performance of UV Photonic Crystal Laser
[A. Yamilov](#), X. Wu, H. Cao
42. Frontiers in Optics 2005, Tuscon AZ, October 2005
Absorption Induced Confinement of Lasing Modes in Diffusive Random Medium
[A. Yamilov](#), A. L. Burin, X. Wu, H. Cao
43. Frontiers in Optics 2005, Tuscon AZ, October 2005
Mesoscopic Optics
Andrey Chabanov, [A. Yamilov](#), H. Cao, Bing Hu, Azriel Genack
44. Frontiers in Optics 2005, Tuscon AZ, October 2005
Near-Field Intensity Correlation in Semicontinuous Metal Films
H. Cao, K. Seal, A. K. Sarychev, D. A. Genov, V. M. Shalaev, [A. Yamilov](#), H. Noh, C. Z. Ying
45. Frontiers in Optics 2005, Tuscon AZ, October 2005
Effect of Amplification on Distribution of Conductance in Disordered Waveguide
[A. Yamilov](#), H. Cao
46. Frontiers in Optics 2004, Rochester NY, October 2004
Mode coupling in open chaotic microcavities
[A. Yamilov](#), Wei Fang, H. Cao
47. Frontiers in Optics 2004, Rochester NY, October 2004
Study of high quality modes in fully chaotic microcavities
H. Cao, Wei Fang, [A. Yamilov](#)
48. Frontiers in Optics 2004, Rochester NY, October 2004
Ultraviolet photonic crystal lasers
X. Wu, [A. Yamilov](#), Xiang Liu, Shuyou Li, Vinayak P. Dravid, R. P. H. Chang, H. Cao
49. Frontiers in Optics 2004, Rochester NY, October 2004
Intensity distribution in passive and amplifying random media near localization threshold
[A. Yamilov](#), H. Cao
50. Frontiers in Optics 2003, Tucson AZ, October 2003
Effects of gain and localization on the light correlation in random media
[A. Yamilov](#), S. H. Chang, A. Burin, H. Cao, A. Taflove
51. Frontiers in Optics 2003, Tucson AZ, October 2003
Study of random lasing in closely-packed resonant scatterers
X. Wu, [A. Yamilov](#), X. Liu, S. Li, V. P. Dravid, R. P. H. Chang and H. Cao
52. 2nd International Conference on Semiconductor Quantum Dots, Tokyo, Japan, September 2002
Large Spontaneous Emission Enhancement in InAs Quantum Dots Coupled to Microdisk Whispering Gallery Modes
G.S. Solomon, Z. Xie, W. Fang, J.Y. Xu, [A. Yamilov](#), H. Cao, Y. Ma, S.T. Ho
53. PIERS 2003 in Hawaii, Progress in Electromagnetics Research Symposium, Honolulu HI, October 2003
Lasing in Closely Packed Resonant Nanoscatterers
H. Cao, X. Wu, [A. Yamilov](#), Eric Seelig, Robert Chang
54. MRS 2002 Spring Meeting: Photonic Crystals–From Materials to Devices, San Francisco CA, April 2002
3D photonic crystals from monodisperse ZnO colloidal spheres
E. W. Seelig, B. Tang, R.P.H. Chang, [A. Yamilov](#), H. Cao
55. 2002 Annual Meeting of the Optical Society of America, Orlando FL, October 2002

56. 9th International Symposium. Nanostructures: Physics and Technology, St. Petersburg, Russia, June 2001
57. March Meeting of the American Physical Society, Seattle WA, March 2001
Photoinduced transformation of polariton impurity band in semiconductors
M. Foygel, A. Yamilov, L.I. Deych, and A.A. Lisyansky
58. March Meeting of the American Physical Society, Seattle WA, March 2001
Polariton local states in periodic Bragg MQW structures
L.I. Deych, A. Yamilov, and A.A. Lisyansky
59. March Meeting of the American Physical Society, Seattle WA, March 2001
Concept of local polaritons
A. Yamilov, L.I. Deych, and A.A. Lisyansky
60. March Meeting of the American Physical Society, Seattle WA, March 2001
Single parameter scaling in localized absorbing systems
L.I. Deych, A. Yamilov, and A.A. Lisyansky
61. Wave Propagation in New York City and other Random Media, Yeshiva University NY, July 2000
62. Localization 1999 - Disorder and Interaction in Transport Phenomena, International Conference, Hamburg, Germany (July, 1999)
63. March Meeting of the American Physical Society, Atlanta GA, March 1999
Resonant tunneling of electromagnetic waves through a polariton gap,
L.I. Deych, A. Yamilov, and A.A. Lisyansky
64. The 79th Statistical Mechanics Meeting, New Brunswick NJ, May 1998

