

Alexander B. Yakovlev

Professor of Electrical Engineering
Co-Director, Center for Applied Electromagnetic Systems Research (CAESR)
Department of Electrical Engineering, The University of Mississippi,
Anderson Hall, Room 306, University, Mississippi 38677

Phone: (662) 915-7196; Fax: (662) 915-7231; Email: yakovlev@olemiss.edu, yakovlev@ieee.org

PRESENT POSITION Professor, Department of Electrical Engineering, The University of Mississippi

EDUCATION

August 1997 **Ph.D. in Electrical Engineering, Department of Electrical Engineering and Computer Science** (Minor: Mathematics)
University of Wisconsin, Milwaukee, WI, USA
Ph.D. Dissertation: *Mathematical Simulation of Mode Leakage and Coupling on Printed Transmission Line Circuits*
Course emphasis in wireless, microwave, and optical communications, digital filter design, electromagnetic wave theory and applications, complex analysis, catastrophe and bifurcation theories

January 1992 **Ph.D. in Physics and Mathematics (Specialization Radiophysics), Institute of Radiophysics and Electronics**
National Academy of Sciences, Kharkov, Ukraine
Ph.D. Dissertation: *Method of Partial Overlapping Regions for the Analysis of Multiply Connected Structures with Longitudinal Loading*
Course emphasis in special topics of theoretical electrodynamics and functional analysis

June 1986 **M.S.E.E. (honor), Department of Microwave Physics**
Dnepropetrovsk State University, Ukraine
M.S. Thesis: *Calculation of Wave Parameters in the Rectangular Ferrite-Loaded Waveguide for Design of a Controlled Polarizer*
Courses studied: microwave and theoretical electrodynamics, theory of wave processes, microwave devices and measurements, fiber optics, solid-state devices and circuits, physics and electronics of semiconductors, microwave electronics, quantum radiophysics and mechanics, theory of oscillations, statistical radiophysics, theoretical physics, vector analysis, analytical geometry, differential equations, mathematical analysis, methods of mathematical physics

PROFESSIONAL EXPERIENCE

July 2013 – present: Professor, The University of Mississippi, Department of Electrical Engineering
July 2004 – July 2013: Associate Professor (tenure, 1 July 2006)
The University of Mississippi, Department of Electrical Engineering
August 2000 – July 2004: Assistant Professor
The University of Mississippi, Department of Electrical Engineering
April 1998 – August 2000: Research Associate
North Carolina State University, Electrical and Computer Engineering Department, Raleigh, North Carolina
April 1998 – September 1998: Research Associate

University of Wisconsin-Milwaukee, Department of Electrical Engineering and Computer Science, Milwaukee, Wisconsin

May 1997 – April 1998: R&D Engineer

Ansoft Corporation/Compact Software Division, Pittsburgh, Pennsylvania and Paterson, New Jersey

January 1995 – May 1997: Teaching Assistant

University of Wisconsin-Milwaukee, Department of Electrical Engineering and Computer Science, Milwaukee, Wisconsin

January 1994 – January 1995: Research Assistant

University of Wisconsin-Milwaukee, Department of Electrical Engineering and Computer Science, Milwaukee, Wisconsin

January 1992 – December 1993: Assistant Professor

Dnepropetrovsk State University, Department of Microwave Physics, Dnepropetrovsk, Ukraine

November 1986 – December 1991: Research Scientist

Dnepropetrovsk State University, Department of Microwave Physics, Dnepropetrovsk, Ukraine

RESEARCH EXPERIENCE

The University of Mississippi, Department of Electrical Engineering

- Local thickness dependent permittivity for nonlocal wire-medium structures.
- Elliptical metasurface cloaks in printed technology – Reduction of mutual coupling in closely spaced planar antennas.
- Surface plasmon polariton canalization with a modulated graphene monolayer.
- Conformal and confocal cloaking of elliptical dielectric and conducting cylinders with graphene nanopatches.
- Nonlocal susceptibility of wire media in the spatial domain considering material boundaries.
- Dual inductive-capacitive nature of graphene patches for enhanced transmission at low-terahertz frequencies.
- Nanostructured graphene patches for cloaking of dielectric and conducting cylinders at low-terahertz frequencies.
- Mantle cloaking of cylindrical objects with conformal printed and slotted metasurfaces: analytical approach.
- Enhanced transmission with graphene-dielectric microstructure at low-terahertz.
- Enhanced transmission with stacked 2-D distributions of conducting patches.
- Homogenization models for mushroom-type high-impedance surfaces with loaded vias.
- Excitation of discrete and continuous spectrum with the surface conductivity model of graphene.
- Analysis of all angle negative refraction in wire media with deeply-subwavelength inclusions.
- Near-field enhancement with mushroom-type structures with impedance loadings.
- Generalized additional boundary conditions for mushroom-type and bed-of-nails-type wire media with application to wideband absorbers.
- Homogenization models for multilayer mushroom structures for the analysis of negative refraction with application to partial focusing lens.

- Analysis of total transmission in sub-wavelength multilayer partially-reflecting surfaces: analytical and circuit theory models.
- Analytical modeling of high-impedance surfaces with graphene patches as absorbing structures at microwaves..
- Plane-wave and surface-wave analytical modeling of printed high-impedance surfaces.
- Plane-wave and surface-wave analytical modeling of EBG structures and metamaterials, including mushroom-like surfaces, wire media slabs, and slabs with spherical inclusions.
- Modal interaction in homogenized metamaterials structures.
- Green's function analysis of high-impedance surfaces and homogenized metamaterials.
- Spectral analysis of metamaterial structures. Fundamental modal properties on metamaterial slab waveguides.
- Spectral analysis of Frequency Selective Surfaces with application to hard and soft surfaces and electromagnetic bandgap structures.
- Electromagnetic modeling of circular and rectangular hard surface waveguides: dyadic Green's function approach.
- Excitation and scattering in PEC circular waveguides and hard surface waveguides.
- Electromagnetic modeling of 3D high-frequency interconnection structures; full-wave analysis of waveguide-based aperture-coupled patch amplifier arrays and dielectric resonator arrays; Generalized Scattering Matrix of patch, slot, and DRA arrays in layered overmoded waveguides; integral equation methods, method of moments: spatial and quasi-optical power combining applications.
- Global modeling of spatial power combining amplifiers, including full-wave modeling of passive devices, field-circuit interaction of electromagnetic structures and amplifier circuits, simulation of coupling effects.
- Electric and magnetic dyadic Green's functions for layered open and closed guided-wave structures.
- Full-wave analysis of open and closed guided-wave structures; spectral-domain approach, method of moments.
- Modeling of microstrip and waveguide discontinuities: directional couplers, filters, resonant systems, multiport junctions.
- Mode leakage and coupling on integrated transmission line circuits; control and suppression of radiation effects.
- Coupled-mode theory and its connection with catastrophe and bifurcation theories.
- Leaky-mode analysis of transient fields in layered media due to electric and magnetic line and dipole sources.

North Carolina State University, Electrical and Computer Engineering Department

- Electromagnetic field analysis of high-frequency interconnections for spatial power combining systems, MAFET Thrust III program, DARPA; Fortran codes.
- Electromagnetic field analysis of waveguide-based arbitrarily shaped interactive electric and magnetic layers: patch-to-slot, strip-to-slot transition modules and arrays for power combining structures; integral equation methods, method of moments.

- Integration of passive circuit elements and active (MMIC) devices in high-frequency antenna arrays using field-circuit modeling techniques.
- Modeling of slotted waveguides coupled to strip and microstrip lines with application to spatial power combining; electric and magnetic field integral equations, method of moments, Fortran codes.
- Generalized Scattering Matrix method for modeling coupled patch and slot antennas in layered waveguide.
- Acceleration techniques for computing slowly converging integrals and series.
- Microwave measurements using a HP8510C Network Analyzer.

University of Wisconsin-Milwaukee, Electrical Engineering and Computer Science Department

- Leaky-mode analysis of transient fields in layered media due to electric and magnetic sources (this analysis is used in geophysics for evaluation of the response of a layered elastic medium and oceanic wave guide to an explosive point source).
- Asymptotic evaluation of radiation integrals using the steepest descent method.
- Mode interaction mechanisms on open guided-wave structures in connection with bifurcation and catastrophe theories.
- Mode leakage and coupling on high-frequency integrated circuits in connection with the theory of universal unfoldings.
- Complex branch points in connection with the mode classification.

Ansoft Corporation, Pittsburgh, PA, Ansoft Corporation/Compact Software Division, Paterson, NJ

- Passive device modeling and research for electromagnetic kernel in MAFET Project; numerical work using Explorer and Maxwell Strata CAD modeling tools.
- Full-wave electromagnetic formulation for arbitrarily shaped 3D open planar and vertical interconnections; mixed-potential integral equation method, method of moments.

Research for Ph.D., University of Wisconsin

- Electromagnetic modeling of printed-circuit transmission lines; spectral-domain approach, method of moments.
- Mode leakage and coupling phenomena on layered open integrated waveguides in connection with bifurcation and catastrophe theories; Fortran codes.
- Control and suppression of leakage on printed transmission line circuits.
- Scattering matrix parameters of microstrip resonators, bends, and junctions; method of moments; Fortran codes.
- Excess capacitance of the finite ground strip-to-strip transition; boundary element method.

Research for Ph.D., Dnepropetrovsk State University and Institute of Radiophysics and Electronics, Ukraine

- Full-wave analysis of shielded microstrip transmission lines with finite thickness strip conductors; method of overlapping regions, Galerkin method; Fortran, PL-1 codes.
- Analysis of wave interactions in shielded microstrip lines.
- Analytical and numerical simulation of microstrip junctions: T-, periscopic, and right-angle bends; method of overlapping regions, Galerkin method; Fortran, Basic codes.
- Mathematical and computer simulation of antenna arrays.

Research for M.S.E.E., Dnepropetrovsk State University, Ukraine

- Calculation of propagation characteristics of a rectangular waveguide loaded with a ferrite section.
- Analysis of controlled circular polarizers.

HONORS AND AWARDS

- Young Scientist Award, *14th URSI International Symposium on EM Theory*, Sydney, Australia, 1992
- Young Scientist Award, *International Symposium on Antennas and Propagation*, Chiba, Japan, 1996
- 2003 Junior Faculty Research Award for Outstanding Performance, School of Engineering, The University of Mississippi, Fall 2003
- 2003 Faculty Research Fellow, Office of Research and Sponsored Programs, The University of Mississippi
- Certificate in Recognition of and Appreciation for Services and Contributions to the *ACES 2003 Conference*, Monterey, CA, 2003
- Certificate of Appreciation for Contribution to the *ACES 2007 Conference*, Verona, Italy, 2007
- The 2007 Valued Service Award for Outstanding Service as Associate Editor-in-Chief for ACES Journal 2004-2006

PROFESSIONAL MEMBERSHIPS

- Senior Member of the Institute of Electrical and Electronics Engineers (IEEE)
- Member of the IEEE Microwave Theory and Techniques Society
- Member of the IEEE Antennas and Propagation Society
- Member of the International Union of Radio Science (URSI) Commission B
- Member of Eta Kappa Nu Honors Society of Electrical Engineers

TECHNICAL REVIEWER

- IEEE Transactions on Antennas and Propagation
- IEEE Transactions on Microwave Theory and Techniques
- IEEE Microwave and Wireless Components Letters
- IEEE Antennas and Wireless Propagation Letters
- Applied Computational Electromagnetics Journal (ACES)
- Journal of Electromagnetic Waves and Applications
- IEEE Antennas and Propagation Magazine
- IEE Electronics Letters
- National Science Foundation
- Radio Science
- Optics Express
- Metamaterials

- Proceedings of the IEEE
- Physical Review B

PROFESSIONAL ACTIVITIES

- *Associate Editor-in-Chief, Applied Computational Electromagnetics Journal (ACES), 2003-2006*
- *Associate Editor, IEEE Transactions on Microwave Theory and Techniques, 1 September, 2005 – 31 August, 2008*
- *Member of the Steering Committee, Metamaterials Congress, November 2012 – November 2013*
- Member of the Technical Program Committee of *International Conference on Metamaterials, Photonic Crystals, and Plasmonics, META 2010*, Cairo, Egypt, 22 – 25 February, 2010
- Member of the Technical Program Committee of *IEEE APS/URSI International Symposium and National Radio Science Meeting*, Memphis, Tennessee, 6-12 July 2014
- Member of the Technical Program Committee of *IEEE APS/URSI International Symposium and National Radio Science Meeting*, Vancouver, British Columbia, Canada, 7-13 July 2015
- Member of the Technical Program Committee of *IEEE APS/URSI International Symposium and National Radio Science Meeting*, Puerto Rico, 26 June - 1 July 2016
- Co-Chair of the *Guided Waves* Session at IEEE AP-S International Symposium and USNC/URSI National Radio Science Meeting, Orlando, FL, July 1999.
- Session co-chair for the AP Session *Ray Methods for Urban and Indoor Propagation Modeling*, 2002 IEEE AP-S International Symposium and URSI National Radio Science Meeting, San Antonio, TX, 16-21 June 2002.
- Co-Organizer and Co-Chair of the *Transmission Lines and Waveguiding Structures: Novel Structures and New Effects* Special Session at Progress in Electromagnetics Research Symposium (PIERS), Cambridge, MA, July 2002.
- Co-Organizer and Co-Chair of the *Novel Wave Effects on Integrated Circuit Transmission Lines and Interconnects* Special Session at Progress in Electromagnetics Research Symposium (PIERS), Honolulu, Hawaii, October 2003.
- Moderator of Electrical Engineering sessions at Memphis Area Engineering and Sciences Conference, MAESC 2003, Memphis, TN, May 2003.
- Co-Chair of the *CEM for Applied Analysis and Synthesis* session at 2005 IEEE/ACES International Conference on Wireless Communications and Applied Computational Electromagnetics, Honolulu, Hawaii, 3-7 April, 2005.
- Co-Chair of the *Electromagnetic Analysis of Wave Phenomena* session at 2005 IEEE/ACES International Conference on Wireless Communications and Applied Computational Electromagnetics, Honolulu, Hawaii, 3-7 April, 2005.
- Co-Chair of the *Arrays for DOA Estimation* session at 2005 IEEE AP-S International Symposium on Antennas and Propagation, Washington, D.C., 3-8 July, 2005.

- Co-Chair of the *Performance Enhancement Techniques for Patch Antennas* session at 2005 IEEE AP-S International Symposium on Antennas and Propagation, Washington, D.C., 3-8 July, 2005.
- Co-Chair of the Physics and Engineering Division at the Mississippi Academy of Science (2004-2005).
- Chair of the Physics and Engineering Division at the Mississippi Academy of Science (2005-2006).
- Co-Organizer and Co-Chair of the special session *Metamaterial Structures with Application to Guided-Wave Electromagnetics and Antennas* at 2007 Applied Computational Electromagnetics (ACES) Conference, Verona, Italy, 19-23 March, 2007.
- Organizer and Chair of the special session *Metamaterials: Electromagnetic Properties and Microwave Applications* at the Mid-South Area Engineering and Sciences Conference (MAESC), Oxford, Mississippi, May 17-18, 2007.
- Co-Chair of the session *Antenna Enhancement Using Metamaterial* at the IEEE AP-S International Symposium, Honolulu, Hawaii, 9-15 June, 2007.
- Co-chair of the special session *Modeling Techniques for Periodic Structures and Metamaterial Applications I* at the ACES Conference, Niagara Falls, Canada, 30 March – 4 April 2008.
- Co-chair of the session *EBG Structures and Devices* at the IEEE AP-S International Symposium, San Diego, CA, 5-11 July 2008.
- Chair of the session *Directive Metamaterial Antennas* at the Second Congress on Advanced Materials in Microwaves and Optics, Pamplona, Spain, 21 – 26 September, 2008.
- Co-chair of the session *Ultra Wide Band Systems* at the IEEE AP-S International Symposium, Charleston, SC, 1-5 June 2009.
- Co-chair of the session *Cavity and Aperture Coupling* at the IEEE AP-S International Symposium, Charleston, SC, 1-5 June 2009.
- Reviewer for the *Third International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2009*, London, UK, 30 August – 4 September 2009.
- Co-organizer of the special session *Homogenization of Metasurfaces and Bulk Metamaterials at Microwaves, THz, and Optical Frequencies* at the IEEE AP-S International Symposium, Toronto, Canada, July 11-17, 2010.
- Co-chair of the special session *Homogenization of Metasurfaces and Bulk Metamaterials at Microwaves, THz, and Optical Frequencies* at 2010.
- Co-Chair of the session *Metamaterial Surfaces and Cloaks*, 2012 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting, Chicago, IL, July 8-13, 2012.
- Chair of the session *Volumetric Electromagnetic Materials* at the IEEE AP-S International Symposium on Antennas and propagation and USNC/URSI Radio Science Meeting, Memphis, Tennessee, July 6-12, 2014.
- Chair of the session *Guided-Wave Metamaterial Structures* at the IEEE AP-S International Symposium on Antennas and propagation and USNC/URSI Radio Science Meeting, Memphis, Tennessee, July 6-12, 2014.
- Chair of the session *Exotic Scattering Features of Metamaterials* at the IEEE AP-S International Symposium on Antennas and propagation and USNC/URSI Radio Science Meeting, Memphis, Tennessee, July 6-12, 2014.

