# CHRISTOS ARGYROPOULOS

**CONTACT DETAILS**

Assistant Professor, Department of Electrical Engineering, University of Nebraska-Lincoln, SEC, Room 239N, 844 N. 16th St, Lincoln, NE, 68588-0511, USA.

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#### RESEARCH INTERESTS

Linear and nonlinear plasmonics and nanophotonics, metamaterials and their applications, antenna design, transformation electromagnetics, photonics, active, tunable and reconfigurable metadevices, acoustic/thermal metamaterials, microwave/mm-wave/THz engineering, novel optical interconnects, thermal emission from plasmonic structures, graphene nanophotonics, novel energy harvesting devices and computational electromagnetics.

#### EDUCATION

2007-2011 **PhD in Electronic Engineering**

Thesis Project: *FDTD Modelling of Electromagnetic Transformation Based*

*Devices*

Queen Mary, University of London, Department of Electronic Engineering

Antennas & Electromagnetics Group, London, UK

Supervisors: Prof. Yang Hao, Prof. Clive Parini

2006-2007 **MSc in Communication Engineering**

Dissertation Project: *An approach to measure the input impedance and the far- field distribution of an antenna system with the FDTD method*

The University of Manchester, School of Electrical and Electronic Engineering Microwaves and Communication Systems Group, Manchester, UK

Supervisors: Dr. Fumie Costen, Prof. Tony Brown

2000-2006 **Diploma in Electrical and Computer Engineering**

Diploma Thesis: *Fast computation of scattering cross section of thin coatings over metallic surfaces*

Aristotle University of Thessaloniki, School of Technology,

Faculty of Electrical and Computer Engineering, Department of Telecommunications, Thessaloniki, Greece

Supervisor: Dr. Traianos V. Yioultsis

**HONORS, AWARDS, ACTIVITIES**

June & Oct 15 **Presented lecture titled 'Nano Light Technology'** at the 2015 Nebraska Center for

Materials and Nanoscience (NCMN) annual ‘Bright Lights NanoCamp’ and at the

NCMN ‘After School’ program to an **audience of underrepresented middle school**

**students**.

17 Feb 2015 **Guest editor** at the Special Issue of the Metamaterials’ Congress (Oxford 2015)

published on EPJ Applied Metamaterials.

26 Jan 2015 **Member of the steering committee and co-chair of the student paper**

**competition** in IEEE AP-S/URSI 2016, Puerto Rico.

Dec 14 & 15 **Organizer of special sessions** in META 15, the 6th International Conference on

Metamaterials, Photonic Crystals and Plasmonics and META 16, the 7th International

Conference on Metamaterials, Photonic Crystals and Plasmonics. The title of the

special sessions is: "Nonlinear and Reconfigurable Plasmonics and Metamaterials".

8 Nov 2014 **Invited talk to special session** titled "Computational Electromagnetics and 2D

Materials: Graphene and Beyond" at the ACES 2015 conference (31st International

Review of Progress in Applied Computational Electromagnetics), March 22-26,

2015, Williamsburg, VA, USA.

June 2014 **Selected to attend the “2014 Gordon Research Conference (GRC) on**

**Plasmonics”**

♦ These selective events bring together the best researchers working in the field of Plasmonics.

7 Mar 2014 **Invited to chair session** titled "Plasmonics and Metamaterials" at the American

Physical Society March Meeting, March 3-7, 2014, Denver, Colorado, USA.

April / 2013 **Junior Researcher Award of the 2013 Raj Mittra Travel Grant**, IEEE

♦ Competitive and prestigious award based upon the candidate's potential or demonstrated aptitude for research in the areas of electromagnetics, antennas and propagation. Awarded to one postdoctoral junior scientist each year to attend the major conference in the field of antennas and propagation (IEEE APS 2013). The amount is approximately 750$. It includes registration fees and covers partially the expenses.

8 Feb 2013 **Invited seminar talk**

Title: Nonlinear plasmonic devices and ultrabroadband light concentrators/absorbers

♦ Invited seminar talk at a colloquium organized by University of Heriot Watt, Institute of Sensors, Signals and Systems in Edinburgh, UK.

June 2012 **Selected to attend the “2012 Gordon Research Conference (GRC) on**

**Plasmonics” and the associated “Gordon Research Seminar” (GRS)**

♦ These selective events bring together the best researchers working in the field of Plasmonics.

2007- 2010 **Full-time EPSRC Research Scholarship**

**Antennas & Electromagnetics Group,** Queen Mary, University of London

♦ Covers tuition fees and living expenses (approx. 23000$/year).

Sept / 2010 **Spotlight on Optics: highlighted articles from OSA journals**

♦ Our paper: “FDTD analysis of the optical black hole,” has been selected for Spotlight on Optics by Optical Society of America.

May / 2010 **International Travel Grant**, The Royal Academy of Engineering

♦ Competitive and prestigious grant. Awarded to attend a major conference in the field of electrical engineering (IEEE APS 2010). The amount is approximately 1100$ and covers partially the expenses.

Oct / 2009 **Marie Curie Actions Grant**, European School of Antennas

♦ Awarded to limited number of graduate students to attend the course: Artificial EBG Surfaces and Metamaterial for Antennas. Covers full expenses (approx. 1300$).

Oct / 2008 **Marie Curie Actions Grant**, European School of Antennas

♦ Awarded to limited number of graduate students to attend the course: Time Domain Techniques for Antenna Analysis. Covers full expenses (approx. 1300$).

**PROFESSIONAL EXPERIENCE**

Sept 2014 - **Assistant Professor**

Department of Electrical Engineering, University of Nebraska-Lincoln, USA

♦ Research on metamaterials, metasurfaces, plasmonics, nanophotonics and novel antennas. Established the metamaterials and integrated nanophotonics lab.