Invited talks

1. 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics, META 2016, Spain (2016)
2. Missouri S&T Chemistry (2016)
Coherent control of wave transport in scattering media: Looking through walls and around the corner
3. Workshop on Waves and imaging in random media, Institut Henri Poincare, Paris (2015)
Control of mesoscopic transport by modifying transmission channels in scattering media
4. Ecole Polytechnique de Montreal, QC, Canada (2015)
New approach to control light transport in random media
5. 9th IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, Athens, GA (2015)
Control of light transport via non-local wave interference effects in random media
6. Wesleyan University, Middletown, CT (2015)
Control of light transport in random media
7. 9th International Workshop on Disordered Systems, San Antonio, TX (2014)
Interplay between localization and absorption in disordered waveguides
8. Summer school "Waves and disorder," Cargese, Corsica, France (2014)
Wave localization in open random media as position-dependent diffusion: Analytical, numerical and experiment results
9. Yale University (2013)
Position-dependent diffusion in absorbing random media

10. University of Texas - Dallas (2012)
Regimes of wave transport in absorbing random media
11. Workshop on “Recent developments in wave propagation and imaging in complex media,” Institut Henri Poincaré, Paris (2012)
Regimes of wave transport in absorbing random media
12. Old Dominion University, Norfolk Virginia (2012)
Mesoscopic Optics
13. University of Missouri Columbia (2011)
Teaching an online physics course: from psychology to technology
14. Board of Curators Meeting, Rolla (2011)
Wave Propagation in Random Media
15. Washington University in Saint Louis (2011)
Mesoscopic Optics
16. Missouri State University (2011)
Mesoscopic Optics: Carrot laser anyone?
17. University of North Carolina at Charlotte (2010)
Mesoscopic Physics of Photons: Particle Versus Wave Transport Through Random Media
18. UMKC, March (2010)
Particle Versus Wave Transport Through Random Media
19. Missouri S&T Chemistry (2009)
Mesoscopic physics of photons
20. University of Missouri St. Louis (2009)
Mesoscopic physics of photons: from Anderson localization to random lasing
21. International Diffuse Reflectance Spectroscopy Conference, Chambersburg, PA (2008)
Simulations and statistical analysis of electromagnetic wave propagation in random amplifying media
22. El Centro de Investigacion Cientifica y de Educacion Superior de Ensenada (CICESE) at Ensenada, Mexico (2008)
Mesoscopic Phenomena in Disordered Waveguides

Research Grants and Contracts

Research Proposals Awarded

- 2012 - 2015 National Science Foundation, “Collaborative Research: Anomalous Transport and Wavefront Shaping in Complex Photonic Media,”
- 2009 - 2010 University of Missouri Research Board, “Electromagnetic wave transport through disordered amplifying optical fibers,”
- 2007 - 2011 National Science Foundation, “Collaborative research: Mesoscopic transport and localization in active random media,”

Competitive Computational Proposals: Awarded

- 2010 - 2011 Tera-Grid, “Non-diffusive transport and localization in the random amplifying medium”
- 2009 - 2010 Tera-Grid, “Non-diffusive transport and localization in the random amplifying medium”