- Co-Chair of the session **Metamaterials Antennas and Components** at the 9th European Conference on Antennas and Propagation (EuCAP), Lisbon, Portugal, 12-17 April 2015.
- Reviewer for the **Fourth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2010**, Karlsruhe, Germany, 13 – 16 September 2010.
- Reviewer for the **Fifth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2011**, Barcelona, Spain, 10-15 October 2011.
- Judge of the Student Paper Competition at the **Fifth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2011**, Barcelona, Spain, 10-15 October 2011.
- Reviewer for the **Sixth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2012**, St. Petersburg, Russia, 17-22 September 2012.
- Reviewer for the **Seventh International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2013**, Bordeaux, France, 16-21 September 2013.
- Reviewer for the **Eights International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2014**, Copenhagen, Denmark, 25-30 August 2014.
- Reviewer for the **Tenth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2014**, Crete, Greece, 19-22 September 2016.
- Reviewer for the **2003 IEEE Transactions on Microwave Theory and Techniques IMS Special Issue**, December 2003.
- Reviewer for the **2014 IEEE APS/URSI International Symposium and National Radio Science Meeting**, Memphis, Tennessee, 6-12 July 2014.
- Reviewer for the **2015 IEEE APS/URSI International Symposium and National Radio Science Meeting**, Vancouver, British Columbia, Canada, 7-13 July 2015.
- Reviewer for the **2015 European Conference on Antennas and Propagation (EuCAP)**, Lisbon, Portugal, 12-16 April 2015.
- Reviewer for the **2016 IEEE APS/URSI International Symposium and National Radio Science Meeting**, Puerto Rico, 26 June - 1 July 2016.
- Invited presentation at the University of Cartajena, Spain, **“Modal Interactions in Guided-Wave Structures,”** 18 October 2007.
- Invited lecturer at the **EBG Postgraduate Course organized by Chalmers University of Technology within the European Antenna Network of Excellence**, 29 October – 4 November 2007, Gothenburgh, Sweden.
- Invited presentation at the ECE Department, University of Texas at Austin, **“Homogenization of Structured Metasurfaces and Uniaxial Wire-Medium Metamaterials for Microwave and THz Applications,”** 6 April, 2012.
- Presentation at NASA Langley Research Center, Hampton, Virginia, 17 April 2012, **“Artificial Impedance Surfaces and Wire Medium Metamaterials for Absorption, Cloaking, and Sub-Wavelength Imaging at Microwave and THz Frequencies”.**
- Invited presentation at the University Los Andes, Bogota, Colombia, **“Artificial Materials with Practical Microwave and Terahertz Applications,”** 30 September, 2013.

- Short Course *Wire Media – Homogenization Theory with Applications at Microwave and THz Frequencies*, Electronics Engineering Department, Tsinghua University, Beijing, China, Dec. 13-19, 2012.
- Short Course *Homogenization Concepts and Analytical Models for Wire-Media Metamaterials with Microwave and Terahertz Applications*, Armenia, Colombia, 30 September – 4 October, 2013.
- Invited presentation *Metasurfaces and Wire-Media Metamaterials from Circuit Theory Perspective* at the workshop WFA: Revisiting Equivalent Circuit Models for Emerging Technologies: from Microwaves to THz, IEEE IMS International Microwave Symposium, Tampa, Florida, 1-6 June 2014.
- Invited presentation *Enhanced Transmission with Subwavelength Periodic Arrays in Layered Environment*, Department of Electrical Engineering, Technical University of Denmark (DTU), 6 September 2014.
- Invited presentation *Cloaking of Metallic and Dielectric Cylinders with a Metasurface*, Department of Electrical Engineering, Technical University of Denmark (DTU), 13 September 2014.
- Invited presentation *Nanostructured Graphene Metasurface for Terahertz Cloaking of Elliptical Cylinders and Metallic Strips*, Department of Electrical Engineering, University of Wisconsin-Milwaukee, 8 October 2014.
- Invited presentation *Nonlocal Susceptibility of a Bounded Wire Medium in the Spatial Domain*, Department of Electrical Engineering, University of Tel-Aviv, 10 November 2014.
- Presentation at Adelphi Army Research Laboratory (ARL), *Metasurfaces and Wire-Media Metamaterials with Practical Applications at Microwave and Terahertz Frequencies – Homogenization Theory and Circuit Theory Perspective*, Washington D.C., 14 October 2014.
- Presentation in the Institute of Telecommunications, University of Coimbra, *Broadband Subwavelength Imaging with a Wire Medium Slab Loaded with Graphene Sheets*, Coimbra, Portugal, 26 November, 2014.
- Presentation in the Institute of Telecommunications, University of Coimbra, *Mushroom-Type Structures with the Wires Connected Through Diodes: Electronically Tunable Properties*, Coimbra, Portugal, 26 November, 2014.
- Presentation at the BWAC NSF Planning Workshop, *Reduction of Mutual Coupling in Closely Spaced Strip Antennas with Elliptical Metasurfaces*, University of Mississippi, Oxford, Mississippi, 15 January 2015.
- External evaluator for a PhD dissertation “*Two-Dimensional Potential, Propagation, and Wave-Scattering Problems for Arrays of Arbitrary Profiled Cylinders: Method of Analytical Regularization*,” G. Safonova, Macquarie University, 205 p., August 2012.
- External reviewer for a Doctor of Science dissertation in Physics and Mathematics, A. Ye. Svezhentsev, *Wave Propagation and Excitation in Open Waveguides and Cylindrical Microstrip Antennas*, A. Ya. Usikov’s Institute of Radio Physics and Electronics, National Academy of Sciences of Ukraine, Kharkov, Ukraine, 463 p, 2010.
- External member of the Dissertation Committee at the University of Rennes, Rennes, France: Defense of the Ph.D. dissertation of Mr. T. H. Wu, University of Rennes, France, 12 May, 2009.

- External reviewer for a Candidate of Science dissertation in Physics and Mathematics, I. A. Khromova, *Propagation of Electromagnetic Waves in Photonic Crystals and Photonic-Crystal Waveguides with Nonlinear and Anisotropic Inclusions*, Saratov State University, Saratov, Russia, 146 p., 2009.
- External member of Doctorate Committee at North Carolina State University: Defense of the Ph.D. dissertation by Chris W. Hicks, *Experimental and Electromagnetic Modeling of Waveguide-Based Spatial Power Combining Systems*, NC State University, Raleigh, NC, November 2002.
- External reviewer for a Doctor of Science dissertation in Physics and Mathematics, P.N. Melezhik, *Theory of Natural and Forced Electromagnetic Oscillations in Open Two-Dimensional Structures*, Kharkov National University, Kharkov, Ukraine, 334 p.
- Book review: D.H. Werner and R. Mittra, *Frontiers in Electromagnetics*, IEEE Press, 2000. The review is published in the *IEEE Antennas and Propagation Magazine*, Vol. 43, No. 4, August 2001, pp. 96-97.

VISITING APPOINTMENTS

- Aug. – Sept. 2007** – Department of Mathematics, Macquarie University, Sydney, Australia
- Sept. – Oct. 2007** – Department of Electronics and Electromagnetism, University of Seville, Seville, Spain
- Nov. 2007** – Chalmers University of Technology, Gothenbourg, Sweden
- May 2009** – University of Rennes, IETR, Rennes, France
- Nov. 2010** – City University of Hong Kong, Department of Electronic Engineering, Hong Kong
- Jan., Nov. 2011**– Department of Electronics and Electromagnetism, University of Seville, Seville, Spain
- Jan. 2012**– Electronics Engineering Department, Tsinghua University, Beijing, China
- Sept. 2014** – Department of Electrical Engineering, Technical University of Denmark (DTU), Copenhagen, Denmark

SPONSORED RESEARCH

- Intel, “**Elliptical Metasurface Cloaks in Printed Technology – Reduction of Mutual Coupling in Planar Antennas and Antenna Arrays at Microwave and Terahertz Frequencies**,” A. B. Yakovlev, 12/15/2015 – 8/31/2016, \$33,333.
- BWAC NSF Center, NSF, 2015-2020, \$325,000.
- NASA EPSCoR Starter Grant, “**Metamaterials and Nanomaterials for the Analysis of Absorbers and Cloaking Structures Used in NASA Space Communication Systems**,” A. B. Yakovlev, 2015, \$29,750 (year 3).
- NASA EPSCoR Starter Grant, “**Metamaterials and Nanomaterials for the Analysis of Absorbers and Cloaking Structures Used in NASA Space Communication Systems**,” A. B. Yakovlev, 2014, \$29,500 (year 2).
- NASA EPSCoR Starter Grant, “**Metamaterials and Nanomaterials for the Analysis of Absorbers and Cloaking Structures Used in NASA Space Communication Systems**,” A. B. Yakovlev, 2013, \$30,004 (year 1).

- Spanish Ministry of Science and Innovation, “**Advanced Electromagnetic Systems for Communications and Medical Applications**,” F. Mesa, F. Medina, R. Marques, R. R. Boix, A. B. Yakovlev, J. Martel, M. Freire, R. R. Berral, J. D. Baena, and V. Losada, 2011-2013, 183,900 Euros.
- NASA/MS Space Grant Consortium Research Infrastructure Project, “**Nanocomposite Materials in Emergent Antenna and Sensor Technologies for NASA Space Communications Systems**,” A. B. Yakovlev, 2010-2011, \$50,000.
- Spanish Ministry of Science and Innovation, “**Reflectarray Antennas and Printed Microwave Filters**,” J. Encinar, V. Losada, J. Martel, F. Medina, F. Mesa, R. R. Berral, R. R. Boix, and A. B. Yakovlev, 2010-2012, 200,000 Euros.
- NASA EPSCoR Research Program, “**Artificial Magnetic Conductor Surfaces for Wideband Antenna Applications**,” A. B. Yakovlev, 2006-2007, \$39,599.
- NASA EPSCoR Research Program, “**Investigation of Hard Surface Waveguides for Excitation of Spatial Power Combining Amplifier Arrays**,” A. B. Yakovlev, 2004-2005, \$24,729.
- ARO/DEPSCoR Program FY2001-2002, “**Wideband Dielectric Resonator Antennas and Phased Array Applications**,” A. A. Kishk, A. W. Glisson, and A. B. Yakovlev, 2002-2005, \$332,876.
- National Science Foundation, “**Electromagnetic Modeling of Cylindrical Waveguide-Based Dielectric Resonator Amplifier Arrays for Spatial Power Combiners**,” A. A. Kishk and A. B. Yakovlev, 2002-2006, \$220,000.
- REU Supplement for “**Electromagnetic Modeling of Cylindrical Waveguide-Based Dielectric Resonator Amplifier Arrays for Spatial Power Combining**,” A. A. Kishk and A. B. Yakovlev, National Science Foundation/Research Experiences for Undergraduates, 2003-2004, \$12,000.
- NASA EPSCoR Research Infrastructure Grants, “**Broadband Spatial Power Combiners: System Modeling and Antenna Design for Space Applications**,” A. B. Yakovlev, A. Z. Elsherbeni, and C. E. Smith, 2002-2003, \$4,000.
- NASA EPSCoR Research Infrastructure Grants, “**Ultra-High Resolution Imagery Using Space-Based Array Radars**,” A. Z. Elsherbeni, R. K. Gordon, A. B. Yakovlev, and C. E. Smith, 2002-2003, \$4,000.
- The University of Mississippi Faculty Small Grants Program, “**Global Analysis of Radiation and Coupling Effects on Microwave and Millimeter-Wave Integrated Waveguides**,” A. B. Yakovlev, 2003-2004, \$6,090.
- The University of Mississippi Faculty Small Grants Program, “**Electromagnetic Modeling of Waveguide-Based Spatial Power Combining Systems**,” A. B. Yakovlev, 2001-2003, \$3,472.

TEACHING ACTIVITIES

Undergraduate Courses Taught:

- Electromagnetic Theory I (EL.E. 441)
- Theory of Fields (EL.E. 341)
- Theory of Control Systems (EL.E. 431)
- Engineering Analysis I (ENGR 310)

- Engineering Analysis II (ENGR 410)
- Electric Circuit Laboratory (ENGR 361)
- Digital System Laboratory II (EL.E. 337)
- Senior Design in EE I (EL.E. 461)
- Introduction to Antennas (EL.E. 525)
- Electric Energy Conversion (EL.E. 451)
- Linear Systems (EL.E. 331)
- Microwave Engineering (EL.E. 523)

Graduate Courses Taught:

- Advanced Electrodynamics (ENGR 621)
- Passive Microwave Circuits (ENGR 623)
- Special Topics in Engineering Science (ENGR 691), “Electromagnetic Waves in Artificial Media”
- Special Topics in Engineering Science (ENGR 691), “Artificial Magnetic Conductors”
- Special Project in Engineering Science (ENGR 597), “Electromagnetic Fundamentals of Guided Waves”
- Special Project in Engineering Science (ENGR 597), “Green’s Functions for Waveguide and Radiation Problems”
- Special Topics in Electromagnetic Theory (ENGR 729), “Operator Theory of Green’s Functions for Waveguide and Antenna Problems”
- Special Topics in Engineering Science (ENGR 691), “Frequency Selective Surface (FSS) Structures”
- Electromagnetic Theory Seminar (ENGR 695)

**PREVIOUS
TEACHING
EXPERIENCE**

Teaching Assistant, University of Wisconsin, Milwaukee, WI

Undergraduate Courses Taught:

- Introduction to Electrical Engineering
- Solid-State Devices, Circuits and Systems Laboratory
- Engineering Science and Technology Program

Assistant Professor, Dnipropetrovsk State University, Ukraine

Undergraduate Courses Taught:

- Microwave Devices and Measurements Laboratory
- Microwave Physics

Graduate Courses Taught:

- Electromagnetic Modeling of Passive Circuit Elements and Devices
- Waveguide Structures with a Complex Cross-Section

**REFEREED
JOURNAL
PUBLICATIONS (total 82)**

1. F. Liang, G. W. Hanson, A. B. Yakovlev, G. Lovat, P. Burghignoli, R. Araneo, S. A. Hassani Gangaraj, “**Dyadic Green’s Functions for Dipole Excitation of Homogenized Metasurfaces,**” *IEEE Transactions on Antennas and Propagation*, (submitted, 4 June 2015, accepted 13 November 2015), vol. 64, no. 1, pp. 167-178, January 2016.

2. H. M. Bernety and A. B. Yakovlev, “**Decoupling Antennas in Printed Technology Using Elliptical Metasurface Cloaks,**” *Journal of Applied Physics*, (submitted, October 2015, accepted, December 2015, published 7 January 2016), vol. 119, no. 1, pp. 014904-1 – 014904-11, 7 January 2016.
3. C. Molero, R. Rodriguez-Berral, F. Mesa, F. Medina, and A. B. Yakovlev, “**Wideband Analytical Equivalent Circuit for 1-D Periodic Stacked Arrays,**” *Physical Review E*, (submitted, 12 July 2015, accepted 26 December 2015), vol. 93, pp. 013306-1 – 013306-14, 15 January 2016.
4. G. Moreno, H. M. Bernety, and A. B. Yakovlev, “**Reduction of Mutual Coupling between Strip Dipole Antennas at Terahertz Frequencies with an Elliptically Shaped Graphene Monolayer,**” *IEEE Antennas and Wireless Propagation Letters*, focused special cluster on Graphene and Two-Dimensional Materials for Antenna Applications, (submitted 21 August 2015, revised 17 November 2015, published online 17 December 2015).
5. A. Forouzmmand, H. M. Bernety, and A. B. Yakovlev, “**Graphene Loaded Wire Medium for Tunable Broadband Subwavelength Imaging,**” *Physical Review B*, 2015 (submitted 11 February 2015, accepted 9 July 2015), vol. 92, pp. 085402 (14 pp), 3 August 2015.
6. A. Forouzmmand and A. B. Yakovlev, “**Tunable Dual-Band Subwavelength Imaging with a Wire Medium Slab Loaded with Nanostructured Graphene Metasurfaces,**” *AIP Advances*, (submitted, 3 May 2015, accepted 23 June 2015, published online 2 July 2015), vol. 5, no. 7, pp. 077108-1 – 077108-18, July 2015.
7. H. M. Bernety and A. B. Yakovlev, “**Cloaking of Single and Multiple Elliptical Cylinders and Strips with Confocal Nanostructured Graphene Metasurface,**” *Journal of Physics: Condensed Matter*, 8 February 2015 (submitted), accepted 24 March 2015, vol. 27, no. 18, pp. 185304 (16 pp), 24 March 2015.
8. A. Forouzmmand and A. B. Yakovlev, “**Electromagnetic Cloaking of a Finite Conducting Wedge with a Nanostructured Graphene Metasurface,**” *IEEE Trans. Antennas Propag.*, November 2014 (submitted, revised 11 February, 2015, accepted 16 February 2015), vol. 63, no. 5, pp. 2191-2202, May 2015.
9. H. M. Bernety and A. B. Yakovlev, “**Reduction of Mutual Coupling between Neighboring Strip Dipole Antennas Using Elliptical Metasurface Cloaks,**” *IEEE Trans. Antennas Propag.*, October 2014 (submitted, revised 18 December 2014, accepted 22 January 2015), vol. 63, no. 4, pp. 1554-1563, 2015.
10. F. Liang, A. B. Yakovlev, and G. W. Hanson, “**Optimum surface plasmon excitation and propagation on conductive two-dimensional materials and thin films,**” *IEEE Trans. Antennas Propag.*, 12 September 2014 (submitted), accepted 18 January 2015, vol. 63, no. 4, pp. 1765-1774, 2015.
11. E. Forati, G. W. Hanson, A. B. Yakovlev, and A. Alu, “**A Planar Hyperlens Based on a Modulated Graphene Monolayer,**” *Physical Review B – Rapid Communications*, (submitted, 10 December 2013, accepted 18 February 2014, published 28 February 2014, vol. 89, pp. 081410(R) (5 pp), 2014.
12. P.-Y. Chen, J. C. Soric, Y. R. Padooru, H. M. Bernety, A. B. Yakovlev, and A. Alu, “**Nanostructured Graphene Metasurface for Tunable Terahertz Cloaking,**” *New Journal of Physics*, (submitted, July 2013, revised 1 October 2013, accepted 31 October 2013, published 17 December 2013, vol. 15, pp. 123029 (12 pp), 2013.
13. G. W. Hanson, M. G. Silveirinha, P. Burghignoli, and A. B. Yakovlev, “**Nonlocal Susceptibility of the Wire Medium in the Spatial Domain Considering Material Boundaries,**” *New Journal of Physics*, (submitted, May 30, 2013, revised 17 July 2013, accepted 22 July 2013, published 8 August 2013), vol. 15, pp. 083018 (24 pp), 2013.
14. Y. R. Padooru, A. B. Yakovlev, C. S. R. Kaipa, G. W. Hanson, F. Medina, and F. Mesa, “**Dual Capacitive-Inductive Nature of Periodic Graphene Patches:**