2009-present **Reviewer** in Nature Materials, Physical Review Letters, Physical Review Applied,

Nature’s Light: Science & Applications, ACS Nano Letters, Physical Review A/B,

Applied Physics Letters, Optics Express, Optics Letters, Nanophotonics, JOSA A,

JOSA B, Photonics and Nanostructures – Fundamentals and Applications, PIER,

IEEE Transactions on Antenna and Propagation, IEEE Antennas and Wireless

Propagation Letters, Journal of Applied Physics, IEEE Journal of Selected Topics in

Quantum Electronics, IEEE Journal of Quantum Electronics, Springer Nano

Research, Applied Physics B: Lasers and Optics, Radio Science, IEEE/OSA Journal

of Lightwave Technology, Journal of Electromagnetic Waves and Applications,

Advanced Electromagnetics, Chinese Physics B, EPJ Applied Metamaterials, ACES,

FERMAT, MDPI photonics, Elsevier Physics Letters A, EPJ Applied Physics,

International Journal of Microwave and Wireless Technologies, CRC Press, IEEE

Photonics Journal, Nature’s Scientific Reports, Applied Physics A, Elsevier Optics &

Laser Technology, Elsevier Journal of Alloys and Compounds and numerous

conferences.

9/2013-8/2014 **Postdoctoral Associate**, Center for Metamaterials and Integrated Plasmonics

Department of Electrical and Computer Engineering, Pratt School of Engineering, Duke University, USA

♦ Worked under the supervision of Prof. David Smith on analytical, computational and experimental aspects of nonlinear plasmonic and metamaterial structures, tunable and reconfigurable metadevices.

2011-Aug 2013 **Postdoctoral Fellow**, University of Texas at Austin, Department of Electronical

and Computer Engineering, **Metamaterials and Plasmonics research group**, USA

♦ Worked under the supervision of Prof. Andrea Alu on linear and nonlinear plasmonics, thermal emitters, energy harvesting devices and metamaterials.

2007-2011 **Research Assistant**, Queen Mary, University of London, Department of Electronic

Engineering, **Antennas & Electromagnetics Group**, UK

♦ Numerical, analytical and experimental design and modeling of metamaterial and all-dielectric novel microwave/optical structures at the Antenna & Electromagnetics Laboratory. 2D field mapper design to measure near fields at metamaterial structures.

Sep 2009 **Member of Local Organizing Committee**

3nd International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, London, UK

♦ Responsible for organising accommodation, proceedings and sessions about transformation electromagnetics.

Sept-Dec 2009 **Teaching Assistant**

Sept-Dec 2010 Queen Mary, University of London, Department of Electronic Engineering, UK

♦ Electronic design and applications lab experiments with Electronics Workbench (Multisim). Helping student to successfully conduct their experiments. Teaching 'Microwave Electronics' 3rd year undergraduate course.

Jan-Feb 2008 **Assistant Examiner**

Jan-Feb 2009 Queen Mary, University of London, Department of Electronic Engineering, UK

Jan-Feb 2010

♦ Once per year at Digital Circuit Design (200 scripts) and Microwave Electronics (150 scripts) MSc modules.

Feb-Sept 2007 **Graduate Research Assistant**

The University of Manchester, School of Electrical and Electronic Engineering, Microwaves and Communication Systems Group, UK

♦ Numerical modeling of complex [radar, RF and antenna propagation](http://www.eee.manchester.ac.uk/research/groups/macs/research/antennas/index.html) problems at the Electromagnetics Centre for Microwave and Millimetre-wave Design and Applications.

2005-2006 **Undergraduate Research Assistant**

Aristotle University of Thessaloniki, Faculty of Electrical and Computer Engineering, Department of Telecommunications, Thessaloniki, Greece

♦ Analytical and numerical modeling towards the optimization of thin coating structures over metallic surfaces at the Applied and Computational Electromagnetics Laboratory. Experimental demonstration and analysis of cylindrical waveguide structures.

Jul-Aug 2005 **Internship in industry**

Public Power Corporation S.A., Department of Chalkis, Chalkis, Greece

♦ Division of Power Outage. Costumer focused position.

Jul-Aug 2003 **Internship in industry**

Hellenic Aerospace Industry S.A., Schimatari, Greece

♦ Department of Electronics and Department of Aerostructures

**SHORT COURSES**

Oct / 2009 **European School of Antennas** (1 week course)

Course title: *Artificial EBG Surfaces and Metamaterial for Antennas* Chalmers University of Technology, Gothenburg, Sweden

Aug / 2009 **14th European Doctoral School on Metamaterials** (2 day course)

Queen Mary, University of London, London, UK

Oct / 2008 **European School of Antennas** (1 week course)

Course title: *Time Domain Techniques for Antenna Analysis*

Université de Nice, Sophia Antipolis, Nice, France

**PUBLICATIONS**

**Book Chapters:**

1. P.-Y. Chen, F. Monticone, **C. Argyropoulos**, and A. Alù, “Plasmonic Optical Nanoantennas”, Chapter 4 in “Modern Plasmonics”, Elsevier, Amsterdam, 2014.
2. Y. Hao, **C. Argyropoulos**, and W. X. Tang, “FDTD Modelling of Transformation Electromagnetics Based Devices”, Chapter 13 in “Computational Electromagnetics-Recent Advances and Engineering Applications”, Springer, New York, 2014.
3. P.-Y. Chen, **C. Argyropoulos**, and A. Alù, “Optical Antennas and Enhanced Nonlinear Effects”, Chapter 13, “Rectenna Solar Cells”, Springer, New York, 2013.
4. **C. Argyropoulos**, E. Kallos, Y. Zhao, and Y. Hao, “FDTD Modeling of Electromagnetic Cloaks”, Chapter 7 in “Metamaterials Theory, Design, and Applications”, Springer, New York, 2009.
5. **C. Argyropoulos**, Y. Hao and R. Mittra, Chapter 10 in “FDTD Modeling of Metamaterials, Theory and Applications”, Artech House, Boston, 2008.