Professional Service and Society Memberships

Professional Service

- Referee for journals of American Physical Society, Optical Society of America, American Institute of Physics, Institute of Electrical and Electronics Engineers, International Society for Optics and Photonics and others
- Proposal reviewer for National Science Foundation and numerous European funding agencies
- Session chair at the annual meeting of the American Optical Society (Frontiers in Optics)
- CLEO/QELS member of subcommittee on Metamaterials and Complex Media 2015-
- CLEO/QELS chair of subcommittee on Metamaterials and Complex Media 2017-

Professional Memberships

- Member of the Optical Society of America
- Member of American Society for Engineering Education

Collaborators

- X. Yang and J. Gao (experiment), Department of Mechanical and Aerospace Engineering, Missouri S&T
- H. Cao (experiment), Department of Applied Physics, Yale University
- E. Chaikina and E. Mendez (experiment), Centro de Investigación Científica y de Educación Superior de Ensenada (CICESE)
- T. Kottos (theory), Wesleyan University
- S. Skipetrov (theory), Laboratoire de Physique et Modélisation des Milieux Condensés, CNRS

Teaching

Courses Taught

Year	Title	Level	Role	Institution
2010-	Modern Physics	UG	Instructor	Missouri S&T
2010	Introduction to Mesoscopic Physics	G	Co-Instructor (25%)	Missouri S&T
2009-	Nanotechnology	UG	Instructor	Missouri S&T
2006-2009	Introductory Physics I	UG	Instructor	Missouri S&T
2005-	Classical Optics	UG	Instructor	Missouri S&T
2003-2004	Introductory Physics	UG	Instructor	Northwestern University
2000-2001	Introductory Physics	UG	Adjunct Instructor	Queensborough Community College, CUNY
1997-2001	Introductory Physics	UG	TA	Queens College, CUNY

Publications Course Development

- Co-development of a team-taught graduate course (25%, 12 lectures) “Special Topics in Condensed Matter Physics: Introduction to Mesoscopic Physics” (2010):
- Development of a new undergraduate course “An Introduction to Nanostructures,” which surveys the modern topics in the field of nanotechnology and quantum transport (2009)
- Adopted undergraduate course “An Introduction to Nanostructures,” for online instruction (six campuses state-wide participated) (2011)

Course Development Proposals

- To develop an online undergraduate course “Intercampus Course Sharing Proposal Classical Optics 323,” (2014) pending

Graduate Advising

- PhD thesis advisor for Ben Payne (2007-12), Sumudu Herath (2009-2013), Milan Koirala (2014-)
- MS supervisor for Aaron Viets (2012-2014), Pauf Neopane (2013-2014)
- PhD thesis committee member for Nathan Dees, Raghuveer R. Gadipalli, Altynbek Murat, Tim Mason, Tina Phukan, David Peaslee, Fawaz Hrahsheh, Kaushalya Premachandra, Kristen Erickson, Logan Brown, Chris Carr

Undergraduate Advising

- Supervised research projects for Jeffery Jau (2005-2006), Mark Herrera (2005-09), John Gigax (2008-09), Tom Mahler (2006-09), Laura Sisken (2009-12), Winston Carr (2009-10), Grant MacDonal (2011-12), Dan Franklin (2011-12), Brock Hinton (2012-2013), Tim Golubev (2012-2014)
- Voted “Favorite teacher of freshman engineering students” (2006)

Department and University Service

- The Center for Educational Research and Teaching Innovation (CERTI) steering committee member
- Library and Learning Resources Committee (2009-)
- Library liason (2011-)
- Opportunities for Undergraduate Research Experiences liason (2012-)
- Introductory Physics Teaching Steering Committee (2013-)
- AMO Hire Committee (2013-2014)
- Honorary Degree Committee (2013)
- Organizer of the weekly Physics Colloquium series at Missouri S&T (2008-11)
- Physics Qualifying Examination Committee (2011-)
- The Annual Physics Phonathon supervisor (2007,2009-12)
- MST & UMSL joint physics program meeting organizer (2008)
- Physics undergraduate student competition Fuller Committee Chair (2009)
- Research Highlights annual presentation for society of physics students (2007-2012)
- Minority Introduction to Technology & Engineering summer camp presentations (2007-2009)