- Transmission Characteristics at Low-Terahertz Frequencies,”** *Physical Review B*, vol. 87, pp. 115401-1 – 115401-10, 4 March 2013.
15. G. W. Hanson, E. Forati, W. Linz, and A. B. Yakovlev, “**Excitation of Terahertz Surface Plasmons on Graphene Surfaces by an Elementary Dipole and Quantum Emitter: Strong Electrodynamical Effect of Dielectric Support,”** *Physical Review B*, vol. 86, pp. 235440-1 – 235440-9, 26 December 2012.
 16. C. S. R. Kaipa and A. B. Yakovlev, “**Partial Focusing by a Bulk Metamaterial Formed by a Periodically Loaded Wire Medium with Impedance Insertions,”** *Journal of Applied Physics*, vol. 112, pp. 124902-1 – 124902-6, 19 December 2012.
 17. Y. R. Padooru, A. B. Yakovlev, P.-Y. Chen, and A. Alù, “**Line-Source Excitation of Realistic Metasurface Cloaks,”** *Journal of Applied Physics*, vol. 112, pp. 104902-1 – 104902-11, 21 November 2012.
 18. C. S. R. Kaipa, A. B. Yakovlev, M. G. Silveirinha, and S. I. Maslovski, “**Near-Field Imaging with a Loaded Wire Medium,”** *Physical Review B*, Vol. 86, pp. 155103-1 – 155103-10, 1 October 2012.
 19. Y. R. Padooru, A. B. Yakovlev, P.-Y. Chen, and A. Alù, “**Analytical Modeling of Conformal Mantle Cloaks for Cylindrical Objects Using Sub-wavelength Printed and Slotted Arrays,”** *Journal of Applied Physics*, Vol. 112, pp. 034907-1 – 034907-13, 14 August 2012.
 20. Y. R. Padooru, A. B. Yakovlev, C. S. R. Kaipa, G. W. Hanson, F. Medina, F. Mesa, and A. W. Glisson, “**New Absorbing Boundary Conditions and Analytical Model for Multilayered Mushroom-Type Materials: Applications to Wideband Absorbers,”** *IEEE Transactions on Antennas and Propagation*, Vol. 60, No. 12, pp. 5727-5742, December 2012.
 21. C. S. R. Kaipa, A. B. Yakovlev, F. Medina, F. Mesa, “**Transmission Through Stacked 2-D Periodic Distributions of Square Conducting Patches,”** *Journal of Applied Physics*, Vol. 112, pp. 033101-1 – 033101-11, 1 August 2012.
 22. C. S. R. Kaipa, A. B. Yakovlev, G. W. Hanson, Y. R. Padooru, F. Medina, and F. Mesa, “**Enhanced Transmission with a Graphene-Dielectric Micro-Structure at Low-Terahertz,”** *Physical Review B*, Vol. 85, No. 24, pp. 245407-1 – 245407-6, 5 June 2012.
 23. A. B. Yakovlev and G. W. Hanson, “**Modal Propagation and Interaction in the Smooth Transition from a Metal Mushroom Structure to a Bed-of-Nails-Type Wire Media,”** *Journal of Applied Physics*, Vol. 111, pp. 074308-1 – 074308-7, 5 April 2012.
 24. C. S. R. Kaipa, A. B. Yakovlev, S. I. Maslovski, and M. G. Silveirinha, “**Mushroom-Type High-Impedance Surface with Loaded Vias: Homogenization Model and Ultra-Thin Design,”** *IEEE Antennas and Wireless Propagation Letters*, Special Issue on Metamaterials, published 21 December 2011, Vol. 10, pp. 1503-1506, Dec. 2011.
 25. G. W. Hanson, A. B. Yakovlev, and A. Mafi, “**Excitation of Discrete and Continuous Spectrum for a Surface Conductivity Model of Graphene,”** *Journal of Applied Physics*, Vol. 110, pp. 114305-1 – 114305-8, 1 December 2011.
 26. C. S. R. Kaipa, A. B. Yakovlev, S. I. Maslovski, and M. G. Silveirinha, “**Indefinite Dielectric Response and All-Angle Negative Refraction in a Structure with Deeply-Subwavelength Inclusions,”** *Physical Review B*, Vol. 84, No. 16, pp. 165135-1 – 165135-7, 28 October 2011.
 27. Y. R. Padooru, A. B. Yakovlev, C. S. R. Kaipa, F. Medina, and F. Mesa, “**Circuit Modeling of Multi-Band High-Impedance Surface Absorbers in the Microwave Regime,”** *Physical Review B*, Vol. 84, No. 3, pp. 035108-1 – 035108-11, 20 July 2011.
 28. P. Baccarelli, F. Capolino, S. Paulotto, and A. B. Yakovlev, “**In-Plane Modal Analysis of a Metamaterial Layer Formed by Arrayed Pairs of Planar**

- Metallic Dogbones**,” *Metamaterials*, available online 13 February 2011, No. 5, pp. 26-35, 2011. (Invited paper).
29. C. S. R. Kaipa, A. B. Yakovlev, and M. G. Silveirinha, “**Characterization of Negative Refraction with Multilayered Mushroom-Type Metamaterials at Microwaves**,” *Journal of Applied Physics*, (submitted, 14 September 2010, accepted 21 December 2010, published online 23 February 2011), Vol. 109, pp. 044901-10, 2011.
 30. S. I. Maslovski, T. A. Morgado, M. G. Silveirinha, C. S. R. Kaipa, and A. B. Yakovlev, “**Generalized Additional Boundary Conditions for Wire Media**,” *New Journal of Physics*, Vol. 12, pp. 113047 (19 pp), 2010 (published 26 November 2010).
 31. A. B. Yakovlev, Y. R. Padooru, G. W. Hanson, A. Mafi, and S. Karbasi, “**A Generalized Additional Boundary Condition for Mushroom-Type and Bed-of-Nails-Type Wire Media**,” *IEEE Transactions on Microwave Theory and Techniques*, Vol. 59, No. 3, pp. 527-532, March 2011.
 32. C. S. R. Kaipa, A. B. Yakovlev, F. Medina F. Mesa, C. A. M. Butler, and A. P. Hibbins, “**Circuit Modeling of the Transmissivity of Stacked 2-D Metallic Meshes**,” *Optics Express*, Vol. 18, No. 13, pp. 13309-13320, 21 June 2010.
 33. M. G. Silveirinha and A. B. Yakovlev, “**Negative Refraction by a Uniaxial Wire Medium with Suppressed Spatial Dispersion**,” *Physical Review B*, Vol. 81, No. 23, pp. 233105-1 – 233105-4, 15 June 2010.
 34. S. Paulotto, P. Baccarelli, P. Burghignoli, G. Lovat, G. W. Hanson, and A. B. Yakovlev, “**Homogenized Green’s Functions for an Aperiodic Line Source over Planar Densely-Periodic Artificial Impedance Surfaces**,” *IEEE Transactions on Microwave Theory and Techniques*, Vol. 58, No. 7, pp. 1807-1817, July 2010.
 35. A. B. Yakovlev, M. G. Silveirinha, O. Luukkonen, C. R. Simovski, I. S. Nefedov, and S. A. Tretyakov, “**Characterization of Surface-Wave and Leaky-Wave Propagation on Wire-Medium Slabs and Mushroom Structures Based on Local and Non-Local Homogenization Models**,” *IEEE Transactions on Microwave Theory and Techniques*, Vol. 51, No. 11, pp. 2700-2714, November 2009.
 36. O. Luukkonen, M. G. Silveirinha, A. B. Yakovlev, C. R. Simovski, I. S. Nefedov, and S. A. Tretyakov, “**Effects of Spatial Dispersion on Reflection from Mushroom-type Artificial Impedance Surfaces**,” *IEEE Transactions on Microwave Theory and Techniques*, Vol. 51, No. 11, pp. 2692-2699, November 2009.
 37. G. Lovat, P. Burghignoli, A. B. Yakovlev, and G. W. Hanson, “**Modal Interactions in Resonant Metamaterial Slabs with Losses**,” *Metamaterials*, Vol. 2, No. 4, pp. 198-205, December 2008.
 38. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Analysis of Wideband Dielectric Resonator Antenna Arrays for Waveguide-Based Spatial Power Combining**,” *IEEE Transactions on Microwave Theory and Techniques*, Vol. 55, No. 6, part II, pp. 1332-1340, June 2007.
 39. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Dielectric Resonator Probe Arrays With Sectoral Hard Horn for Wideband Spatial Power Combiners/Dividers**,” *IET – Microwave, Antennas and Propagation*, Vol. 1, No. 4, pp. 874-880, August 2007.
 40. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Generalized Equivalent Circuit Model for Transverse Waveguide Slots and Applications**,” *Journal of Electromagnetic Waves and Applications*, PIER 69, pp. 1-20, 2007.
 41. M. Hiranandani, A.B. Yakovlev, and A.A. Kishk, “**Artificial Magnetic Conductors Realized by Frequency Selective Surfaces on a Grounded Dielectric Slab for Antenna Applications**,” *IEE Proc. – Microwave, Antennas and Propagation (Part H)*, Vol. 153, No. 5, pp. 487-493, October 2006.

42. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Equivalent Circuit Model for a Waveguide Probe With Application to DRA Excitation,**” *IEEE Transactions on Antennas and Propagation*, Vol. 54, No. 5, pp. 1433-1441, May 2006.
43. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**FDTD Analysis of a Probe-Fed Dielectric Resonator Antenna in Rectangular Waveguide,**” *ACES Journal, 2005 ACES Conference Special Issue*, Vol. 21, No. 1, pp. 37-44, March 2006.
44. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, “**A Novel Implementation of Modified Maxwell’s Equations in the Periodic Finite-Difference Time-Domain Method,**” *Journal of Electromagnetic Waves and Applications*, PIER 59, pp. 85-100, 2006.
45. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, “**Implementation of Mur’s Absorbing Boundaries with Periodic Structures to Speed up the Design Process Using Finite-Difference Time-Domain Method,**” *Journal of Electromagnetic Waves and Applications*, PIER 58, pp. 101-114, 2006.
46. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, “**A Broadband Printed Bow-Tie Antenna with a Simplified Balanced Feed,**” *Microwave and Optical Technology Letters*, Vol. 47, No. 6, pp. 534-536, December 20, 2005.
47. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Spectral Analysis of Left-Handed Rectangular Waveguides with Dielectric-Filled Corrugations,**” *IEEE Transactions on Antennas and Propagation*, Vol. 53, No. 11, pp. 3673-3683, November 2005.
48. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Rectangular Waveguide with Dielectric-Filled Corrugations Supporting Backward Waves,**” *IEEE Transactions on Microwave Theory and Techniques*, IMS Symposium Special Issue, Vol. 53, No. 11, pp. 3298-3304, November 2005.
49. W. Huang, A.B. Yakovlev, A.A. Kishk, A.W. Glisson, and I.A. Eshrah, “**Green’s Function Analysis of an Ideal Hard Surface Rectangular Waveguide,**” *Radio Science*, Vol. 40, RS5006, 10.1029/2004RS003161, 28 September 2005, 12 p.
50. G.W. Hanson, A.B. Yakovlev, and W.E. Hutchcraft, “**Leaky Wave Excitation on Three-Dimensional Via-Fed Printed Interconnects,**” *Radio Science*, Special Issue of the 2004 URSI EMT International Symposium in Pisa, Italy, Vol. 40, RS6S08, 10.1029/2004RS003168, 14 September 2005, 15 p.
51. V.A. Klymko, A.B. Yakovlev, I.A. Eshrah, A.A. Kishk, and A.W. Glisson, “**Dyadic Green’s Function of an Ideal Hard Surface Circular Waveguide with Application to Excitation and Scattering Problems,**” *Radio Science*, Vol. 40, No. 3, RS3014, 10.1029/2004RS003167, 22 June 2005, 15 p.
52. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Excitation of Dielectric Resonator Antennas by a Waveguide Probe: Modeling Technique and Wideband Design,**” *IEEE Transactions on Antennas and Propagation*, Vol. 53, No. 3, March 2005, pp. 1028-1037.
53. I.A. Eshrah, A.B. Yakovlev, A.A. Kishk, A.W. Glisson, and G.W. Hanson, “**The TE₀₀ Waveguide Mode – The “Complete” Story,**” *IEEE Antennas and Propagation Magazine*, Vol. 46, No. 5, October 2004, pp. 33-41.
54. M.B. Steer, L.P.B. Katehi, S. Mohammadi, J.F. Whitaker, and A.B. Yakovlev, “**Architectures and Prototyping Laboratory for the Development of Space-Based Microwave Power Transmission Systems,**” *URSI Radio Science Bulletin*, No. 311, December 2004, pp. 7-15.
55. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Theory and Implementation of Dielectric Resonator Antenna Excited by a Waveguide Slot,**” *IEEE Transactions on Antennas and Propagation*, Vol. 53, No. 1, January 2005, pp. 483-494.

56. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, A.W. Glisson, and C.E. Smith, "Analysis of Waveguide Slot-Based Structures Using Wideband Equivalent Circuit Model," *IEEE Transactions on Microwave Theory and Techniques, IMS December Special Issue*, Vol. 52, No. 12, December 2004, pp. 2691-2696.
57. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, "Simplified Feed for a Modified Printed Yagi Antenna," *IEE Electronics Letters*, Vol. 40, No. 8, 15th April 2004, pp. 464-466.
58. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, "Slot Antenna Fed by a CPW Line with Tapered Transition," *Microwave and Optical Technology Letters*, Vol. 38, No. 6, Sept. 20, 2003, pp. 465-467.
59. C.W. Hicks, A.B. Yakovlev, and M.B. Steer, "Aperture-Coupled Stripline-to-Waveguide Transitions for Spatial Power Combining," *ACES Journal*, 2003 ACES Conference Special Issue, Part I, Vol. 18, No. 4, Nov. 2003, pp. 33-40.
60. G.W. Hanson, A.B. Yakovlev, and J. Hao, "Leaky-Wave Analysis of Transient Fields Due to Sources in Planarly-Layered Media," *IEEE Transactions on Antennas and Propagation*, Vol. 51, No. 2, February 2003, pp. 146-159.
61. A.B. Yakovlev and G.W. Hanson, "Fundamental Modal Phenomena on Isotropic and Anisotropic Planar Slab Dielectric Waveguides," *IEEE Transactions on Antennas and Propagation*, Vol. 51, No. 4, April 2003, pp. 888-897.
62. A.B. Yakovlev and G.W. Hanson, "Fundamental Wave Phenomena on Biased-Ferrite Planar Slab Waveguides in Connection with Singularity Theory," *IEEE Transactions on Microwave Theory and Techniques*, Vol. 51, No. 2, February 2003, pp. 583-587.
63. A.B. Yakovlev, M.V. Lukich, A.Z. Elsherbeni, C.E. Smith, and M.B. Steer, "Meander-Slot and U-Slot Antenna Arrays for Wideband Spatial Power Combiners," *IEEE Microwave and Wireless Components Letters*, Vol. 13, No. 3, March 2003, pp. 125-127.
64. M.V. Lukic and A.B. Yakovlev, "Magnetic Potential Green's Dyadics of Multilayered Waveguide for Spatial Power Combining Applications," *Journal of Electromagnetic Waves and Applications*, Vol. 17, No. 4, 2003, pp. 597-598 (summary), complete papers appears in *Progress in Electromagnetics Research (PIER)*, PIER 38, 2002, pp. 125-146 (book article).
65. M.V. Lukich, A.B. Yakovlev, A.Z. Elsherbeni, C.E. Smith, and M.B. Steer, "Printed Antenna Design for Broadband Waveguide-Based Spatial Power Combiners," *Microwave and Optical Technology Letters*, Vol. 36, No. 5, March 2003, pp. 411-415.
66. W. Batty, C.E. Christoffersen, A.B. Yakovlev, J.F. Whitaker, A. Mortazawi, A. Al-Zayed, M. Ozkar, S. Ortiz, R. Reano, K. Yang, L.P.B. Katehi, C.M. Snowden, and M.B. Steer, "Global Coupled EM-Electrical-Thermal Simulation and Experimental Validation for a Spatial Power Combining MMIC Array," *IEEE Transactions on Microwave Theory and Techniques, IMS Special Issue*, Vol. 50, No. 12, pp. 2820-2833, Dec. 2002.
67. A.B. Yakovlev and G.W. Hanson, "Leaky-Wave Dispersion Behavior on a Grounded Ferrite Slab Waveguide," *IEEE Microwave and Wireless Components Letters*, Vol. 12, No. 10, pp. 398-400, Oct. 2002.
68. A.B. Yakovlev, S. Ortiz, M. Ozkar, A. Mortazawi, and M.B. Steer, "Electric Dyadic Green's Functions for Modeling Resonance and Coupling Effects in Waveguide-Based Aperture-Coupled Patch Arrays," *ACES Journal*, Vol. 17, No. 2, pp. 123-133, July 2002.
69. T.J. Tayag, M.B. Steer, J.F. Harvey, A.B. Yakovlev, and J. Davis, "Spatial Power Splitting and Combining Based on the Talbot Effect," *IEEE Microwave and Wireless Components Letters*, Vol. 12, No. 1, pp. 9-11, Jan. 2002.