**Journal Publications:**

1. Shobhit K. Patel and**C. Argyropoulos**, “Plasmonic nanoantennas: enhancing light-matter interactions at the nanoscale”, *EPJ Appl. Metamat.*,vol. 2, No. 4, 2015. (**invited review paper**)
2. Z. Huang, A. Baron, S. Larouche, **C. Argyropoulos**, and D. R. Smith, “Optical bistability with film-coupled metasurfaces”, *Optics Letters*, vol. 40, pp. 5638-5641, 2015.
3. **C. Argyropoulos**, “Enhanced transmission modulation based on dielectric metasurfaces loaded with graphene”, *Optics Express*,vol. 23, No. 18, pp. 23787-23797, 2015.
4. P.-Y. Chen, **C. Argyropoulos**, G. D’Aguanno, and A. Alù, “Enhanced Second-Harmonic Generation by Metasurface Nanomixer and Nanocavity”, *ACS Photonics*, vol. 2(8), pp. 1000–1006, 2015.
5. N. M. Estakhri, **C. Argyropoulos**, and A. Alù, “Graded metascreens to enable a new degree of nanoscale light management”, *Philosophical Transactions Royal Society A, Special Issue on Spatial Transformations: from Fundamentals to Applications*, vol. 373, pp. 20140351, 2015. (**invited paper**)
6. T. B. Hoang, G. M. Akselrod, **C. Argyropoulos**, J. Huang, D. R. Smith, M. H. Mikkelsen, “Ultrafast spontaneous emission source using plasmonic nanoantennas”, *Nature Communications*, vol. 6, pp. 7788, 2015. (press coverage by **IEEE Spectrum**, **Phys.org, Duke University press release, Nanowerk, Gizmodo, The Register** etc.)
7. [G. M. Akselrod](http://pubs.acs.org/action/doSearch?ContribStored=Akselrod%2C+G+M), [T. Ming](http://pubs.acs.org/action/doSearch?ContribStored=Ming%2C+T), [**C. Argyropoulos**](http://pubs.acs.org/action/doSearch?ContribStored=Argyropoulos%2C+C), [T. B. Hoang](http://pubs.acs.org/action/doSearch?ContribStored=Hoang%2C+T+B), [Y. Lin](http://pubs.acs.org/action/doSearch?ContribStored=Lin%2C+Y), [X. Ling](http://pubs.acs.org/action/doSearch?ContribStored=Ling%2C+X), [D. R. Smith](http://pubs.acs.org/action/doSearch?ContribStored=Smith%2C+D+R), [J. Kong](http://pubs.acs.org/action/doSearch?ContribStored=Kong%2C+J), and [M. H. Mikkelsen](http://pubs.acs.org/action/doSearch?ContribStored=Mikkelsen%2C+M+H), “Leveraging Nanocavity Harmonics for Control of Optical Processes in 2D Semiconductors”, *Nano Lett.*, vol. 15 (5), pp. 3578–3584, 2015.
8. G. M. Akselrod, **C. Argyropoulos**, T. B. Hoang, C. Ciracì, C. Fang, J. Huang, D. R. Smith, M. H. Mikkelsen, “Probing the mechanisms of large Purcell enhancement in plasmonic nanoantennas”, *Nature Photonics*, vol. 8, pp. 835–840, 2014. (press coverage by **Phys.org, Duke University press release, Nanowerk, Optics and Photonics News** etc.)
9. C. Ciracì, A. Rose, **C. Argyropoulos**, and D. R. Smith, “Numerical Studies of the Modification of Photodynamic Processes by Film-Coupled Plasmonic Nanoparticles”, *J. Opt. Soc. Am. B.*, vol. 31, pp. 2601-2607, 2014.
10. **C. Argyropoulos**, P.-Y. Chen, G. D’Aguanno, and A. Alù, “Temporal soliton excitation in an ε-near-zero plasmonic metamaterial”, *Optics Letters*, vol. 39, pp. 5566-5569, 2014.
11. J. Lee,M. Tymchenko, **C. Argyropoulos**, P.-Y. Chen, F. Lu, F. Demmerle, G. Boehm, M.-C. Amann, A. Alù, and M. A. Belkin, “Giant nonlinear response from plasmonic metasurfaces coupled to intersubband polaritons”, *Nature*, vol.511,pp.65–69, 2014. (press coverage by **Phys.org, nanowerk**)
12. **C. Argyropoulos**, G. D’Aguanno, and A. Alù, “Giant second harmonic generation efficiency and ideal phase matching with a double -near-zero cross-slit metamaterial”, *Physical Review B,* vol. 89, pp. 235401, 2014.
13. **C. Argyropoulos**, “Electromagnetic Absorbers Based on Metamaterial and Plasmonic Devices”, *Forum for Electromagnetic Research Methods and Application Technologies* *(FERMAT)*, vol. 2, No. 2, 2014. (**invited review paper**)
14. **C. Argyropoulos**, F. Monticone, N. M. Estakhri, and A. Alù, “Tunable Plasmonic and Hyperbolic Metamaterials Based on Enhanced Nonlinear Response”, *International Journal of Antennas and Propagation*, *Special Issue on Reconfigurable Electromagnetics through Metamaterials*, vol. 2014, pp. 532634, 2014. (**invited paper**)
15. **C. Argyropoulos**, C. Ciracì, and D. R. Smith, “Enhanced optical bistability with film-coupled plasmonic nanocubes”, *Applied Physics Letters,* vol. 104, pp. 063108, 2014.
16. P.-Y. Chen, **C. Argyropoulos**, and A. Alù, “Broadening the cloaking bandwidth with Non-Foster Metasurfaces”, *Physical Review Letters,* vol. 111, pp. 233001, 2013. (selected as **Editors' Suggestion**, press coverage by **BBC News**, **Phys.org,** **Time Magazine**, **Gizmag, Mashable**).
17. **C. Argyropoulos**, F. Monticone, G. D’Aguanno, and A. Alù, “Plasmonic nanoparticles and metasurfaces to realize Fano spectra at ultraviolet wavelengths”, *Applied Physics Letters,* vol. 103, pp. 143113, 2013.
18. **C. Argyropoulos**, N. M. Estakhri, F. Monticone, and A. Alù, “Negative refraction, gain and nonlinear effects in hyperbolic metamaterials”, *Optics Express*, *Focus Issue on Hyperbolic Metamaterials: Fundamentals and Applications*,vol. 21, No. 12, pp. 15037-15047, 2013. (**invited paper**)
19. **C. Argyropoulos**, K. Q. Le, N. Mattiucci, G. D’Aguanno, and A. Alù, “Broadband Absorbers and Selective Emitters based on Plasmonic Brewster Metasurfaces”, *Physical Review B,* vol. 87, pp. 205112, 2013.
20. P.-Y. Chen, **C. Argyropoulos**, and A. Alù, “THz and Infrared Antenna Phase Shifters Using Integrally-Gated Graphene Transmission-Lines”, *IEEE Trans. On Antennas and Propagation*, vol. 61, No. 4, pp. 1528-1537, 2013.
21. F. Monticone, **C. Argyropoulos**, and A. Alù, “Multi-Layered Plasmonic Covers for Comb-Like Scattering Response and Optical Tagging”, *Physical Review Letters,* vol. 110, pp. 113901, 2013 (selected as **Editors' Suggestion**)*.*
22. P.-Y. Chen, **C. Argyropoulos**, and A. Alù, “Enhanced Nonlinearities Using Plasmonic Nanoantennas”, *Nanophotonics,* vol. 1, no. 3-4, pp. 221-233, 2012(**invited review paper**, selected for **Issue Cover**).
23. F. Monticone, **C. Argyropoulos**, and A. Alù, “Layered plasmonic cloaks to tailor the optical scattering at the nanoscale”, *Nature Scientific Reports*, vol. 2, No. 912, 2012*.*
24. K. Q. Le, **C. Argyropoulos**, N. Mattiucci, G. D’Aguanno, M. J. Bloemer, and A. Alù “Broadband Brewster Transmission through 2D Metallic Gratings”, *Journal of Applied Physics*, vol. 112, pp. 094317, 2012*.*
25. **C. Argyropoulos**, P. Y. Chen, and A. Alù, “Enhanced Nonlinear Effects in Metamaterials and Plasmonics,” *Advanced Electromagnetics*, vol. 1, No. 1, pp. 46-51, 2012. (**invited paper**)
26. K. Q. Le, **C. Argyropoulos**, and A. Alù, “Plasmonic Brewster transmission in photonic gratings and crystals”, *Proc. SPIE* 8423, 842313, 2012. (**invited paper**)
27. **C. Argyropoulos**, P.-Y. Chen, F. Monticone, G. D’Aguanno, and A. Alù, “Nonlinear plasmonic cloaks to realize giant all-optical scattering switching”, *Physical Review Letters,* vol. 108, pp. 263905, 2012*.*
28. G. D’Aguanno, N. Mattiucci, A. Alù, **C. Argyropoulos**, J.V. Foreman, and M.J. Bloemer, “Taming the thermal emissivity of metals: a metamaterial approach”, *Applied Physics Letters,* vol. 100, pp. 201109, 2012.
29. N. Mattiucci, G. D’Aguanno, A. Alù, **C. Argyropoulos**, J.V. Foreman, and M.J. Bloemer, “Thermal emission from a metamaterial wire medium slab”, *Optics Express*, vol. 20, No. 9, pp. 9784-9789, 2012.
30. **C. Argyropoulos,** and A. Alù, "Enhanced nonlinear effects in metamaterials and plasmonic materials", *Proc. SPIE* 8269, 82690K, 2012. (**invited paper**)
31. **C. Argyropoulos**, G. D’Aguanno, N. Mattiucci, N. Azobtek, M. J. Bloemer, and A. Alù, “Matching and Funneling Light at the Plasmonic Brewster Angle”, *Physical Review B,* vol. 85, pp. 024304, 2012.
32. **C. Argyropoulos**, P.-Y. Chen, G. D’Aguanno, N. Engheta, and A. Alù, “Boosting Optical Nonlinearities in ε-Near-Zero Plasmonic Channels”, *Physical Review B,* vol. 85, pp. 045129, 2012. (Also featured in the **Virtual Journal of Nanoscale Science and Technology**, Vol. 25, Issue 7, 2012)
33. D. Bao, K. Z. Rajab, Y. Hao, E. Kallos, W. Tang, **C. Argyropoulos**, Y. Piao, and S. Yang, “All-dielectric invisibility cloak made of BaTiO3-loaded polyurethane foam”, *New Journal of Physics*, vol. 13, pp. 103023, 2011.
34. **C. Argyropoulos**, E. Kallos, and Y. Hao, “Study of an optical nanolens with the parallel FDTD technique”, *Radio Science*, vol. 46, RS0E06, 2011. (**invited paper**)
35. E. Kallos, **C. Argyropoulos**, Y. Hao, and A. Alù, “Comparison of frequency responses of cloaking devices under non-monochromatic illumination”, *Physical Review B*, vol. 84, pp. 045102, 2011.
36. **C. Argyropoulos**, E. Kallos, and Y. Hao, “Bandwidth evaluation of dispersive transformation electromagnetics based devices,” *Appl. Phys. A,* vol. 103, no. 3, 715-719, 2010*.* (**invited paper**)
37. W. Tang, **C. Argyropoulos**, E. Kallos, W. Song, and Y. Hao, “Discrete Coordinate Transformation for Designing All-dielectric Flat Antennas,’’ *IEEE Trans. On Antennas and Propagation*, vol. 58, No. 12, pp. 3795-3804, 2010*.*
38. **C. Argyropoulos,** E. Kallos, and Y. Hao, “FDTD analysis of the optical black hole,” *J. Opt. Soc. Am. B.,* vol. 27, no. 10, pp. 2020-2025, 2010 (selected for **Spotlight on Optics**).
39. D. Bao, E. Kallos, W. Tang, **C. Argyropoulos**, Y. Hao, and T. J. Cui, “A Broadband Simplified Free Space Cloak Realized by Non-Magnetic Dielectric Cylinders,” *Frontiers of Physics in China (Springer)*, vol. 5, No. 3, pp. 319-323, 2010.
40. **C. Argyropoulos,** E. Kallos, and Y. Hao, “Dispersive cylindrical cloaks under nonmonochromatic illumination”, *Physical Review E*, vol. 81, pp. 016611, 2010.
41. E. Kallos, **C. Argyropoulos**, and Y. Hao, “Ground-plane quasicloaking for free space”, *Physical Review A*, vol. 79, pp. 063825, 2009.
42. **C. Argyropoulos**,E. Kallos, Y. Zhao and Y. Hao, “Manipulating the loss in electromagnetic cloaks for perfect wave absorption,” *Optics Express*, vol. 17, No. 10, pp. 8467-8475, 2009.
43. **C. Argyropoulos**, Y. Zhao and Y. Hao, “A Radially-Dependent Dispersive Finite-Difference Time-Domain Method for the Evaluation of Electromagnetic Cloaks,” *IEEE Trans. On Antennas and Propagation*, vol. 57, No. 5, pp. 1432-1441, 2009*.*
44. Y. Zhao, **C. Argyropoulos,** and Y. Hao, “Full-wave finite-difference time-domain simulation of electromagnetic cloaking structures,” *Optics Express*, vol. 16, No. 9, pp. 6717-6730, 2008.