70. A.B. Yakovlev, S. Ortiz, M. Ozkar, A. Mortazawi, and M.B. Steer, “**A Waveguide-Based Aperture-Coupled Patch Amplifier Array: Full-Wave System Analysis and Experimental Validation**,” *IEEE Transactions on Microwave Theory and Techniques*, December 2000 Special IMS Symposium issue, vol. 48, No. 12, pp. 2692-2699.
71. A.B. Yakovlev, A.I. Khalil, C.W. Hicks, A. Mortazawi, and M.B. Steer, “**The Generalized Scattering Matrix of Closely Spaced Strip and Slot Layers in Waveguide**,” *IEEE Transactions on Microwave Theory and Techniques*, vol. 48, No. 1, January 2000, pp. 126-137.
72. A.B. Yakovlev and G.W. Hanson, “**Mode Transformation and Mode Continuation Regimes on Waveguiding Structures**,” *IEEE Transactions on Microwave Theory and Techniques*, vol. 48, No. 1, January 2000, pp. 67-75.
73. M.B. Steer, J.F. Harvey, J.W. Mink, M.N. Abdulla, C.E. Christoffersen, H.M. Gutierrez, P.L. Heron, C.W. Hicks, A.I. Khalil, U.A. Mughal, S. Nakazawa, T.W. Nuteson, J. Patwardhan, S.G. Skaggs, M.A. Summers, S. Wang, and A.B. Yakovlev, “**Global Modeling of Spatially Distributed Microwave and Millimeter-Wave Systems**,” *IEEE Transactions on Microwave Theory and Techniques*, Special Issue, vol. 47, No. 6, June 1999, pp. 830-839.
74. A.I. Khalil, A.B. Yakovlev, and M.B. Steer, “**Efficient Method of Moments Formulation for the Modeling of Planar Conductive Layers in a Shielded Guided-Wave Structure**,” *IEEE Transactions on Microwave Theory and Techniques*, vol. 47, No. 9, September 1999, pp. 1730-1736.
75. G.W. Hanson and A.B. Yakovlev, “**Investigation of Mode Interaction on Planar Dielectric Waveguides with Loss and Gain**,” *Radio Science*, vol. 34, No. 6, Nov.-Dec. 1999, pp. 1349-1359.
76. A.B. Gnilenko and A.B. Yakovlev, “**Electric Dyadic Green’s Functions for Applications to Shielded Multilayered Transmission Line Problems**,” *IEE Proc.-Microwave Ant. Prop.*, vol.146, No.2, Apr. 1999, pp. 111-118.
77. A.B. Yakovlev and G.W. Hanson, “**Analysis of Mode Coupling on Guided-Wave Structures Using Morse Critical Points**,” *IEEE Transactions on Microwave Theory and Techniques*, vol. 46, No. 7, July 1998, pp. 966-974.
78. G.W. Hanson and A.B. Yakovlev, “**An Analysis of Leaky-Wave Dispersion Phenomena in the Vicinity of Cutoff Using Complex Frequency-Plane Singularities**,” *Radio Science*, vol. 33, No. 4, July-August 1998, pp. 803-819.
79. A.B. Yakovlev and A.B. Gnilenko, “**Analysis of Microstrip Discontinuities Using the Method of Integral Equations for Overlapping Regions**,” *IEE Proc.-Microwave Antennas Propagation*, vol. 144, No. 6, Dec. 1997, pp. 449-457.
80. A.B. Gnilenko, A.B. Yakovlev, I.V. Petrusenko, “**Generalised Approach to Modelling Shielded Printed Circuit Transmission Lines**,” *IEE Proc.-Microwave Antennas Propagation*, vol. 144, No. 2, Apr. 1997, pp.103-110.
81. A.B. Yakovlev and G.W. Hanson, “**On the Nature of Critical Points in Leakage Regimes of a Conductor-Backed Coplanar Strip Line**,” *IEEE Transactions on Microwave Theory and Techniques*, vol. 45, No. 1, Jan. 1997, pp. 87-94.
82. I.V. Petrusenko, A.B. Yakovlev, A.B. Gnilenko, “**Method of Partial Overlapping Regions for the Analysis of Diffraction Problems**,” *IEE Proc.-Microwave Antennas Propagation*, vol. 141, No. 3, June 1994, pp. 196-198.

**REFEREED
CONFERENCE
PUBLICATIONS (total 111)**

1. A. Forouzmand and A. B. Yakovlev, "**Tunable Dual-Band Subwavelength Imaging with a Wire Medium Slab Loaded With Nanostructured Graphene Metasurfaces**," *The 9th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2015*, Oxford, United Kingdom, 7-12 September 2015 (submitted, 18 March 2015, accepted 1 June 2015), 3 p.
2. H. M. Bernety, R. Chinnambeti, and A. B. Yakovlev, "**Elliptical Metasurface Cloaks in Printed Technology – Reduction of Mutual Coupling in Closely Spaced Antennas**," *The 9th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2015*, Oxford, United Kingdom, 7-12 September 2015 (submitted, 20 March 2015, accepted 1 June 2015), 3 p.
3. F. Liang, G. W. Hanson, G. Lovat, R. Araneo, P. Burghignoli, and A. B. Yakovlev, "**Homogenized Dyadic Green's Functions for Electric Dipole Excitation over Metasurfaces**," *IEEE AP-S/URSI International Symposium on Antennas and Propagation*, Vancouver, Canada, 7-12 July 2015 (submitted, accepted 19 February 2015), 2 p.
4. A. Forouzmand and A. B. Yakovlev, "**Broadband Subwavelength Imaging with a Wire Medium Slab Loaded with Graphene Sheets**," *The 9th European Conference on Antennas and Propagation (EuCAP)*, Lisbon, Portugal, 12-17 April, 2015 (submitted, 13 October 2014, accepted 18 December 2014), 5 p.
5. H. M. Bernety and A. B. Yakovlev, "**Reduction of Mutual Coupling between Neighboring Strip Dipole Antennas Using Elliptical Metasurface Cloaks**," *The 9th European Conference on Antennas and Propagation (EuCAP)*, Lisbon, Portugal, 12-17 April, 2015 (submitted, 17 October 2014, accepted 18 December 2014) 3 p.
6. G. W. Hanson, M. G. Silveirinha, P. Burhignoli, and A. B. Yakovlev, "**Non-local Susceptibility of the Wire Medium in the Presence of Planar Boundaries**," *Riunione Nazionale di Elettromagnetismo (RiNEm)*, Padova, Italy, 15-18 September 2014, 4 p.
7. C. Molero, R. Rodriguez-Berral, F. Mesa, F. Medina, and A. B. Yakovlev, "**High-Frequency Equivalent Circuit for Finite-Stacked Slit Gratings**," *XXIX Symposium Nacional de URSI*, Valencia, Spain, 3-5 September, 2014, 4 p., ISBN: 978-84-9048-264-3.
8. A. B. Yakovlev and H. M. Bernety, "**Nanostructured Graphene Metasurface for Terahertz Cloaking of Elliptical Cylinders and Metallic Strips**," *The 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2014*, Copenhagen, Denmark, 25-28 August 2014, invited paper in the special session in the memory of Prof. Mario Sorolla, 3p.
9. S. Arslanagic and A. B. Yakovlev, "**Metasurface Cloaks for Large Cylindrical Cluster Configurations**," *The 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2014*, Copenhagen, Denmark, 25-28 August 2014, 3p.
10. S. Arslanagic, W. H. Yatman, S. Pehrson, and A. B. Yakovlev, "**MetaSurface Cloak Performance: Near-by Multiple Line Sources and PEC Cylindrical Objects**," *The 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2014*, Copenhagen, Denmark, 25-28 August 2014, 3p.
11. G. W. Hanson, M. G. Silveirinha, P. Burhignoli, and A. B. Yakovlev, "**Non-local Susceptibility for a Bounded Homogenized Wire Medium in the Spatial Domain**," *The 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2014*, Copenhagen, Denmark, 25-28 August 2014, 3p.
12. H. M. Bernety and A. B. Yakovlev, "**Metasurface Cloaks for Dielectric and Metallic Elliptical Cylinders and Strips**," *International Conference on Electromagnetics in Advanced Applications and IEEE APS Topical Conference*

- on Antennas and Propagation in Wireless Communications*, invited paper to a special session “Exotic Media, Metamaterials and Metasurfaces” organized by C. Caloz, Aruba, 3-9 August 2014, pp. 496-499.
13. C. S. R. Kaipa and A. B. Yakovlev, “**Mushroom-Type Structures with the Wires Connected Through Diodes: Electronically Tunable Properties,**” *2014 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, 6-12 July 2014, Memphis, TN (submitted 13 January 2014, accepted 4 March 2014), pp. 31-32.
 14. H. M. Bernety and A. B. Yakovlev, “**Cloaking of Dielectric and Metallic Elliptical Cylinders with a Nanostructured Graphene Metasurface,**” *2014 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, 6-12 July 2014, Memphis, TN (submitted 13 January 2014, accepted 4 March 2014), pp. 890-891. [Honorable Mention to H. M. Bernety].
 15. H. M. Bernety and A. B. Yakovlev, “**Conformal and Confocal Mantle Cloaking of Elliptical Cylinders Using Sub-Wavelength Metallic Meshes and Patches,**” *2014 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, 6-12 July 2014, Memphis, TN (submitted 15 January 2014, accepted 4 March 2014), pp. 1433-1434.
 16. A. Forouzmand and A. B. Yakovlev, “**Cloaking of a Conducting Finite Wedge with Graphene Nanopatches,**” *2014 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, 6-12 July 2014, Memphis, TN (submitted 15 January 2014, accepted 4 March 2014), pp. 1435-1436.
 17. A. B. Yakovlev, “**Metasurfaces and Wire-Media Metamaterials from Circuit Theory Perspective,**” *IEEE International Microwave Symposium IMS 2014*, invited paper in the workshop “**Revisiting Equivalent Circuit Models for Emerging Technologies: from Microwaves to THz,**” 1-6 June 2014, Tampa, Florida, WFA115 – WFA152.
 18. C. Molero, R. Rodriguez-Berral, F. Mesa, F. Medina, and A. B. Yakovlev, “**Analytical Circuit Model for Stacked Slit Gratings,**” *IEEE International Microwave Symposium IMS 2014*, 1-6 June 2014, Tampa, Florida (submitted, 9 December, 2013, accepted 7 February 2014), 4 pages.
 19. A. B. Yakovlev, “**Metasurfaces and Wire-Media Based Metamaterials with Practical Microwave and Terahertz Applications – Homogenization Theory and Circuit Theory Perspective,**” *1st Workshop on Metamaterials and Photonic Crystals*, Armenia, Colombia, 30 September – 4 October, 2013, (Invited Plenary talk), pp. 20-21.
 20. A. B. Yakovlev, “**Layered Graphene for Enhanced Transmission at Low Terahertz,**” *1st Workshop on Metamaterials and Photonic Crystals*, Armenia, Colombia, 30 September – 4 October, 2013, pp. 48-49.
 21. Y. R. Padooru, P.-Y. Chen, A. B. Yakovlev, and A. Alu, “**Graphene Metasurface Makes the Thinnest Possible Cloak in the Terahertz Spectrum,**” *7th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2013*, Bordeaux, France, 16-21 September 2013, 3 pages.
 22. Y. R. Padooru, A. B. Yakovlev, C. S. R. Kaipa, G. W. Hanson, F. Medina, and F. Mesa, “**Dual Capacitive-Inductive Nature of Graphene Metasurface: Transmission Characteristics at Low-Terahertz Frequencies,**” *2013 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, Lake Buena Vista, Florida, July 7-12, 2013, pp. 1598-1599.
 23. C. S. R. Kaipa and A. B. Yakovlev, “**Partial Focusing by an Uniaxial Wire Medium Periodically Loaded with Impedance Insertions,**” Proceedings of the *2013 URSI Commission B International Symposium on Electromagnetic*

- Theory*, Hiroshima, Japan, May 20-24, 2013 (invited paper to special session on Recent Advances in Metamaterials), pp. 333-335.
24. S. I. Maslovski, M. G. Silveirinha, A. B. Yakovlev, C. S. R. Kaipa, G. W. Hanson, P. A. Belov, O. Luukkonen, I. S. Nefedov, C. R. Simovski, S. A. Tretyakov, and Y. R. Padooru, “**Recent Advances in the Analytical Modeling of Wire Media Based Metamaterials with Microwave and Terahertz Applications**,” Proceedings of the 2013 URSI Commission B International Symposium on Electromagnetic Theory, Hiroshima, Japan, May 20-24, 2013 (invited paper to special session on Exotic Phenomena and Homogenization Theory of Metamaterials), pp. 384-387.
 25. Y. R. Padooru, A. B. Yakovlev, P.-Y. Chen, and A. Alu, “**Analytical Modeling of Realistic Conformal Metasurface Cloaks with a Line-Source Excitation**,” the 4th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META’13), 18-22 March 2013, Sharjah, United Arab Emirates, invited paper to special session on Tunable Metamaterials and Plasmonic Waveguides, pp. 555-556, 2013.
 26. A. B. Yakovlev, S. I. Maslovski, M. G. Silveirinha, C. S. R. Kaipa, G. W. Hanson, P. A. Belov, O. Luukkonen, I. S. Nefedov, C. R. Simovski, S. A. Tretyakov, Y. R. Padooru, and E. Forati, “**Homogenization of Wire Media for the Efficient Analysis of Practical Metamaterial Structures at Microwave and Terahertz Frequencies**,” the 4th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META’13), 18-22 March 2013, Sharjah, United Arab Emirates, Keynote talk, pp. 374-375, 2013.
 27. A. B. Yakovlev, M. G. Silveirinha, S. I. Maslovski, C. S. R. Kaipa, P. A. Belov, G. W. Hanson, O. Luukkonen, I. S. Nefedov, C. R. Simovski, S. A. Tretyakov, and Y. R. Padooru, “**Review of Recent Progress on the Homogenization Theory and Applications of Wire Media**,” 6th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (Metamaterials 2012), St. Petersburg, Russia, September 17-22, 2012, pp. 426-428. (extended presentation).
 28. C. S. R. Kaipa, A. B. Yakovlev, M. G. Silveirinha, and S. I. Maslovski, “**Near-Field Enhancement Using Uniaxial Wire Medium with Impedance Loadings**,” 6th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (Metamaterials 2012), St. Petersburg, Russia, September 17-22, 2012, pp. 472-474.
 29. Y. R. Padooru, A. B. Yakovlev, P.-Y. Chen, and A. Alù, “**Analytical Modeling of Conformal Metasurface Mantle Cloaks for Cylindrical Objects**,” 6th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (Metamaterials 2012), St. Petersburg, Russia, September 17-22, 2012, pp. 243-245.
 30. Y. R. Padooru, A. B. Yakovlev, P.-Y. Chen, and A. Alu, “**Mantle Cloaking Using Sub-Wavelength Conformal Metallic Meshes and Patches**,” 2012 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting, Chicago, IL, July 8-13, 2012, 2 p.
 31. Y. R. Padooru, A. B. Yakovlev, C. S. R. Kaipa, G. W. Hanson, F. Medina, F. Mesa, and A. W. Glisson, “**Generalized Additional Boundary Conditions and Analytical Model for Multilayered Mushroom-Type Wideband Absorbers**,” 2012 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting, Chicago, IL, July 8-13, 2012, 2 p.
 32. C. S. R. Kaipa, A. B. Yakovlev, G. W. Hanson, Y. R. Padooru, F. Medina, and F. Mesa, “**Low-Terahertz Transmissivity with a Graphene-Dielectric Micro-Structure**,” IEEE International Microwave Symposium (IMS) MTT-S, June 17-22, 2012, Montreal, Canada, 3 pp.
 33. C. S. R. Kaipa, A. B. Yakovlev, S. Maslovski, and M. G. Silveirinha, “**Reflection Properties of Mushroom-Type Surfaces with Loaded Vias**,”