**Conference Presentations:**

1. Jay M. Taylor, **C. Argyropoulos**, Stephen A. Morin, “Inorganic Thin-Film Coatings of Elastomeric Polymers for Materials with Mechanically Switchable Optical Properties,” Materials Research Society (MRS) Spring Meeting, Phoenix, AZ, USA, March 28 - April 1, 2016.
2. **C. Argyropoulos**, “Hybrid graphene/dielectric metasurfaces for enhanced transmission modulation,” *APS March Meeting 2016*,Baltimore, MD, USA, March 14-18, 2016.
3. **C. Argyropoulos**, ‘‘Using COMSOL to simulate light-matter interactions at the nanoscale,” *COMSOL Multiphysics Workshop in Lincoln*, User talk, Lincoln, NE, USA, October 21, 2015. (**invited talk**)
4. **C. Argyropoulos**, ‘‘Enhanced Optical Nonlinear Effects with Plasmonic Nanoparticles and Epsilon-Near-Zero Metamaterial Gratings,” *OSA Nonlinear Metamaterials Incubator Meeting*, Washington, DC, USA, September 30 - October 2, 2015. (**invited presentation**)
5. **C. Argyropoulos**, ‘‘Nanoantennas and metasurfaces to enhance light-matter interactions at nanoscale,” *NSF, EPSCoR, Symposium on Ultrafast Dynamics of Atoms, Molecules and Nanostructures,* Lincoln, NE, USA, September 29, 2015.
6. **C. Argyropoulos**, “Tunable Transmission with Hybrid Graphene/All-Dielectric Metamaterials,” *META 2015, the 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics*,New York, NY, USA, August 4-7, 2015. **(invited talk)**
7. G. M. Akselrod, **C. Argyropoulos**, T. B. Hoang, C. Ciracì, C. Fang, J. Huang, D. R. Smith, and M. H. Mikkelsen, “Large Purcell Enhancement Using Plasmonic Nanopatch Antennas,” *META 2015, the 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics*,New York, NY, USA, August 4-7, 2015. **(invited talk)**
8. Z. Huang, A. Baron, S. Larouche, **C. Argyropoulos**, and D. R. Smith, “Optical Bistability of Film-Coupled Nanocubes,” *Metamaterials Science and Technology Workshop*,UCSD, San Diego, CA, USA, July 20-22, 2015.
9. **C. Argyropoulos**, G. M. Akselrod, C. Ciracì, T. B. Hoang, C. Fang, J. Huang, D. R. Smith, and M. H. Mikkelsen, “Directional Plasmonic Nanoantennas to enhance the Purcell Effect,” *USNC/URSI National Radio Science Meeting,* Vancouver, BC, Canada, July 18-25, 2015.
10. F. Monticone, **C. Argyropoulos**, and A. Alù, “MIMO Optical Wireless at the Nanoscale,” *USNC/URSI National Radio Science Meeting,* Vancouver, BC, Canada, July 18-25, 2015.
11. **C. Argyropoulos**, “Nanoantennas and metasurfaces to enhance light-matter interactions at nanoscale,” [Extra Colloquium](http://www.amolf.nl/events/single-view/?tx_cal_controller%5Bview%5D=event&tx_cal_controller%5Btype%5D=tx_cal_phpicalendar&tx_cal_controller%5Buid%5D=1191&tx_cal_controller%5Blastview%5D=view-list%7Cpage_id-4&tx_cal_controller%5Byear%5D=2015&tx_cal_controller%5Bmonth%5D=05&tx_cal_controller%5Bday%5D=29&cHash=9a134e1a9944b0097706c911fdef5fa9), FOM Institute AMOLF, Amsterdam, Netherlands, May 29, 2015. (**invited seminar talk)**
12. G. M. Akselrod, **C. Argyropoulos**, T. B. Hoang, C. Ciracì, C. Fang, J. Huang, D. R. Smith, and M. H. Mikkelsen, “Plasmonic Nanopatch Antennas for Large Purcell Enhancement”, *CLEO 2015*, San Jose, CA, USA, May 10-15, 2015.
13. **C. Argyropoulos**, “Tunable Absorption Based on Plasmonic Nanostructures Loaded with Graphene,” *ACES 2015*, *31st International Review of Progress in Applied Computational Electromagnetics*, March 22-26, 2015, Williamsburg, VA, USA. **(invited talk)**
14. **C. Argyropoulos**, G. M. Akselrod, C. Ciracì, T. B. Hoang, M. H. Mikkelsen, and D. R. Smith, “Accurate modeling of photodynamic processes enhanced by plasmonic nanoantennas,” *APS March Meeting 2015*,San Antonio, TX, USA, March 2-6, 2015.
15. G. M. Akselrod, **C. Argyropoulos**, T. B. Hoang, C. Ciracì, C. Fang, J. Huang, D. R. Smith, and M. H. Mikkelsen, “Purcell factors exceeding 1,000 in directional and efficient plasmonic nanoantennas,” *APS March Meeting 2015*,San Antonio, TX, USA, March 2-6, 2015.
16. T. B. Hoang, G. M. Akselrod, **C. Argyropoulos**, J. Huang, D. R. Smith, and M. H. Mikkelsen, “Controlling spontaneous emission rates of quantum dots with plasmonic nanopatch antennas,” *APS March Meeting 2015*,San Antonio, TX, USA, March 2-6, 2015.
17. T. B. Hoang, G. M. Akselrod, **C. Argyropoulos**, C. Ciracì , D. R. Smith, and M. H. Mikkelsen, “Control of radiative processes of molecules and quantum dots using plasmonic structures,” *SPIE Photonics West*, San Francisco, CA, USA, February 7-12, 2015.
18. G. M. Akselrod, **C. Argyropoulos**, T. B. Hoang, C. Ciracì, C. Fang, J. Huang, D. R. Smith, and M. H. Mikkelsen,, “Strongly Enhanced Light-Matter Interactions Using Colloidally Synthesized Plasmonic Nanoantennas,” Materials Research Society (MRS) Fall Meeting, Boston, MA, USA, December 1-5, 2014.
19. **C. Argyropoulos**, “Μετα-υλικά και νανοφωτονικές διατάξεις: νέες πλατφόρμες για τον αποτελεσματικό έλεγχο της ηλεκτρομαγνητικής ακτινοβολίας,” (in Greek) Aristotle University of Thessaloniki, Thessaloniki, Greece, November 24, 2014. (**invited seminar talk)**
20. **C. Argyropoulos**, “Μετα-υλικά και νανοφωτονικές διατάξεις: νέες πλατφόρμες για τον αποτελεσματικό έλεγχο της ηλεκτρομαγνητικής ακτινοβολίας,” (in Greek) National Technical University of Athens, Athens, Greece, November 21, 2014. (**invited seminar talk)**
21. **C. Argyropoulos**, “Enhanced Purcell and Nonlinear Optical Processes with Plasmonic Nanoantennas,” Lehrstuhlseminar, Ludwig Maximilian University, Munich, Germany, November 19, 2014. (**invited seminar talk)**
22. **C. Argyropoulos**, “Plasmonic nanoantennas and metasurfaces for enhanced light matter interactions at the nanoscale,” Antennas Guest Speaker Seminar, Queen Mary, University of London, London, UK, November 17, 2014. (**invited seminar talk)**
23. **C. Argyropoulos**, “Metamaterials, metasurfaces and plasmonic devices to efficiently control the electromagnetic waves,” EECS Fall 2014 Seminar Series & IEEE AP/MTT Technical meeting, University of Central Florida, Orlando, FL, USA, October 28, 2014. (**invited seminar talk)**
24. **C. Argyropoulos**, “Enhanced Purcell Factor and Optical Nonlinear Effects Using Plasmonic Patch Nanoantennas,” IEEE AP-S/MTT-S Central Texas Chapter meeting, University of Texas at Austin, Austin, TX, USA, October 10, 2014. (**invited seminar talk)**
25. J. Lee, **C. Argyropoulos**, P. Y. Chen, M. Tymchenko, F. Lu, F. Demmerle, G. Boehm, M. C. Amann, A. Alù, and M. A. Belkin, “Giant Nonlinear Response from Plasmonic Metasurfaces Coupled to Intersubband Polaritons,” [*SPIE Optics and Photonics*](http://spie.org/optics-photonics.xml)*,* San Diego, CA, August 17-21, 2014. (**invited talk**)
26. **C. Argyropoulos**, C. Ciracì, and D. R. Smith, “Enhanced tunability and optical nonlinearity with film-coupled plasmonic nanoantennas,” *Gordon Research Conference on Plasmonics: Manipulating Light Matter Interaction at the Nanoscale*, Sunday River Resort, Newry, ME, USA, July 6-11, 2014.
27. G. M. Akselrod, **C. Argyropoulos**, T. B. Hoang, C. Ciracì , C. Fang, J. Huang, D. R. Smith, and M. H. Mikkelsen, “Probing and controlling large Purcell enhancement in plasmonic nanoantennas,” *Gordon Research Conference on Plasmonics: Manipulating Light Matter Interaction at the Nanoscale*, Sunday River Resort, Newry, ME, USA, July 6-11, 2014.
28. J. Lee, **C. Argyropoulos**, P.-Y. Chen, M. Tymchenko,F. Lu, F. Demmerle, G. Boehm, M.-C. Amann, A. Alù, and M. A. Belkin, “Giant nonlinear response from plasmonic metasurfaces coupled to intersubband transitions”, *CLEO 2014*, San Jose, CA, USA, June 8-13, 2014.
29. **C. Argyropoulos**, C. Ciracì, and D. R. Smith, “Enhanced Nonlinear Optical Effects with Extremely Coupled Plasmonic Systems,” *META 2014, the 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics*,Singapore, May 20-23, 2014.
30. **C. Argyropoulos**, “Tunable and nonlinear film-coupled plasmonic nanoantennas,” *Materials Meet Metamaterials*, AFOSR Workshop, UCSD, La Jolla, CA, April 24, 2014.
31. C. Ciracì, **C. Argyropoulos**, and D. R. Smith, “Nonlocal optical response dramatically enhances third-order nonlinear electrodynamics of plasmonic nanostructures,” *Materials Research Society Spring Meeting 2014*, San Francisco, CA, USA, April 21-25, 2014. (**invited talk**)
32. **C. Argyropoulos**, “Metamaterial and plasmonic devices to efficiently control the electromagnetic radiation,” University of Nebraska-Lincoln, Lincoln, NE, USA, March 14, 2014. (**invited seminar**)
33. **C. Argyropoulos**, C. Ciracì, and D. R. Smith, “Enhanced nonlinear optical processes with film-coupled plasmonic nanoantennas,” *APS March Meeting 2014*,Denver, CO, USA, March 3-7, 2014. (**post-deadline abstract**)
34. **C. Argyropoulos**, G. D’Aguanno, and A. Alù, “Nonlinear Optical Effects in Epsilon-Near-Zero Plasmonic Waveguides and Metamaterials,” *Frontiers in Optics 2013*, Orlando, FL, USA, October 6-10, 2013.
35. J. Lee, P.-Y. Chen, **C. Argyropoulos,** A. Alù**,** and M. A. Belkin, “Metamaterials based on intersubband polaritons,” 7*th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, Bordeaux, France, September 16-21, 2013.
36. **C. Argyropoulos**, G. D’Aguanno, and A. Alù, “Temporal Soliton Propagation and Second Harmonic Generation in Epsilon Near-Zero Plasmonic Waveguides,” *USNC/URSI National Radio Science Meeting,* Lake Buena Vista, FL, USA, July 7-12, 2013.
37. **C. Argyropoulos**, and A. Alù, “Nonlinear and Active Hyperbolic Metamaterials,” *USNC/URSI National Radio Science Meeting,* Lake Buena Vista, FL, USA, July 7-12, 2013.
38. **C. Argyropoulos**, “Nonlinear nanophotonic devices and ultrabroadband light absorbers,” University of York, York, UK, April 2, 2013. (**invited talk**)
39. **C. Argyropoulos**, “Metamaterial devices to efficiently tailor electromagnetic waves,” Center for Metamaterials and Integrated Plasmonics,” Duke University, Durham, NC, USA, March 26, 2013. (**invited presentation**)
40. **C. Argyropoulos**, “Nonlinear plasmonic devices and ultrabroadband light concentrators, absorbers,” Heriot-Watt University, Edinburgh, UK, February 8, 2013. (**invited seminar**)
41. **C. Argyropoulos**, and A. Alù, “Ultra-Broadband Absorption in Metallic Gratings at the ‘Plasmonic Brewster Angle’,” *USNC/URSI National Radio Science Meeting,* Boulder, CO, USA, January 9-12, 2013.