- Fifth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, Barcelona, Spain, 10-15 October 2011, pp. 185-187.
34. C. S. R. Kaipa, A. B. Yakovlev, M. G. Silveirinha, and S. Maslovski, “**Negative Refraction by a Two-Sided Mushroom Structure with Loaded Vias**,” *Fifth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, Barcelona, Spain, 10-15 October 2011, pp. 693-695.
 35. A. B. Yakovlev and G. W. Hanson, “**Modal Interactions in Mushroom-Type Metamaterials with Thin Metal/Graphene Patches**,” *Fifth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, Barcelona, Spain, 10-15 October 2011, pp. 1024-1026.
 36. Y. R. Padooru, A. B. Yakovlev, C. S. R. Kaipa, F. Medina, and F. Mesa, “**Multi-band High-Impedance Surface Absorbers with a Single Resistive Sheet: Circuit Theory Model**,” *2011 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, Spokane, WA, July 3-8, 2011, pp. 2264-2267.
 37. A. B. Yakovlev, M. G. Silveirinha, O. Luukkonen, C. R. Simovski, I. S. Nefedov, and S. A. Tretyakov, “**Simple and Efficient Solution for Mushroom Surfaces – Local Versus Nonlocal Homogenization**,” *Fourth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2010*, Karlsruhe, Germany, 13 – 16 September 2010, pp. 721-723 (invited paper to special session).
 38. A. B. Yakovlev, Y. R. Padooru, S. Karbasi, G. W. Hanson, and A. Mafi, “**Nonlocal Homogenization Model for the Analysis of Absorbing Properties of Mushroom Structures with Graphene Patches at Microwaves**,” *2010 IEEE AP-S International Symposium on Antennas and Propagation and CNC-USNC/URSI Radio Science Meeting*, Toronto, Canada, July 11-17, 2010, invited paper to special session, pp. 1-4.
 39. A. B. Yakovlev, M. G. Silveirinha, and C. S. R. Kaipa, “**Broadband Negative Refraction at Microwaves with a Multilayered Mushroom-Type Metamaterial**,” *2010 IEEE MTT-S International Microwave Symposium*, Anaheim, CA, May 23-28, 2010, pp. 173-176.
 40. C. S. R. Kaipa, C. A. M. Butler, A. P. Hibbins, J. R. Sambles, F. Medina, F. Mesa, and A. B. Yakovlev, “**Analytical Modeling and Experimental Verification of Fabry-Perot Resonances in Multilayer Sub-Wavelength Partially-Reflecting Surfaces**,” *European Conference on Antennas and Propagation (EuCAP) 2010*, Barcelona, Spain, 12-16 April, 2010, p. 1-5.
 41. C. S. R. Kaipa, A. B. Yakovlev, F. Medina, F. Mesa, “**Sub-Wavelength Transmission Resonances in Multilayer Partially-Reflecting Surfaces**,” *International Conference on Metamaterials, Photonic Crystals, and Plasmonics, META 2010*, Cairo, Egypt, 22 – 25 February, 2010, pp. 81-84.
 42. P. Baccarelli, F. Capolino, S. Paulotto, and A. B. Yakovlev, “**Modal Analysis of Metamaterial Formed by Arrayed Pairs of Planar Conductors**,” *Third International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2009*, London, UK, 30 August - 4 September 2009, pp. 761-763.
 43. A. B. Yakovlev, M. G. Silveirinha, and P. Baccarelli, “**Sub-wavelength Resonances in Mushroom-Type Surfaces in Connection with Leaky Waves**,” *Third International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2009*, London, UK, 30 August - 4 September 2009, pp. 348-350.
 44. A. B. Yakovlev, C. S. R. Kaipa, Y. R. Padooru, F. Medina, and F. Mesa, “**Dynamic and Circuit Theory Models for the Analysis of Sub-wavelength Transmission Through Patterned Screens**,” *Third International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2009*, London, UK, 30 August - 4 September 2009, pp. 671-673.

45. A. B. Yakovlev, G. W. Hanson, and A. Mafi, "**High-Impedance Surfaces with Graphene Patches as Absorbing Structures at Microwaves,**" *Third International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2009*, London, UK, 30 August - 4 September 2009, pp. 782-784.
46. A. B. Yakovlev, M. G. Silveirinha, O. Luukkonen, C. R. Simovski, I. S. Nefedov, and S. A. Tretyakov, "**Homogenization Models for the Analysis of Surface Waves on Mushroom Structures,**" *Second International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, Pamplona, Spain, 21-26 September 2008, pp 310-312.
47. O. Luukkonen, M. G. Silveirinha, A. B. Yakovlev, C. R. Simovski, I. S. Nefedov, and S. A. Tretyakov, "**Homogenization Models for the Analysis of Reflection Properties of Mushroom Structures,**" *Second International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, Pamplona, Spain, 21-26 September 2008, pp. 208-210.
48. O. Luukkonen, A. B. Yakovlev, C. R. Simovski, and S. A. Tretyakov, "**Comparative Study of Surface Waves on High-Impedance Surfaces With and Without Vias,**" *IEEE International Symposium on Antennas and Propagation*, San Diego, CA, USA, 5-11 July, 2008, 4 p.
49. A. B. Yakovlev, C. R. Simovski, S. A. Tretyakov, O. Luukkonen, G. W. Hanson, S. Paulotto, and P. Baccarelli, "**Analytical Modeling of Surface Waves on High Impedance Surfaces,**" *NATO Advanced Research Workshop: Metamaterials for Secure Information and Communication Technologies*, Marrakesh, Morocco, 7-10 May, 2008, pp. 184-193.
50. A. B. Yakovlev, C. R. Simovski, S. A. Tretyakov, and G. W. Hanson, "**Accurate and Rapid Analysis of High-Impedance Surfaces: Plane-Wave and Surface-Wave Analytical Models,**" *ACES Conference*, Niagara Falls, Canada, 30 March – 4 April, 2008, pp. 572-577.
51. H.A. Olanigan, A.B. Yakovlev, G.W. Hanson, G. Lovat, and P. Burghignoli, "**Modal Characterization of Lossy Metamaterial Slab Waveguides,**" *European Conference on Antennas and Propagation (EuCAP)*, Edinburgh, United Kingdom, 12-16 November, 2007, (invited paper to ACES-EuCAP special session), pp. 1-5.
52. G. Gampala and A.B. Yakovlev, "**Wideband High Impedance Surface for X-Band Antenna Applications,**" *IEEE International Symposium on Antennas and Propagation*, Honolulu, Hawaii, June 10-15, 2007, pp. 1329-1332.
53. G. Gampala and A.B. Yakovlev, "**Artificial Magnetic Conductors Realized by Wideband Frequency Selective Surface Elements on a Grounded Dielectric Slab,**" *2007 Metamaterials Congress*, Rome, Italy, October 22-26, 2007, pp. 899-902.
54. G. Gampala and A.B. Yakovlev, "**Artificial Magnetic Conductors for Wideband Antenna Applications,**" *2007 ACES Conference*, Verona, Italy, March 19-23, 2007, pp. 242-247 (invited paper in the special session).
55. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Analysis and Experimental Study of Wideband Dielectric Resonator Antenna Arrays for Waveguide-Based Spatial Power Combining,**" *2007 IEEE MTT-S International Microwave Symposium*, Honolulu, Hawaii, 3-8 June, 2007, pp. 1205-1208.
56. M.A. Hiranandani, A.B. Yakovlev, and A. A. Kishk, "**Low-Profile Monopole Antenna on an Artificial Magnetic Conductor,**" *National Symposium on Antennas and Propagation*, Cochin, India, 14-16 December, 2006, 4 p.
57. A.B. Yakovlev and G.W. Hanson, "**Electromagnetic Transient Analysis of Radiation by Canonical Sources in Planarly Layered Media Using Leaky Modes,**" *European Conference on Antennas and Propagation (EuCAP)*, Nice, France, 6-10 November, 2006, 6 p.

58. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Analysis and Design of Wideband Dielectric Resonator Antenna Arrays for Waveguide-Based Spatial Power Combining**," *36th European Microwave Conference*, Manchester, UK, 10-15 September, 2006, pp. 642-645.
59. A.B. Yakovlev and G.W. Hanson, "**Frequency-Plane Branch-Point Singularities in the Analysis of Modal Interactions on Guided-Wave Structures**," *Mathematical Methods in Electromagnetic Theory Conference (MMET)*, Kharkov, Ukraine, 26-29 June, 2006, pp. 52-57 (Invited paper, Plenary presentation).
60. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, "**A Mutual Coupling Reduction Technique for Dielectric Resonator Antennas Over AMC Surface**," *IEEE International Symposium on Antennas and Propagation*, Albuquerque, New Mexico, 9-14 July 2006, pp. 377-380.
61. G. Zheng, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Discretization of Modified Maxwell's Equations Using Exponential Time Differencing Algorithm in the Periodic FDTD Method**," *IEEE International Symposium on Antennas and Propagation*, Albuquerque, New Mexico, 9-14 July 2006, pp. 3801-3804.
62. W. Huang, A.B. Yakovlev, A.A. Kishk, and A.W. Glisson, "**Dyadic Green's Function of the Hard Surface Rectangular Waveguide Verified Numerically by a Realistic Model**," *IEEE International Symposium on Antennas and Propagation*, Albuquerque, New Mexico, 9-14 July 2006, pp. 2249-2252.
63. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**DRA Analysis Using Simple and Flexible FDTD Subgridding Scheme**," *IEEE International Symposium on Antennas and Propagation*, Albuquerque, New Mexico, 9-14 July 2006, pp. 2767-2770.
64. V.A. Klymko, A.B. Yakovlev, A.A. Kishk, and A.W. Glisson, "**Scattering by Closed and Unclosed Metallic Rings in a Circular Waveguide**," *2006 ACES Conference*, Miami, Florida, March 12-16, 2006, pp. 94-101.
65. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**FDTD Analysis of a Probe-Fed Dielectric Resonator Antenna Array with Hard Horn for Spatial Power Combiner**," *Asia-Pacific Microwave Conference (APMC)*, China, Vol. 3, pp. 1669-1672, Dec. 2005.
66. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Dielectric Resonator Antenna Array Excited by Waveguide Slots and Probes**," *Antenna Applications Symposium*, Robert Allenton Park, Monticello, Illinois, September 19-22, 2005, pp. 127-151.
67. A.B. Yakovlev and A.W. Glisson, "**Modal Analysis of TEM Hard Surface Waveguides with Application to Excitation and Scattering Problems**," (Invited paper), *Proc. Of 9th International Conference on Electromagnetics in Advanced Applications (ICEAA 2005)*, Torino, Italy, September 12-16, 2005, pp. 919-922.
68. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Load-Independent Equivalent Circuit Model for Arbitrarily-Loaded Transverse Waveguide Slots**," *IEEE International Symposium on Antennas and Propagation*, Washington, DC, July 3-8, 2005, pp. 310-313, vol. 4B.
69. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Full-Wave Modal Analysis of a Right/Left-Handed Corrugated Rectangular Waveguide**," *XXVIIIth General Assembly of International Union of Radio Science (URSI)*, New Delhi, India, 23-29 October, 2005, 4 p.
70. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Modal Analysis of Corrugated Rectangular Waveguides Supporting Left-Hand Propagation**," *IEEE International Symposium on Antennas and Propagation*, Washington, DC, July 3-8, 2005, pp. 664-667, Vol. 1A.
71. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Equivalent Circuit Model for a Waveguide Probe Exciting a Dielectric Resonator**

- Antenna,” *IEEE International Symposium on Antennas and Propagation*, Washington, DC, July 3-8, 2005, pp. 226-229, Vol. 4B.
72. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Design of Dielectric Resonator Antenna Array Excited by Waveguide Probes**,” *IEEE International Symposium on Antennas and Propagation*, Washington, DC, July 3-8, 2005, pp. 425-428, Vol. 2B.
 73. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**FDTD Analysis of Dielectric Resonator Antenna Arrays for Waveguide-Based Spatial Power Combining**,” *IEEE International Symposium on Antennas and Propagation*, Washington, DC, July 3-8, 2005, pp. 230-233, Vol. 4B.
 74. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Evanescence Rectangular Waveguide with Corrugated Walls: A Composite Right/Left Handed Metaguide**,” *2005 IEEE MTT-S International Microwave Symposium*, Long Beach, California, 11-17 June, 2005, pp. 1745-1748.
 75. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**FDTD Analysis of a Probe-Fed Dielectric Resonator Antenna in Rectangular Waveguide**,” *2005 IEEE/ACES International Conference on Wireless Communications and Applied Computational Electromagnetics*, Honolulu, Hawaii, 3-7 April, 2005, pp. 371-375.
 76. M. Hiranandani, A.B. Yakovlev, and A. A. Kishk, “**Hard and Soft Surfaces Realized by Frequency Selective Surfaces on a Grounded Dielectric Slab**,” *2005 IEEE/ACES International Conference on Wireless Communications and Applied Computational Electromagnetics*, Honolulu, Hawaii, 3-7 April, 2005, pp. 903-908.
 77. G.W. Hanson, A.B. Yakovlev, and W.E. Hutchcraft, “**Leaky Wave Excitation on Three-Dimensional Printed Interconnects**,” (invited paper in the special session), *2004 URSI International Symposium on Electromagnetic Theory, Commission B*, Pisa, Italy, 23-27 May, 2004, pp. 153-155.
 78. G.W. Hanson and A.B. Yakovlev, “**Leaky Wave Excitation on Three-Dimensional Printed Interconnects**,” *2004 IEEE MTT-S International Microwave Symposium*, Fort Worth, Texas, 6-11 June, 2004, pp. 499-502.
 79. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, A.W. Glisson, and C.E. Smith, “**Wideband Lumped Element Equivalent Circuit Model for Waveguide Slots and Applications**,” *2004 IEEE MTT-S International Microwave Symposium*, Fort Worth, Texas, 6-11 June, 2004, pp. 607-610.
 80. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Modeling of a Waveguide Probe Excitation for Dielectric Resonator Antennas**,” *2004 IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Monterey, California, 20-25 June, 2004, pp. II, 1517-1520.
 81. V.A. Klymko, I.A. Eshrah, A.B. Yakovlev, A.A. Kishk, and A.W. Glisson, “**Scattering by Open Metal Obstacles in a Circular Waveguide: Dyadic Green’s Function Approach**,” *2004 IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Monterey, California, 20-25 June, 2004, pp. II, 2127-2130.
 82. G. Zheng, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**A Broad Band Printed Bow-Tie Antenna with a Simplified Feed**,” *2004 IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Monterey, California, 20-25 June, 2004, pp. IV, 4024-4027.
 83. V.A. Klymko, I.A. Eshrah, A.B. Yakovlev, A.A. Kishk, and A.W. Glisson, “**Electric Dyadic Green’s Function for an Ideal Hard Surface Circular Waveguide**,” *2004 ACES Conference*, Syracuse, New York, 19-23 April, 2004, 6 p.
 84. G. Zheng, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Simplified Feeding for a Modified Printed Yagi Antenna**,” *IEEE International Symposium on*

- Antennas and Propagation and USNC/URSI North American Radio Science Meeting*, Columbus, OH, June 22-27, 2003, pp. III 934-937.
85. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, “**Dielectric Resonator Antenna Excited by Waveguide Slot for Radar Applications**,” *IEEE International Symposium on Antennas and Propagation and USNC/URSI North American Radio Science Meeting*, Columbus, OH, June 22-27, 2003, pp. III 492-495.
 86. C.W. Hicks, A.B. Yakovlev, and M.B. Steer, “**Slotted Waveguide Transitions for Spatial Power Combining**,” *19th Annual ACES Symposium*, Monterey, California, March 24-28, 2003, pp. 650-655.
 87. M.V. Lukich, A.B. Yakovlev, A.Z. Elsherbeni, and C.E. Smith, “**Electromagnetic Modeling and Design of Broadband Spatial Power Combiners**,” *The 34th Southeastern Symposium on System Theory (SSST)*, Huntsville, AL, March 18-19, 2002, pp. 108-112.
 88. W. Batty, C.E. Christoffersen, A.B. Yakovlev, M. Ozkar, S. Ortiz, A. Mortazawi, R. Reano, K. Yang, J.F. Whitaker, L.P.B. Katehi, C.M. Snowden, and M.B. Steer, “**Global Coupled EM-Electrical-Thermal Simulation and Experimental Validation for a Spatial Power Combining MMIC Array**,” *2002 IEEE International Microwave Symposium*, Seattle, Washington, June 2-7, 2002, pp. 2177-2180.
 89. A.B. Yakovlev and G.W. Hanson, “**Novel Wave Effects on Anisotropic and Ferrite Planar Slab Waveguides in Connection With Singularity Theory**,” *2002 IEEE International Microwave Symposium*, Seattle, Washington, June 2-7, 2002, pp. 2021-2024.
 90. A.B. Yakovlev, M.V. Lukich, A.Z. Elsherbeni, C.E. Smith, and M.B. Steer, “**Broadband Printed Antennas for Waveguide-Based Spatial Power Combiners**,” *2002 IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, San Antonio, Texas, June 16-21, 2002, pp. IV 420-423.
 91. W. Batty, C.E. Christoffersen, A.B. Yakovlev, J.F. Whitaker, A. Mortazawi, A. Al-Zayed, M. Ozkar, S. Ortiz, R. Reano, K. Yang, L.P.B. Katehi, C.M. Snowden, and M.B. Steer, “**Electro-Thermal Simulation a Complex Design Example: The Spatial Power Combining MMIC Array**,” *6th International Workshop on Thermal Investigations of ICs and Systems (Therminic)*, October 2002, 6 p.
 92. S. Ortiz, M. Ozkar, A.B. Yakovlev, A. Mortazawi, and M.B. Steer, “**Spatially Combined Fault Tolerant Millimeter-Wave Power Amplifiers**,” *Government Microcircuit Applications Conference*, Texas, March 2001, 4 p.
 93. A.B. Yakovlev, S. Ortiz, M. Ozkar, A. Mortazawi, and M.B. Steer, “**Electric Green’s Dyadics for Modeling Resonance and Surface Wave Effects in a Waveguide-Based Aperture-Coupled Patch Array**,” *IEEE AP-S International Symposium and USNC/URSI National Radio Science Meeting*, Boston, MA, July 8-13, 2001, pp. 236-239.
 94. S. Ortiz, M. Ozkar, A.B. Yakovlev, M.B. Steer, and A. Mortazawi, “**Fault Tolerance Analysis and Measurement of a Spatial Power Amplifier**,” *IEEE MTT-S International Microwave Symposium*, Phoenix, Arizona, June 2001, pp. 1827-1830.
 95. M. Ozkar, S. Ortiz, A.B. Yakovlev, A. Mortazawi, and M.B. Steer, “**Spatially Combined Fault Tolerant Masthead Power Amplifiers**,” *2000 IEEE Topical Workshop on Power Amplifiers for Wireless Communications*, La Jolla, CA, Sept. 2000, (4 p.).
 96. G.W. Hanson and A.B. Yakovlev, “**Applications of Singular and Critical Point Theory to the Analysis and Interpretation of Transform and Time-Domain Guided-Wave Electromagnetics**,” *VIII-th International Conference on Mathematical Methods in Electromagnetic Theory*, Kharkov, Ukraine, Sept. 2000, pp. 54-60, (invited plenary paper).