42. A. Alù, **C. Argyropoulos**, P. Y. Chen, F. Monticone, N. M. Estakhri, Y. Zhao “Nanoantenna Arrays to Tailor Absorption, Polarization and Nonlinear Effects,” *NANOMETA 2013,* Seefeld, Austria, January 3-6, 2013. (**invited talk**)
43. **C. Argyropoulos**, G. D’Aguanno, N. Mattiucci, M. J. Bloemer, and A. Alù, “Ultra-Broadband Matching and Funneling of Light at the Plasmonic Brewster Angle,” *Frontiers in Optics 2012*, Rochester, NY, USA, October 14-18, 2012.
44. G. D’Aguanno, N. Mattiucci, A. Alù, **C. Argyropoulos**, J. V. Foreman, and M. J. Bloemer, “Metamaterials for Thermal Emission,” *Frontiers in Optics 2012*, Rochester, NY, USA, October 14-18, 2012.
45. **C. Argyropoulos**, and A. Alù, “Broadband Selective Thermal Emitters and Absorbers Based on Brewster Plasmonic Funneling,” 6*th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, St. Petersburg, Russia, September 17-22, 2012.
46. **C. Argyropoulos**, and A. Alù, “Overcoming the Bandwidth Limitations of Optical Nanoparticles and Metamaterials Using Nonlinearities,” *USNC/URSI National Radio Science Meeting,* Chicago, IL, USA, July 8-14, 2012.
47. A. Alù, **C. Argyropoulos**, G. D’Aguanno, N. Mattiucci, N. Akozbek, and M. J. Bloemer, “Focusing of Ultra-Broadband Radiation in Subwavelength Slits at the ‘Plasmonic Brewster Angle,” *USNC/URSI National Radio Science Meeting*, Chicago, IL, USA, July 8-14, 2012.
48. **C. Argyropoulos**, and A. Alù, “Enhanced Nonlinearities and Improved Bandwidth Performance for Plasmonic Nanoparticles and Metamaterial Gratings,” *Gordon Research Conference on Plasmonics: Light Matter Interaction at the Nanoscale*, Colby College, ME, USA, June 10-15, 2012.
49. A. Alù, F. Monticone, and **C. Argyropoulos**, “Multilayered Plasmonic Cloaks to Engineer Scattering, Absorption and Emission Spectra of Nanoparticles for Sensing and Energy Applications,” *European Materials Research Society Spring Meeting 2012*, Strasbourg, France, May 14-18, 2012. (**invited talk**)
50. **C. Argyropoulos**, F. Monticone, and A. Alù, ‘‘Plasmonic Composite Nanoparticles to Engineer the Optical Scattering Spectra,’’ *CLEO 2012*, San Jose, CA, USA, May 6-11, 2012.
51. A. Alù, **C. Argyropoulos**, and P. Y. Chen, “Enhanced Nonlinear Effects in Metamaterials and Plasmonics,” *META 2012*, Paris, France, April 19-22, 2012. (**invited talk**)
52. A. Alù, **C. Argyropoulos**, and K. Q. Le, “Plasmonic Brewster Angle for Broadband Absorption, Enhanced Nonlinearities and Directional Emitters,” *SPIE Photonics Europe 2012*, Brussels, Belgium, April 16-20, 2012. (**invited talk**)
53. **C. Argyropoulos**, and A. Alù, “Enhanced Nonlinear Effects in Metamaterials and Plasmonic Materials,” *SPIE Photonics West*, San Francisco, CA, USA, January 21-26, 2012. (**invited talk**)
54. **C. Argyropoulos**, and A. Alù, “Plasmonic Metamaterials for Energy Squeezing and Enhanced Optical Response,” *ONR MURI on Optical Metamaterials,* 1st Annual Review Meeting*,* Philadelphia, PA, USA, October 27-28, 2011.
55. **C. Argyropoulos**, A. Alù, G. D’Aguanno, N. Mattiucci, and M. J. Bloemer, “Brewster angle for plasmonic gratings,” *5th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, Barcelona, Spain, October 10-15, 2011.
56. D. Bao, W. Tang, **C. Argyropoulos**, E. Kallos and Y. Hao, “A broadband carpet cloak realized by dielectric cylinders,” *5th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, Barcelona, Spain, October 10-15, 2011.
57. W. Tang, **C. Argyropoulos**, E. Kallos, and Y. Hao, “Investigation of Broadband Flat Antennas Using Transformation Electromagnetics,” *PIERS 2011*, September 12-16, 2011, Suzhou, China.
58. D. Bao, W. Tang, **C. Argyropoulos**, E. Kallos and Y. Hao, “Experimental Verification of Carpet Cloak Realized with Dielectric Cylinders,” *IEEE Antennas and Propagation Society International Symposium*, July 3-8, 2011, Spokane, Washington, USA.
59. A. Alù, P. Y. Chen, **C. Argyropoulos**, “Metamaterial Cloaking Using Passive Metamaterials and Metasurfaces,” *Applied Inverse Problems Conference, Minisymposium on Cloaking*, May 23-27, 2011, College Station, TX, USA. (**invited talk**)
60. **C. Argyropoulos**, A. Alù, G. D’Aguanno, N. Mattiucci, and M. J. Bloemer, “Plasmonic Brewster Angle: Broadband Extraordinary Transmission Through Optical Gratings,” *Conference on Lasers and Electro-Optics (CLEO Europe 2011)*, May 22-26, 2011, Munich, Germany.
61. **C. Argyropoulos**, and Y. Hao, “PARALLEL FDTD MODELING OF THE SPHERICAL OPTICAL BLACK HOLE,” *CEM 2011*, *Eighth International Conference on Computation in Electromagnetics*, April 11-14, 2011, Wroclaw, Poland.
62. **C. Argyropoulos**, E. Kallos, and Y. Hao, “Study of the Optical Black Hole with the FDTD Method,” *ACES 2011*, *27th International Review of Progress in Applied Computational Electromagnetics*, March 27-31, 2011, Williamsburg, Virginia, USA.
63. **C. Argyropoulos**, E. Kallos, A. Rahman, and Y. Hao, “Study of an Optical Metallic Nanolens with a Parallel FDTD Technique,” *EMTS 2010*, *International Symposium on Electromagnetic Theory*, August 16-19, 2010, Berlin, Germany.
64. W. Tang, **C. Argyropoulos**, E. Kallos, D. Bao, W. Song, and Y. Hao, “Flat devices design for antenna systems using coordinate transformation,” *IEEE International Symposium on Antennas and Propagation*, July 11-17, 2010, Toronto, Canada.
65. E. Kallos, **C. Argyropoulos**, Y. Hao and, A. Alù, “Frequency Response of Plasmonic Cloaking Devices under Non-Monochromatic Illumination,” *CNC/USNC/URSI Radio Science Meeting,* July 11-17, 2010, Toronto, Canada.
66. **C. Argyropoulos**, E. Kallos, and Y. Hao, “FDTD Modelling of Transformation Electromagnetic Based Devices,’’ *Days on Diffraction 2010,* June 08-11, 2010, Saint-Petersburg, Russia. (**invited talk**)
67. **C. Argyropoulos**, A. Rahman, and Y. Hao, “Accurate and efficient FDTD modeling of plasmonic structures,” T*heo Murphy International Scientific Meeting on Metallic Metamaterials and Plasmonics*, June 2-3, 2010, The Kavli Royal Society International Centre, Buckinghamshire, UK.
68. **C. Argyropoulos**, E. Kallos, A. Rahman, and Y. Hao, “Parallel FDTD Study of Plasmonic Nanolens,” *Plasmonics UK, Institute of Physics*, May 10, 2010, London, UK.
69. D. Bao, E. Kallos, **C. Argyropoulos**, and Y. Hao, “A Broadband Simplified Cloak Realized by Non-Magnetic Dielectric Cylinders,” *EuCAP 2010,* April 12-16, 2010, Barcelona, Spain.
70. W. Tang, **C. Argyropoulos**, E. Kallos, and Y. Hao, “Discrete Transformation Electromagnetics and Its Applications in Antenna Design,” *iWAT 2010*, March 1-3, 2010, Lisbon, Portugal.
71. **C. Argyropoulos**, E. Kallos, and Y. Hao, “Bandwidth of transformation electromagnetic based devices,” *META'10, International Conference on Metamaterials, Photonic crystals and Plasmonics*, Cairo, Egypt, February 22-25, 2010.
72. D. Bao, **C. Argyropoulos**, E. Kallos, and Y. Hao, “Properties and Applications of Periodic Dielectric Particles as Tunable-Index Materials,” *Loughborough Antennas and Propagation Conference 2009*, 16-17 November 2009, Loughborough, UK.
73. E. Kallos, **C. Argyropoulos**, and Y. Hao, “Simplified Directional Ground-Plane Cloaks,” *International Conference on Electromagnetics in Advanced Applications*, September 14-18, 2009, Torino, Italy.
74. **C. Argyropoulos**, ‘‘CST Modelling of the Ground Cloak,” *CST Workshop at Metamaterials 2009*, User talk, London, UK, September 1-4, 2009. (**invited talk**)
75. Y. Hao, E. Kallos, and **C. Argyropoulos**, “Dispersive and Bandwidth Effects using Non-monochromatic Pulses for Ground-Plane Quasi-Cloaks,” *3rd International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, London, UK, September 1-4, 2009. (**invited talk**)
76. **C. Argyropoulos**, E. Kallos, and Y. Hao, “Characterisation of Electromagnetic Cylindrical Cloaks,” *3rd International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, London, UK, September 1-4, 2009.
77. E. Kallos, W. Song, **C. Argyropoulos**, and Y. Hao, “Finite-Difference Time-Domain Simulations of Approximate Ground-Plane Cloaks,” *IEEE Antennas and Propagation Society International Symposium*, June 1-5, 2009, Charleston, South Carolina, USA.
78. **C. Argyropoulos**, E. Kallos, and Y. Hao, “Examining the Limitations of Ideal Cylindrical Cloaks Through Dispersive Finite-Difference Time-Domain Simulations,” *IEEE Antennas and Propagation Society International Symposium*, June 1-5, 2009, Charleston, South Carolina, USA.
79. **C. Argyropoulos**, Y. Zhao, and Y. Hao, “Characterization of Microwave Absorber based on Transformation Electromagnetics,” *iWAT 2009*, March 2-4, 2009, Santa Monica, California, USA.
80. Y. Hao, **C. Argyropoulos**, and Y. Zhao, “A Radial-Dependent Dispersive FDTD Method for Modeling of Electromagnetic Cloaks ,” *2nd International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, Pamplona, Spain , September 21-26, 2008. (**invited talk**)
81. **C. Argyropoulos**, Y. Zhao, and Y. Hao, “A Dispersive Finite-Difference Time-Domain Method for the Evaluation of Electromagnetic Cloaks,” *2nd International Congress on Advanced Electromagnetic Materials in Microwaves and Optics*, Pamplona, Spain , September 21-26, 2008.
82. Y. Zhao, **C. Argyropoulos**, and Y. Hao, “Dispersive Finite-Difference Time-Domain Simulation of Electromagnetic Cloaking Devices,” *IEEE Antennas and Propagation Society International Symposium*, 5-12 July 2008, San Diego, USA.
83. Y. Zhao, **C. Argyropoulos**, and Y. Hao, “Dispersive Finite-Difference Time-Domain Simulation of Electromagnetic Cloaking Devices,” *Loughborough Antennas and Propagation Conference 2008*, 17-18 March 2008, Loughborough, UK.

**Patents:**

1. Ultra-broadband Absorption in PV Cells Using Plasmonic Patterned Metasurfaces, International Patent, Provisional Application No. P57423WO/MWG.

# TECHNICAL SKILLS

Computer C/C++, Java, Pascal, Visual Basic, Fortran 90, MPI, Shell programming, LaTeX

Programming

Operating Windows XP/Vista/7/8, Linux, Unix

Systems

Scientific COMSOL, CST Microwave Studio, Matlab, Mathematica, AutoCAD, PSpice,

Software Electronics Workbench (Multisim), REMCOM’s XFDTD, Agilent’s Advanced

Design System (ADS), Ansoft’s HFSS, Lumerical FDTD.

**GROUPS/ASSOCIATIONS**

IEEE, IEEE Antennas and Propagation Society, Optical Society of America, American Physical Society, Institute of Physics, SPIE, Member of Technical Chamber of Greece