97. A.B. Yakovlev, S. Ortiz, M. Ozkar, A. Mortazawi, and M.B. Steer, "Electromagnetic Modeling of an Aperture-Coupled Patch Array in the N-Port Layered Waveguide for Spatial Power Combining Applications," *IEEE AP-S International Symposium and URSI National Radio Science Meeting*, Salt Lake City, UT, July 2000, pp. 518-521.
98. A.B. Yakovlev, S. Ortiz, M. Ozkar, A. Mortazawi, and M.B. Steer, "Electromagnetic Modeling and Experimental Verification of a Complete Waveguide-Based Aperture-Coupled Patch Amplifier Array," *IEEE MTT-S International Microwave Symposium*, Boston, MA, June 2000, Dig. Vol. 2, pp. 801-804.
99. A.B. Yakovlev, A.I. Khalil, C.W. Hicks, and M.B. Steer, "Electromagnetic Modeling of a Waveguide-Based Strip-to-Slot Transition Module for Application to Spatial Power Combining Systems," *IEEE AP-S International Symposium and USNC/URSI National Radio Science Meeting Dig.*, Orlando, FL, July 1999, pp. 286-289.
100. A.I. Khalil, A.B. Yakovlev, and M.B. Steer, "Analysis of Shielded CPW Spatial Power Combiners," *IEEE AP-S Intern. Symposium and USNC/URSI National Radio Science Meeting Dig.*, Orlando, FL, July 1999, pp.1828-1831.
101. A.I. Khalil, A.B. Yakovlev, and M.B. Steer, "Efficient MOM-Based Generalized Scattering Matrix Method for the Integrated Circuit and Multilayered Structures in Waveguide," *IEEE MTT-S International Microwave Symposium*, Anaheim, CA, June 1999, Dig. Vol. 4, pp. 1707-1710.
102. A.B. Yakovlev and G.W. Hanson, "Mode Transformation and Mode Continuation Regimes on Guided-Wave Structures," *IEEE AP-S International Symposium and USNC/URSI National Radio Science Meeting Dig.*, Orlando, FL, July 1999, pp. 294-297.
103. A.B. Yakovlev and G.W. Hanson, "Analysis of Mode Coupling on Printed Transmission Lines Using Morse Critical Points," *IEEE AP-S Int. Symp. and URSI Radio Science Meeting Dig.*, Montreal, Canada, July 1997, pp. 1748-1751.
104. G. W. Hanson and A. B. Yakovlev, "New Explanation of the Leaky Mode Phenomena in Coplanar Strip Line," *Int. Symp. on Antennas and Propagation*, Chiba, Japan, Sept. 1996, pp. 277-280. (Young Scientist Award to A.B. Yakovlev).
105. G.W. Hanson and A.B. Yakovlev, "Analysis of the Mode Coupling Phenomena in Multilayer Waveguiding Structures," *IEEE AP-S Int. Symp. and URSI Radio Science Meeting*, Baltimore, MD, July 1996, pp. 314-317.
106. A.B. Yakovlev and G.W. Hanson, "Rigorous Mathematical Simulation of Microstrip-Like Lines," *IEEE AP-S Int. Symp. and URSI Radio Science Meeting*, Baltimore, MD, July 1996, pp. 1976-1979.
107. A.B. Yakovlev and A.B. Gnilenko, "The Method of Partial Overlapping Regions and Its Application for the Analysis of Microstrip Discontinuities," *Proc. Asia-Pacific Microwave Conf.*, Hsinchu, Taiwan, China, Oct. 1993, 4 p.
108. A. B. Yakovlev and A. B. Gnilenko, "The Hybrid Analysis of Microstrip Discontinuities," *Proc. Of the 3rd Int. Symposium on Antennas and EM Theory*, Nanjing, China, 1993, pp. 837-840.
109. A.B. Gnilenko and A.B. Yakovlev, "Vector Integral Equations for the Spectral Analysis of Microwave Monolithic Integrated Circuits," *Proc. of the 3rd Int. Symposium on Antennas and EM Theory*, Nanjing, China, 1993, pp. 841-844.
110. A.B. Yakovlev, "Eigenmodes of a Shielded Microstrip Line with Finite Thickness Strip Conductor," *Proc. URSI EM Theory Symposium*, Sydney, Australia, August 1992, pp. 391-393. (Young Scientist Award).
111. A.B. Yakovlev, "Hybrid-Mode Analysis of a Shielded Microstrip Line with Finite Thickness Strip Conductor," *4th Int. Seminar on Mathematical Methods in EM Theory*, Alushta, Ukraine, Sept. 1991, pp. 390-393.

**INVITED PRESENTATIONS AT INTERNATIONAL CONFERENCES
AND SYMPOSIA (total 27)**

1. A. B. Yakovlev and H. M. Bernety, “**Reduction of Mutual Coupling in Neighboring Strip Antennas with Elliptical Metasurface Cloaks,**” *Antennas Mini-Symposium*, Tel-Aviv, Israel, 6 November 2014 (keynote talk).
2. H. M. Bernety and A. B. Yakovlev, “**Metasurface Cloaks for Dielectric and Metallic Elliptical Cylinders and Strips,**” *International Conference on Electromagnetics in Advanced Applications and IEEE APS Topical Conference on Antennas and Propagation in Wireless Communications*, invited paper to a special session “Exotic Media, Metamaterials and Metasurfaces” organized by C. Caloz, Aruba, 3-9 August 2014, pp. 496-499.
3. A. B. Yakovlev, “**Metasurfaces and Wire-Media Metamaterials from Circuit Theory Perspective,**” *IEEE International Microwave Symposium IMS 2014*, invited paper in the workshop “**Revisiting Equivalent Circuit Models for Emerging Technologies: from Microwaves to THz,**” 1-6 June 2014, Tampa, Florida, WFA115 – WFA152.
4. A. B. Yakovlev and H. M. Bernety, “**Nanostructured Graphene Metasurface for Terahertz Cloaking of Elliptical Cylinders and Metallic Strips,**” *The 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2014*, Copenhagen, Denmark, 25-30 August 2014, invited paper in the special session in the memory of Prof. Mario Sorolla, 3p.
5. A. B. Yakovlev, “**Metasurfaces and Wire-Media Based Metamaterials with Practical Microwave and Terahertz Applications – Homogenization Theory and Circuit Theory Perspective,**” *1st Workshop on Metamaterials and Photonic Crystals*, Armenia, Colombia, 30 September – 4 October, 2013, (Invited Plenary talk), pp. 20-21.
6. C. S. R. Kaipa and A. B. Yakovlev, “**Partial Focusing by an Uniaxial Wire Medium Periodically Loaded with Impedance Insertions,**” Proceedings of the *2013 URSI Commission B International Symposium on Electromagnetic Theory*, Hiroshima, Japan, May 20-24, 2013 (invited paper to special session on Recent Advances in Metamaterials), pp. 333-335.
7. S. I. Maslovski, M. G. Silveirinha, A. B. Yakovlev, C. S. R. Kaipa, G. W. Hanson, P. A. Belov, O. Luukkonen, I. S. Nefedov, C. R. Simovski, S. A. Tretyakov, and Y. R. Padooru, “**Recent Advances in the Analytical Modeling of Wire Media Based Metamaterials with Microwave and Terahertz Applications,**” Proceedings of the *2013 URSI Commission B International Symposium on Electromagnetic Theory*, Hiroshima, Japan, May 20-24, 2013 (invited paper to special session on Exotic Phenomena and Homogenization Theory of Metamaterials), pp. 384-387.
8. Y. R. Padooru, A. B. Yakovlev, P.-Y. Chen, and A. Alu, “**Analytical Modeling of Realistic Conformal Metasurface Cloaks with a Line-Source Excitation,**” *the 4th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META'13)*, 18-22 March 2013, Sharjah, United Arab Emirates, invited paper to special session on Tunable Metamaterials and Plasmonic Waveguides, pp. 555-556, 2013.
9. A. B. Yakovlev, S. I. Maslovski, M. G. Silveirinha, C. S. R. Kaipa, G. W. Hanson, P. A. Belov, O. Luukkonen, I. S. Nefedov, C. R. Simovski, S. A. Tretyakov, Y. R. Padooru, and E. Forati, “**Homogenization of Wire Media for the Efficient Analysis of Practical Metamaterial Structures at Microwave and Terahertz Frequencies,**” *the 4th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META'13)*, 18-22 March 2013, Sharjah, United Arab Emirates, Keynote talk, pp. 374-375, 2013.
10. A. B. Yakovlev, M. G. Silveirinha, S. I. Maslovski, C. S. R. Kaipa, P. A. Belov, G. W. Hanson, O. Luukkonen, I. S. Nefedov, C. R. Simovski, S. A.

- Tretyakov, and Y. R. Padooru, “**Review of Recent Progress on the Homogenization Theory and Applications of Wire Media**,” *6th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (Metamaterials 2012)*, St. Petersburg, Russia, September 17-22, 2012, pp. 426-428. (extended presentation).
11. G. W. Hanson and A. B. Yakovlev, “**Excitation of Discrete and Continuous Spectrum of Graphene**,” *2012 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, Chicago, IL, July 8-13, 2012, 1 p., Invited paper to special session: Electrodynamics and applications of carbon nanotube and graphene systems.
 12. A. B. Yakovlev, M. G. Silveirinha, O. Luukkonen, C. R. Simovski, I. S. Nefedov, and S. A. Tretyakov, “**Simple and Efficient Solution for Mushroom Surfaces – Local Versus Nonlocal Homogenization**,” *Fourth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2010*, Karlsruhe, Germany, 13 – 16 September 2010, pp. 721-723 (invited paper to special session).
 13. A. B. Yakovlev, Y. R. Padooru, S. Karbasi, G. W. Hanson, and A. Mafi, “**Nonlocal Homogenization Model for the Analysis of Absorbing Properties of Mushroom Structures with Graphene Patches at Microwaves**,” *2010 IEEE AP-S International Symposium on Antennas and Propagation and CNC-USNC/URSI Radio Science Meeting*, Toronto, Canada, July 11-17, 2010, invited paper to special session, pp. 1-4.
 14. F. Medina, F. Mesa, A. B. Yakovlev, R. R. Berral, C. S. R. Kaipa, and M. Garcia-Vigueras, “**Overview of the Use of Circuit Models to Analyze Extraordinary Transmission and Other Related Phenomena**,” *2010 IEEE AP-S International Symposium on Antennas and Propagation and CNC-USNC/URSI Radio Science Meeting*, Toronto, Canada, July 11-17, 2010 (invited paper to special session), 1 p.
 15. H.A. Olanigan, A.B. Yakovlev, G.W. Hanson, G. Lovat, and P. Burghignoli, “**Modal Characterization of Lossy Metamaterial Slab Waveguides**,” *European Conference on Antennas and Propagation (EuCAP)*, Edinburgh, United Kingdom, 12-16 November, 2007, (invited paper to ACES-EuCAP special session), pp. 1-5.
 16. G. Gampala and A.B. Yakovlev, “**Artificial Magnetic Conductors for Wideband Antenna Applications**,” *2007 ACES Conference*, Verona, Italy, March 19-23, 2007, pp. 242-247 (invited paper in the special session).
 17. A.B. Yakovlev and G.W. Hanson, “**Frequency-Plane Branch-Point Singularities in the Analysis of Modal Interactions on Guided-Wave Structures**,” *Mathematical Methods in Electromagnetic Theory Conference (MMET)*, Kharkov, Ukraine, 26-29 June, 2006, pp. 52-57 (Invited paper, Plenary presentation).
 18. A.B. Yakovlev and A.W. Glisson, “**Modal Analysis of TEM Hard Surface Waveguides with Application to Excitation and Scattering Problems**,” (Invited paper), *Proc. Of 9th International Conference on Electromagnetics in Advanced Applications (ICEAA 2005)*, Torino, Italy, September 12-16, 2005, pp. 919-922.
 19. G.W. Hanson, A.B. Yakovlev, and W.E. Hutchcraft, “**Leaky Wave Excitation on Three-Dimensional Printed Interconnects**,” (invited paper in the special session), *2004 URSI International Symposium on Electromagnetic Theory, Commission B*, Pisa, Italy, 23-27 May, 2004, pp. 153-155.
 20. G.W. Hanson and A.B. Yakovlev, “**Leaky Wave Excitation on Three-Dimensional Printed Interconnects**,” *2003 Progress in Electromagnetics Research Symposium (PIERS)*, Honolulu, Hawaii, 13-16 October, 2003, p. 551, (Session organizer).
 21. G.W. Hanson and A.B. Yakovlev, “**Wave Phenomena on Ferrite Planar Slab Waveguides Using Singularity Theory**,” *2002 Progress in Electromagnetics*

- Research Symposium (PIERS)*, Cambridge, MA (Session organizer), July 1-5, 2002, p. 421.
22. G.W. Hanson and A.B. Yakovlev, “**Transient Response of Layered-Media Open Waveguides Using Proper and Leaky Modes**,” *PIERS*, Cambridge, MA, July 2000, p. 239 (invited paper).
 23. G.W. Hanson and A.B. Yakovlev, “**Applications of Singular and Critical Point Theory to the Analysis and Interpretation of Transform and Time-Domain Guided-Wave Electromagnetics**,” *VIII-th International Conference on Mathematical Methods in Electromagnetic Theory*, Kharkov, Ukraine, Sept. 2000, pp. 54-60, (invited Plenary presentation).
 24. G.W. Hanson and A.B. Yakovlev, “**An Analysis of Modal Coupling and Cutoff Properties of Open and Closed Boundary Waveguides Using Singularity Theory**,” *PIERS*, Nantes, France, July 1998, vol. 1, p. 316 (invited paper).
 25. G.W. Hanson and A.B. Yakovlev, “**Mode Leakage and Coupling on Integrated Transmission Line Circuits: A Geometric View**,” *PIERS*, Schlumberger-Doll Research, Cambridge, MA, July 1997, p. 404, (invited paper).
 26. G. W. Hanson and A. B. Yakovlev, “**New Explanation of the Leaky Mode Phenomena in Coplanar Strip Line**,” *Int. Symp. on Antennas and Propagation*, Chiba, Japan, Sept. 1996, pp. 277-280. (Young Scientist Award to A.B. Yakovlev).
 27. A.B. Yakovlev, “**Eigenmodes of a Shielded Microstrip Line with Finite Thickness Strip Conductor**,” *Proc. URSI EM Theory Symposium*, Sydney, Australia, August 1992, pp. 391-393. (Young Scientist Award).

ABSTRACTS/PRESENTATIONS

INTERNATIONAL CONFERENCES AND SYMPOSIA (total 36)

1. E. Forati, G. W. Hanson, A. B. Yakovlev, and A. Alu, “**Canalization of Surface Plasmon Polaritons on a Graphene Sheet with a Perturbed Ground Plane**,” *2014 USNC-URSI National Radio Science Meeting*, Boulder, Colorado, January 8-11, 2014, 1 p.
2. G. W. Hanson, E. Forati, and A. B. Yakovlev, “**Excitation Amplitude of THz Surface Plasmons on Graphene Surfaces by an Elementary Dipole and Quantum Emitter**,” *Graphene Nanophotonics*, Benasque, Spain, March 3 – 8, 2013, 1 p.
3. G. W. Hanson and A. B. Yakovlev, “**Excitation of Discrete and Continuous Spectrum of Graphene**,” *2012 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, Chicago, IL, July 8-13, 2012, 1 p., Invited paper to special session: Electrodynamics and applications of carbon nanotube and graphene systems.
4. A. B. Yakovlev, M. G. Silveirinha, S. I. Maslovski, C. S. R. Kaipa, P. A. Belov, G. W. Hanson, O. Luukkonen, I. S. Nefedov, C. R. Simovski, S. A. Tretyakov, and Y. R. Padooru, “**Recent Advances in the Homogenization Theory of Wire Media with Applications at Microwaves, THz, and Optical Frequencies**,” *2012 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, Chicago, IL, July 8-13, 2012, 1 p.
5. C. S. R. Kaipa, A. B. Yakovlev, M. G. Silveirinha, S. I. Maslovski, “**Near Field Enhancement Using Uniaxial Wire Medium with Impedance Loadings**,” *2012 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, Chicago, IL, July 8-13, 2012, 1 p.

6. C. S. R. Kaipa, A. B. Yakovlev, G. W. Hanson, Y. R. Padooru, F. Medina, and F. Mesa, "**Low-Terahertz Transmissivity and Broadband Planar Filters Using Graphene-Dielectric Stack**," *2012 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, Chicago, IL, July 8-13, 2012, 1 p.
7. Y. R. Padooru, A.B. Yakovlev, C. S. R. Kaipa, G. W. Hanson, F. Medina, F. Mesa, and A. W. Glisson, "**Absorbing Boundary Conditions and the Homogenization Model for Multilayered Wire Media**," *URSI National Radio Science Meeting*, Boulder, Colorado, 4-7 January, 2012, (Student Travel Grant for Y. R. Padooru), 1 p.
8. C. S. R. Kaipa, A. B. Yakovlev, M. G. Silveirinha, and S. Maslovski, "**All-Angle Negative Refraction by an Inductively Loaded Uniaxial Wire Medium Terminated with Patch Arrays**," *URSI National Radio Science Meeting*, Boulder, Colorado, 4-7 January, 2012, (Student Travel Grant for C. S. R. Kaipa), 1 p.
9. A. B. Yakovlev, G. W. Hanson, A. Mafi, Y. R. Padooru, and S. Karbasi, "**Modal Propagation on Thin Metal Mushroom-Type Surfaces in the Transition to Bed-of-Nails-Type Wire Media**," *2011 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, Spokane, WA, July 3-8, 2011, 1 p.
10. C. S. R. Kaipa, A. B. Yakovlev, F. Medina, F. Mesa, and Y. R. Padooru, "**Sub-wavelength Transmission Through Stacked Two-dimensional Metallic Patches: A Circuit Model Perspective**," *2011 IEEE AP-S International Symposium on Antennas and Propagation and USNC/URSI Radio Science Meeting*, Spokane, WA, July 3-8, 2011, 1 p.
11. F. Medina, F. Mesa, A. B. Yakovlev, R. R. Berral, C. S. R. Kaipa, and M. Garcia-Vigueras, "**Overview of the Use of Circuit Models to Analyze Extraordinary Transmission and Other Related Phenomena**," *2010 IEEE AP-S International Symposium on Antennas and Propagation and CNC-USNC/URSI Radio Science Meeting*, Toronto, Canada, July 11-17, 2010 (invited paper to special session), 1 p.
12. P. Nayeri, Y. R. Padooru, F. Yang, A. B. Yakovlev, and A. Z. Elsherbeni, "**Sub-wavelength Multi-layer Elements for Broadband Reflectarray Antennas**," *2010 IEEE AP-S International Symposium on Antennas and Propagation and CNC-USNC/URSI Radio Science Meeting*, Toronto, Canada, July 11-17, 2010, p. 1.
13. C. S. R. Kaipa, A. B. Yakovlev, F. Medina, F. Mesa, "**Fabry-Perot Resonances of Total Transmission in Multilayer Sub-Wavelength Partially-Reflecting Surfaces**," *URSI National Radio Science Meeting*, Boulder, Colorado, 6-9 January, 2010, (Student Travel Grant for C. S. R. Kaipa), 1 p.
14. M. G. Silveirinha and A. B. Yakovlev, "**Negative Refraction by a Multilayered Mushroom-type Metamaterial**," *USNC/URSI National Radio Science Meeting*, Charleston, SC, USA, 1-5 June, 2009, 1 p.
15. P. Baccarelli, P. Burghignoli, G. W. Hanson, G. Lovat, S. Paulotto, and A. B. Yakovlev, "**Green's Functions for High-Impedance Surfaces: A Comparison between Homogenized Models and Full-Wave Results**," *USNC/URSI National Radio Science Meeting*, Charleston, SC, USA, 1-5 June, 2009, 1 p.
16. A. B. Yakovlev, C. S. R. Kaipa, Y. R. Padooru, F. Medina, and F. Mesa, "**Sub-wavelength Transmission Through Multilayered Arrays of Patches/Slots: Analytical and Circuit Theory Models**," *USNC/URSI National Radio Science Meeting*, Charleston, SC, USA, 1-5 June, 2009, 1 p.
17. P. Baccarelli, F. Capolino, S. Paulotto, and A. B. Yakovlev, "**Surface-Wave Propagation in a Metamaterial Formed by Arrayed Pairs of Planar Conductors**," *USNC/URSI National Radio Science Meeting*, Charleston, SC, USA, 1-5 June, 2009, 1 p.

18. A. B. Yakovlev, G. Lovat, P. Burghignoli, and G. W. Hanson, "**Modal Interactions in Lossy Dielectric Metamaterial Slabs**," *USNC/URSI National Radio Science Meeting*, San Diego, CA, USA, 5-11 July, 2008, 1 p.
19. W. Huang, A.B. Yakovlev, A.A. Kishk, A.W. Glisson, I.A. Eshrah, and Y. Zhang, "**Green's Function Analysis of an Ideal Hard Surface Rectangular Waveguide**," *2004 National Radio Science Meeting*, Boulder, Colorado, 5-8 January, 2005, p. 24.
20. G.W. Hanson and A.B. Yakovlev, "**Leaky Wave Excitation on Three-Dimensional Printed Interconnects**," *2003 Progress in Electromagnetics Research Symposium (PIERS)*, Honolulu, Hawaii, 13-16 October, 2003, p. 551, (Session organizer).
21. V.A. Klymko, A.B. Yakovlev, A.A. Kishk, and A.W. Glisson, "**Excitation of Circular Waveguides with Radial Coaxial Probe Feeds**," *2003 Progress in Electromagnetics Research Symposium (PIERS)*, Honolulu, Hawaii, 13-16 October, 2003, p. 61.
22. I.A. Eshrah, A.A. Kishk, , A.B. Yakovlev, and A.W. Glisson, "**Coupling of a Dielectric Body of Revolution to a Waveguide through a Slot in a Ground Plane**," *2003 Progress in Electromagnetics Research Symposium (PIERS)*, Honolulu, Hawaii, 13-16 October, 2003, p. 137.
23. G.W. Hanson and A.B. Yakovlev, "**Leaky Wave Effects on Source Driven/Terminated Three-Dimensional Interconnects**," *IEEE International Symposium on Antennas and Propagation and USNC/URSI North American Radio Science Meeting*, Columbus, OH, June 22-27, 2003, p. 225.
24. V.A. Klymko, A.B. Yakovlev, A.A. Kishk, and A.W. Glisson, "**Dyadic Green's Functions for Circular Waveguide-Based Spatial Power Combining**," *IEEE International Symposium on Antennas and Propagation and USNC/URSI North American Radio Science Meeting*, Columbus, OH, June 22-27, 2003, p. 220.
25. M.B. Steer, L.P.B. Katehi, S. Mohammadi, J.F. Whitaker, and A.B. Yakovlev, "**Architectures and Prototyping Laboratory for the Development of Space-Based Microwave Power Transmission Systems**," *2003 Japan-United States Joint Workshop on Space Solar Power System (JUSPS'03)*, July 3-4, 2003, Kyoto, Japan.
26. G.W. Hanson and A.B. Yakovlev, "**Wave Phenomena on Ferrite Planar Slab Waveguides Using Singularity Theory**," *2002 Progress in Electromagnetics Research Symposium (PIERS)*, Cambridge, MA (Session organizer), July 1-5, 2002, p. 421.
27. G.W. Hanson and A.B. Yakovlev, "**Analytical and Numerical Aspects of Regularization Techniques for Printed Transmission Lines**," *2002 IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, San Antonio, Texas, June 16-21, 2002, p. 350.
28. A.B. Yakovlev and G.W. Hanson, "**Mode Coupling and Cutoff Behavior in Planar Anisotropic Dielectric Waveguides**," *IEEE AP-S International Symposium and USNC/URSI National Radio Science Meeting*, Boston, Massachusetts, July 8-13, 2001, p. 274.
29. G.W. Hanson and A.B. Yakovlev, "**Transient Response of Layered-Media Open Waveguides Using Proper and Leaky Modes**," *PIERS*, Cambridge, MA, July 2000, p. 239 (invited paper).
30. G.W. Hanson and A.B. Yakovlev, "**Investigation of Mode Interaction on Planar Dielectric Waveguides with Loss and Gain Using Complex-Plane Singularities of the Dispersion Function**," *IEEE AP-S Int. Symposium and USNC/URSI National Radio Science Meeting Dig.*, Orlando, FL, July 1999, p. 34.
31. G.W. Hanson and A.B. Yakovlev, "**An Analysis of Modal Coupling and Cutoff Properties of Open and Closed Boundary Waveguides Using Singularity Theory**," *PIERS*, Nantes, France, July 1998, vol. 1, p. 316 (invited paper).
32. G.W. Hanson and A.B. Yakovlev, "**Mode Leakage and Coupling on Integrated Transmission Line Circuits: A Geometric View**," *PIERS*,

- Schlumberger-Doll Research, Cambridge, MA, July 1997, p. 404, (invited paper).
33. G.W. Hanson and A.B. Yakovlev, “**Suppression of Leakage in Printed Transmission Lines Using Finite-Width Dielectric Loading.**” *WRI International Symposium on Directions for the Next Generation of MMIC Devices and Systems*, Farmingdale, New York, September, 1996, p. 44.
 34. A. B. Yakovlev and G. W. Hanson, “**Coupling of Eigenmodes in Perturbed Multilayer Waveguiding Structures,**” *XXVth General Assembly of URSI*, Lille, France, August-September 1996.
 35. A.B. Yakovlev, “**Analysis of Shielded Microstrip-Like Lines with Finite Thickness Strip Conductors,**” *IEEE AP-S Int Symp. and URSI Radio Science Meeting*, Chicago, IL, July 1992, p.378.
 36. I.V. Petrusenko and A.B. Yakovlev, “**Numerical-Analytical Method of Solving Diffraction and Boundary Eigenvalue Problems in the Complex Geometry Domain,**” *Proc. of International Seminar “Day on Diffraction”*, S.-Petersburg, Russia, June 1992, p. 22.

LOCAL AND REGIONAL CONFERENCES AND SYMPOSIA (total 49)

1. A. B. Yakovlev, “**Wire-Media and Graphene Based Metamaterials with Microwave and Terahertz Applications,**” *The 16th Mid-South Annual Engineering and Science Conference (MAESC 2013)*, Oxford, MS, 28-29 October, 2013, 1 p.
2. Y. R. Padooru and A. B. Yakovlev, “**Design of Capacitive Circuit Absorbers using Circuit Theory Model,**” *Mid-South Annual Engineering Science (MAESC) Conference*, Memphis, TN, 3 May 2011, 1 p.
3. Y. R. Padooru and A. B. Yakovlev, “**A Comparative Study of Absorption Mechanisms using Mushroom-Type High Impedance Surfaces,**” *Mid-South Annual Engineering Science (MAESC) Conference*, Memphis, TN, 3 May 2011, 1 p.
4. C. S. R. Kaipa and A. B. Yakovlev, “**Analytical and Circuit Theory Models for Sub-Wavelength Transmission Through Paired Arrays of Printed/Slotted Periodic Surfaces,**” *MAESC 2009 Conference*, Memphis, TN, May 2009, 1 p.
5. Y. R. Padooru and A. B. Yakovlev, “**Analytical Modeling of High Impedance Surfaces,**” *MAESC 2009 Conference*, Memphis, TN, May 2009, 1 p.
6. Y. Padooru and A. B. Yakovlev, “**Design and Analysis of Homogenized High-Impedance Surfaces,**” *MAS Annual Meeting*, Olive Branch, MS, 21-23 February, 2008, Vol. 53, No. 1, 1 p.
7. Y. Padooru and A. B. Yakovlev, “**Analytical Modeling of High-Impedance Surfaces,**” *MAS Annual Meeting*, Olive Branch, MS, 21-23 February, 2008, Vol. 53, No. 1, 1 p.
8. Y. Padooru and A. B. Yakovlev, “**Analytical Modeling of Artificial Magnetic Conductors,**” *Sigma Xi Research Symposium*, MS, 16 April, 2008, 1 p.
9. G. Gampala and A.B. Yakovlev, “**High Impedance Surfaces Realized Using Printed Frequency Selective Surface Elements,**” University of Mississippi, *Sigma Xi Research Symposium*, MS, 26 March, 2007, 1 p.
10. G. Gampala and A.B. Yakovlev, “**Novel Structures for the Design of Wideband Artificial Magnetic Conductors,**” *MAESC*, University of Mississippi, MS, 17-18 May, 2007, 1 p.
11. G. Gampala and A.B. Yakovlev, “**High Impedance Surfaces Realized Using Printed Frequency Selective Surface Elements,**” *MAESC*, University of Mississippi, MS, 17-18 May, 2007 (Student Paper Competition), 4 p.

12. H. Olanigan and A.B. Yakovlev, "**Analysis of Wave Propagation in Metamaterial Slab Waveguides,**" *MAESC*, University of Mississippi, MS, 17-18 May, 2007, 1 p.
13. H. Olanigan and A.B. Yakovlev, "**Metamaterial Slab Waveguides: Modal Analysis,**" University of Mississippi, *Sigma Xi Research Symposium*, MS, 26 March, 2007, 1 p (Sally Barksdale Award for Best Undergraduate Poster).
14. H. Olanigan and A.B. Yakovlev, "**Modal Analysis of Metamaterial Slab Waveguides,**" *MAS Annual Meeting*, , Mississippi State, MS, 21-23 February, 2007, Vol. 52, No. 1, p. 125.
15. G. Gampala and A.B. Yakovlev, "**Wideband Designs of Artificial Magnetic Conductors Using Frequency Selective Surfaces for Low Profile Antenna Applications,**" *MAS Annual Meeting*, Mississippi State, MS, 21-23 February, 2007, Vol. 52, No. 1, pp. 126-127.
16. Y. Zhang, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, "**DRA Analysis Using Simple and Flexible FDTD Subgridding Scheme,**" University of Mississippi, *Sigma Xi Research Symposium*, 14 April, 2006, 1 p.
17. G. Zheng, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**A Novel Implementation of Modified Maxwell's Equations in the Periodic FDTD Method,**" University of Mississippi, *Sigma Xi Research Symposium*, 14 April, 2006, 1 p.
18. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**FDTD Analysis of a Probe-Fed Dielectric Resonator Antenna Array with Hard Horn for Spatial Power Combiner,**" *MAS Annual Meeting*, Vicksburg, MS, 22-24 February, 2006, p. 94.
19. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Parametric Study of Dielectric Resonator Antenna Arrays for Waveguide-Based Spatial Power Combining Using FDTD,**" *MAESC 2005 Conference*, Memphis, TN, 11 May, 2005, p. 17.
20. M. Hiranandani, A.B. Yakovlev, and A.A. Kishk, "**Multiband Hard And Soft surfaces Composed of Periodic FSS Structures,**" *MAESC 2005 Conference*, Memphis, TN, 11 May, 2005, p. 33.
21. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, "**Modeling of Periodic Structures using Finite-Difference Time-Domain Technique,**" *MAESC 2005 Conference*, Memphis, TN, 11 May, 2005, p. 33.
22. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, "**A Novel Implementation of Mur's Absorbing Boundary Condition in Finite-Difference Time-Domain Technique,**" *MAESC 2005 Conference*, Memphis, TN, 11 May, 2005, p. 30.
23. W. Huang, A.B. Yakovlev, A.A. Kishk, and A.W. Glisson, "**Analysis and Design of Hard Surface Guided-Wave Structures,**" *MAESC 2005 Conference*, Memphis, TN, 11 May, 2005, p. 34.
24. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Modal Analysis of Corrugated Rectangular Waveguides Supporting Left-Hand Propagation,**" University of Mississippi, *Sigma Xi Research Symposium*, 14 April, 2005, 1 p.
25. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, "**Analysis of periodic Structures Using Finite-Difference Time-Domain Method,**" University of Mississippi, *Sigma Xi Research Symposium*, 14 April, 2005, 1 p.
26. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**FDTD Analysis of a Probe-Fed Resonator Antenna in Rectangular Waveguide,**" University of Mississippi, *Sigma Xi Research Symposium*, 14 April, 2005, 1 p.
27. W. Huang, A.B. Yakovlev, A.A. Kishk, and A.W. Glisson, "**Analysis and Design of Hard Surface Guided-Wave Structures,**" University of Mississippi, *Sigma Xi Research Symposium*, 14 April, 2005, 1 p.

28. M. Hiranandani, A.B. Yakovlev, and A.A. Kishk, "**Realization of Artificial Magnetic Conductors Using Frequency Selective Surfaces,**" University of Mississippi, *Sigma Xi Research Symposium*, 14 April, 2005, 1 p.
29. W. Huang, A.B. Yakovlev, A.A. Kishk, and A.W. Glisson, and I.A. Eshrah, "**Dyadic Green's Function Analysis of an Ideal Hard Surface Rectangular Waveguide,**" *2005 MAS Annual Meeting*, Oxford, MS, 17-18 February, 2005, Journal of MAS, Vol. 50, No. 1, p. 101.
30. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Parametric Study of the DRA-Waveguide-Based Spatial Power Combining System Using FDTD,**" *2005 MAS Annual Meeting*, Oxford, MS, 17-18 February, 2005, Journal of MAS, Vol. 50, No. 1, p. 101.
31. M. Hiranandani, A.B. Yakovlev, and A. A. Kishk, "**Dipole and Slot Periodic Structures for the Realization of Hard and Soft Surfaces,**" *2005 MAS Annual Meeting*, Oxford, MS, 17-18 February, 2005, Journal of MAS, Vol. 50, No. 1, p. 101.
32. Y. Zhang, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Analysis of Radiation Aperture Antenna Using Region-By-Region FDTD Method,**" *2005 MAS Annual Meeting*, Oxford, MS, 17-18 February, 2005, Journal of MAS, Vol. 50, No. 1, p. 100.
33. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, "**Modeling Periodic Structures Using Finite-Difference Time-Domain Method,**" *2005 MAS Annual Meeting*, Oxford, MS, 17-18 February, 2005, Journal of MAS, Vol. 50, No. 1, p. 101.
34. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, "**Mur's Absorbing Boundary Condition for the Split-Field Method,**" *2005 MAS Annual Meeting*, Oxford, MS, 17-18 February, 2005, Journal of MAS, Vol. 50, No. 1, p. 102.
35. V.A. Klymko, I.A. Eshrah, A.B. Yakovlev, A.A. Kishk, and A.W. Glisson, "**Excitation of an Ideal Hard Surface Circular Waveguide: Electric Dyadic Green's Function Approach,**" *Sigma Xi 2004 Student Research Poster Symposium*, University of Mississippi, 22 April 2004, p. 15.
36. G. Zheng, A. A. Kishk, A. W. Glisson, and A. B. Yakovlev, "**Simplified Feeding Structure for a Modified Printed Yagi Antenna,**" *2004 MAS Annual Meeting*, Biloxi, MS, 18-20 Feb. 2004, p. 100.
37. G. Zheng, A. A. Kishk, A. W. Glisson, and A. B. Yakovlev, "**Modified Perfectly Matched Layers Method for Periodic Structures,**" *2004 MAS Annual Meeting*, Biloxi, MS, 18-20 Feb. 2004, p. 101.
38. C.W. Hicks, A.B. Yakovlev, and M.B. Steer, "**Planar Aperture-Coupled Waveguide Amplifier Array for Spatial Power Combining,**" *MAESC 2003 Conference*, Memphis, TN, 15 May, 2003, p. 35.
39. G. Zheng, A.A. Kishk, A.W. Glisson, and A.B. Yakovlev, "**Performance of Bow-Tie Slot Antenna Fed by a CPW Transmission Line with Tapered Transition,**" *MAESC 2003 Conference*, Memphis, TN, 15 May, 2003, p. 25.
40. I.A. Eshrah, A.A. Kishk, A.B. Yakovlev, and A.W. Glisson, "**Dielectric Resonator Antenna Excited by Slot on the Broadside Wall of Matched and Shorted Waveguide,**" *MAESC 2003 Conference*, Memphis, TN, 15 May, 2003, pp. 24-25.
41. V.A. Klymko, A.B. Yakovlev, A.A. Kishk, and A.W. Glisson, "**The Input Impedance of a Coaxial Probe in a Cylindrical Waveguide,**" *MAESC 2003 Conference*, Memphis, TN, 15 May, 2003, pp. 35-36.
42. McDaniel, C.E. Smith, A.B. Yakovlev, A.Z. Elsherbeni, and D. Kajfez, "**Graphical User Interface (GUI) and Analysis Software Using Matlab and Related Toolboxes for HPIB Data Acquisition and Processing,**" 2003 Sigma Xi and Office of Research Student Poster Symposium, The University of Mississippi, 2 April, 2003, 1 p.
43. S. Parupalli, A.B. Yakovlev, and A.A. Kishk, "**Natural Modes of Cylindrical Dielectric and Complex-Media Waveguides,**" *2003 MAS Annual Meeting*,

- Hattiesburgh*, MS, Feb. 2003, Journal of the Mississippi Academy of Sciences, Vol. 48, No. 1, Jan. 2003, p. 74.
44. B.T. McDaniel, C.E. Smith, A.B. Yakovlev, A.Z. Elsherbeni, and D. Kajfez, “**An HP8510C Network Analyzer Graphical User Interface (GUI) and Analysis Software Using Matlab, for HPIB Data Acquisition and Processing.**” *2003 MAS Annual Meeting*, Hattiesburgh, MS, Feb. 2003, Journal of the Mississippi Academy of Sciences, Vol. 48, No. 1, Jan. 2003, p. 79.
 45. M.V. Lukich*, A.B. Yakovlev, A.Z. Elsherbeni, and C.E. Smith, “**Broadband Spatial Power Combiners: Full-Wave Analysis and Modeling Techniques.**” *2002 Mississippi Academy of Sciences Annual Meeting*, Beloxi, MS, 21-22 Feb., 2002, p. 70.
 46. M.V. Lukich, A.B. Yakovlev, A.Z. Elsherbeni, and C.E. Smith, “**Broadband Spatial Power Combiners: System Analysis and Antenna Design.**” *The 4th Annual Memphis Area Engineering and Science Conference (MAESC 2002)*, Memphis, TN, May 10, 2002, pp. 27-28.
 47. A.B. Yakovlev and G.W. Hanson, “**Radiation and Coupling Effects on Open Integrated Waveguides in Connection with the Singularity Theory.**” *The 3rd Annual Memphis Area Engineering and Science Conference, MAESC 2001*, Memphis, Tennessee, May 11, 2001, pp. 32-33.
 48. M. V. Lukic and A.B. Yakovlev, “**Green’s Function Approach for Waveguide and Antenna Problems of Applied Electromagnetics.**” *The 3rd Annual Memphis Area Engineering and Science Conference, MAESC 2001*, Memphis, Tennessee, May 11, 2001, p. 28.
 49. M. Lukic and A.B. Yakovlev, “**An Efficient Modeling of Waveguide-Based Patch and Slot Antennas for Spatial Power Combining Applications.**” *Sixty-fifth Annual Meeting of the Mississippi Academy of Sciences*, February 8,9, 2001, Tupelo, Mississippi. The abstract appears in Journal of the Mississippi Academy of Sciences, vol. 46, No. 1, 2001, p. 70.

PUBLICATIONS IN PROGRESS

1. G. Moreno, H. M. Bernety, and A. B. Yakovlev, “**Reduction of Mutual Coupling between Strip Dipole Antennas at Terahertz Frequencies with an Elliptically Shaped Graphene Monolayer.**” *IEEE AP-S/URSI International Symposium on Antennas and Propagation*, Puerto Rico, 26 June - 1 July 2016 (submitted 5 January 2016).
2. F. Mesa, A. Forouzmmand, A. B. Yakovlev, G. W. Hanson, F. Medina, and R. Rodriguez-Berral, “**Excitation of Discrete and Continuous Spectrum in Sub-diffraction Wire-Medium Type Lenses.**” *IEEE Transactions on Antennas and Propagation*, (submitted, 11 March 2016).
3. F. Mesa, A. Forouzmmand, A. B. Yakovlev, G. W. Hanson, F. Medina, and R. Rodriguez-Berral, “**Discrete and Continuous Spectrum in Subwavelength Imaging with Wire-Medium Type Lenses.**” *IEEE AP-S/URSI International Symposium on Antennas and Propagation*, Puerto Rico, 26 June - 1 July 2016 (submitted 16 January 2016).
4. M. Hedayati, A. B. Yakovlev, M. G. Silveirinha, and G. W. Hanson, “**Local Permittivity of Bounded Wire-Medium Structures.**” *IEEE AP-S/URSI International Symposium on Antennas and Propagation*, Puerto Rico, 26 June - 1 July 2016 (submitted 18 January 2016).
5. P. M. Kaminski, A. B. Yakovlev, and S. Arslanagic, “**Mantle Cloaks for Elliptical Cylinders Excited by an Electric Line Source.**” *URSI Commission B International Symposium on Electromagnetic Theory (EMTS) 2016*, Espoo, Finland, 14-18 August 2016 (submitted 19 February, 2016).

6. A. Forouzmand, C. S. R. Kaipa, and A. B. Yakovlev, “**Mushroom-Type Structures with the Wires Connected Through Diodes: Theory and Applications**,” *Journal of Applied Physics*, (submitted, 1 March 2016).
7. M. Hedayati, A. B. Yakovlev, M. G. Silveirinha, and G. W. Hanson, “**A Local Thickness Dependent Permittivity for Nonlocal Bounded Wire-Medium Structures**,” *The 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2016*, Creete, Greece, 19-22 September 2016 (submitted, 10 March 2016), 3 p.
8. F. Mesa, A. Forouzmand, A. B. Yakovlev, G. W. Hanson, F. Medina, and R. Rodriguez-Berral, “**Discrete and Continuous Spectrum Analysis: An Alternative Perspective on Subwavelength Imaging**,” *The 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2016*, Creete, Greece, 19-22 September 2016 (submitted, 10 March 2016), 3 p.
9. M. Hedayati, A. B. Yakovlev, M. G. Silveirinha, and G. W. Hanson, “**Circuit Modeling of Nonlocal Bounded Wire-Medium Structures**,” *The 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2016*, Creete, Greece, 19-22 September 2016 (submitted, March 2016), 3 p.

BOOK

G.W. Hanson and A.B. Yakovlev, *Operator Theory for Electromagnetics: An Introduction*, Springer-Verlag, New York, NY, 2002, 634 p.

BOOK CHAPTERS

G.W. Hanson and A.B. Yakovlev, “**Suppression of Leakage in Printed Transmission Lines Using Finite-Width Dielectric Loading**,” *Directions for the Next Generation of MMIC Devices and Systems*, edited by N.K. Das and H.L. Bertoni, Plenum Press, New York, N.Y., 1997, pp. 323-330.

A. B. Yakovlev, O. Luukkonen, C. R. Simovski, S. A. Tretyakov, S. Paulotto, P. Baccarelli, and G. W. Hanson, “**Analytical Modeling of Surface Waves on High Impedance Surfaces**,” in *Metamaterials and Plasmonics: Fundamentals, Modeling, Applications*, edited by S. Zouhdi, A. Sihvola, and A. P. Vinogradov, Springer Science + Business Media B. V. 2009, pp. 239-254, (ISBN 978-1-4020-9405-7).

I. A. Eshrah, A. A. Kishk, A. B. Yakovlev, and A. W. Glisson, “**Corrugated Rectangular Waveguides: Composite Right/Left-Handed Metaguides**,” *Theory and Phenomena of Metamaterials*, vol. 1, Ch. 29, edited by F. Capolino, Taylor and Francis, 2009, pp. 29-1 – 29-24.

A. P. Feresidis, G. Goussetis, A. B. Yakovlev, and C. R. Simovski, “**High Impedance Surfaces**,” *Theory and Phenomena of Metamaterials*, vol. 1, Ch. 31, edited by F. Capolino, Taylor and Francis, 2009, pp. 31-1 – 31-52.

A. P. Feresidis, G. Goussetis, A. B. Yakovlev, and C. R. Simovski, “**High Impedance Surfaces: Applications**,” *Applications of Metamaterials*, vol. 2, Ch. 21, edited by F. Capolino, Taylor and Francis, 2009, pp. 21-1 – 21-40.

A. B. Yakovlev, Y. R. Padooru, G. W. Hanson, and C. S. R. Kaipa, “**Multilayered Wire Media: Generalized Additional Boundary Conditions and Applications**,” Ch. 10, InTech book on Materials Science – Advanced

OTHER PUBLICATIONS

1. A.B. Yakovlev, “**Frontiers in Electromagnetics**,” [Book Review], *IEEE Antennas and Propagation Magazine*, Vol. 43, No. 4, August 2001, pp. 96-97.
2. A.B. Yakovlev, “**Mode Coupling Phenomena in a Shielded Microstrip Line**,” *Radiophysics and Electronics of Millimeter and Sub-Millimeter Waves*, Institute of Radiophysics and Electronics, National Academy of Science, Kharkov, Ukraine, 1991, pp. 121-127 (In Russian).
3. A.B. Yakovlev, “**Substantiation of Algorithm for the Analysis of Eigenmodes in a Shielded Microstrip Line**,” *Radiophysics and Electronics of Millimeter and Sub-Millimeter Waves*, Institute of Radiophysics and Electronics, National Academy of Science, Kharkov, Ukraine, 1991, pp. 114-120 (In Russian).
4. I.V. Petrusenko and A.B. Yakovlev, “**Complete Continuity of Some Operators of the Method of Partial Overlapping Regions**,” *Differential Equations with Applications in Physics*, Dnepropetrovsk State University, 1991, pp. 55-60 (In Russian).
5. I.G. Prokhoda, A.B. Yakovlev, A.B. Gnilenko, “**Some Applications of the Method of Partial Overlapping Regions for the Analysis of Eigenmodes in Multiply Connected Guided-Wave Structures with Longitudinal Loading**,” *VINITI*, Moscow, 1989, pp. 1-46 (In Russian).
6. I.G. Prokhoda, A.B. Yakovlev, A.B. Gnilenko, “**Method of Partial Overlapping Regions for Applications to Vector Spectral Problems of Electrodynamics**,” Dnepropetrovsk State University, 1990, pp. 1-52 (In Russian).

BRIEF BIOGRAPHY

Alexander B. Yakovlev was born on June 5, 1964, in the Ukraine. He received the Ph.D. degree in Radiophysics from the Institute of Radiophysics and Electronics, National Academy of Sciences, Ukraine, in 1992, and the Ph.D. degree in Electrical Engineering from the University of Wisconsin at Milwaukee, in 1997.

From 1992 to 1994, he was an Assistant Professor with the Department of Radiophysics at Dnepropetrovsk State University, Ukraine. From 1994 to 1997, while working toward his doctorate degree, he was employed as a Research and Teaching Assistant in the Department of Electrical Engineering and Computer Science at the University of Wisconsin in Milwaukee. From 1997 to 1998, he was an R&D Engineer in Ansoft Corporation/Compact Software Division, Paterson, NJ, and in Ansoft Corporation, Pittsburgh, PA. From 1998 to 2000, he was a Postdoctoral Research Associate with the Electrical and Computer Engineering Department at North Carolina State University, Raleigh, NC. In summer of 2000, he joined the Department of Electrical Engineering at the University of Mississippi as an Assistant Professor, and was promoted to the rank of Associate Professor in 2004. Since July 2013 he is a Full Professor of Electrical Engineering.

His research interests include mathematical methods in applied electromagnetics, homogenization theory, artificial magnetic conductor surfaces for antenna applications, electromagnetic band-gap structures, metamaterial structures, wire media, graphene, cloaking, high-frequency interconnection structures and amplifier arrays for spatial and quasi-optical power combining,

microstrip and waveguide discontinuities, integrated-circuit elements and devices, theory of leaky waves, transient fields in layered media, catastrophe and bifurcation theories.

Dr. Yakovlev received the Young Scientist Award at the 1992 URSI International Symposium on Electromagnetic Theory, Sydney, Australia, and the Young Scientist Award at the 1996 International Symposium on Antennas and Propagation, Chiba, Japan. In 2003, he received a Junior Faculty Research Award in the School of Engineering at The University of Mississippi. From 2003 to 2006 Dr. Yakovlev was an *Associate Editor-in-Chief of the ACES Journal* and from 2005 to 2008 was an *Associate Editor of the IEEE Transactions on Microwave Theory and Techniques*. He is a Senior Member of the IEEE (Microwave Theory and Techniques Society and Antennas and Propagation Society) and Member of URSI Commission B. He is a coauthor of the book *Operator Theory for Electromagnetics: An Introduction*, Springer, New York, NY, 2002.

GRADUATE STUDENT DIRECTION

1. Milan V. Lukic, M. S.E.E., August 2002 (Advisor)
Thesis: **Broadband Spatial Power Combiners: System Modeling and Antenna Design**
2. Victor A. Klymko, M. S.E.E., August 2004 (Advisor, Co-Advisors: A.A. Kishk and A.W. Glisson)
Thesis: **Dyadic Green's Functions of Circular Waveguides with Application to Excitation and Scattering Problems**
3. Jonathan Watts, Thesis, Honors College, July 2004 (Advisor, Co-Advisor: A.A. Kishk)
Thesis: **Analysis of Planar Waveguide Discontinuities by the Method of Integral Representations for Overlapping Regions**
4. Wei Huang, M. S.E.E., July 2005 (Advisor, Co-Advisors: A.A. Kishk and A.W. Glisson)
Thesis: **Modal Analysis of Ideal Hard Surface Rectangular Waveguides: Dyadic Green's Function Approach**
5. Islam Ehrah, Ph.D., September 2005 (Co-Advisor, Advisor: A.A. Kishk)
Dissertation: **Waveguide and Metaguide Excitation of Dielectric Resonator Antenna Arrays Using Slots and Probes**
6. Guiping Zheng, Ph.D., December 2007 (Co-Advisor, Advisor: A.A. Kishk)
Dissertation: **Complex Periodic Structures: FDTD Modeling and Applications**
7. Yizhe Zhang, Ph.D., June 2007 (Co-Advisor, Advisor: A.A. Kishk)
Dissertation: **Dielectric Resonator Antenna Arrays with Hard Horn for Wideband Spatial Power Combining**
8. Gopinath Gampala, M.S.E.E., July 2007 (Advisor)
Thesis: **Analysis and Design of Artificial Magnetic Conductors for X-Band Antenna Applications**
9. Yashwanth Padooru, M.S.E.E., May 2009 (Advisor)
Thesis: **Analytical Modeling of Artificial Impedance Surfaces**
10. Chandra Kaipa, M.S.E.E., August 2009 (Advisor)
Thesis: **Analysis of Frequency Selective Surfaces and Mushroom-Type Metamaterials: Analytical and Circuit Theory Models**
11. Chandra S. R. Kaipa, Ph.D., 3 May 2012 (Advisor).

- Dissertation: **Homogenization of Structured Metasurfaces and Uniaxial Wire Medium Metamaterials with Microwave Applications**
12. Yashwanth R. Padooru, Ph.D., 16 July 2012 (Advisor).
Dissertation: **Artificial Impedance Surfaces and Wire Media for Absorption and Cloaking**
 13. Hossein M. Bernety, M.S.E.E., 2 July 2015 (Advisor).
Thesis: **Elliptical Metasurfaces for Cloaking and Antenna Applications at Microwave and Terahertz Frequencies**
 14. Ali Forouzmand, M.S.E.E., 7 May 2015 (Advisor).
Thesis: **Graphene Based Metamaterials for Terahertz Cloaking and Subwavelength Imaging**
 15. Corey Garner, M.S.E.E., 22 July 2015 (Advisor).
Thesis: **Experimental Validation of Metasurface Cloak for Dielectric Cylinder at Microwave Frequencies**
 16. Gabriel Moreno, M.S.E.E., 2015-2016 (Advisor).
Thesis: To be determined
 17. Maziar Hedayati, M.S.E.E., 2015-2017 (Advisor).
Thesis: To be determined