



دکتر زهرا اطلس باف (Zahra Atlasbaf)

دانشیار مهندسی برق و کامپیوتر

دانشگاه تربیت مدرس

آخرین به روز رسانی : 1402/11/17

آدرس تماس:

دانشکده مهندسی برق و کامپیوتر - ساختمان دانشکده های فنی و مهندسی بلوک 6 - طبقه 9-
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(برای جزئیات بیشتر به رزومه انگلیسی مراجعه شود)

سوابق تحصیلی :

دیپلم ریاضی و فیزیک از تهران

کارشناسی مهندسی برق رشته الکترونیک از دانشگاه تهران

کارشناسی ارشد مهندسی برق رشته مخابرات گرایش میدانها و امواج از دانشگاه تربیت مدرس

(رتبه اول)

دکتری مهندسی برق رشته مخابرات گرایش میدانها و امواج از دانشگاه تربیت مدرس (رتبه اول)

سابقه استخدامی:

• استادیار دانشکده مهندسی برق و کامپیوتر دانشگاه تربیت مدرس 2005 تا 2011

• دانشیار دانشکده مهندسی برق و کامپیوتر دانشگاه تربیت مدرس 2011 تا کنون

دروس ارائه شده دانشگاهی دوره دکترا و ارشد:

- 1- ریاضیات مهندسی پیشرفته
- 2- ریز موج 2
- 3- فرامواد
- 4- طراحی مدارات فرکانس بالا
- 5- روش های عددی در الکترومغناطیس
- 6- مباحث ویژه طراحی مدارات ریز موج و RF در کاربردهای بی سیم
- 7- آنتن های کانفورمال
- 8- آنتن های ارایه فازی
- 9- ریز موج 1
- 10- آنتن 1

جوایز

- 1- دریافت پایه ممتازی ذخیره پژوهشی سال 1402
- 2- دریافت پایه ممتازی ذخیره پژوهشی 1401
- 3- دریافت پایه ممتازی ذخیره پژوهشی 1400
- 4- استاد تلاشگر سال 1400
- 5- دریافت پایه تشویقی
- 6- ارتقاء به عضو ارشدی IEEE در سال 2017
- 7- پژوهشگر برتر ثبت اختراع سال 1392
- 8- قدردانی بخاطر عملکرد مدیر گروه سال 2011
- 9- استاد نمونه دانشگاه در سال 1393

موارد اجرایی

- 1- عضو کمیته فنی کنفرانس MMWATT 2023

- 2- رئیس مجمع الکترومغناطیس و فوتونیک ایران IEEE از سال 2022
- 3- عضو مجمع الکترومغناطیس و فوتونیک ایران IEEE از سال 2020
- 4- عضو کمیته تخصصی ارزیابی دانشگاه از 1393 تا 1395
- 5- معاون آموزشی دانشکده از 1393 تا 1395
- 6- مدیر گروه مخابرات 2007 - 2012
- 7- عضو کمیته ارزیابی دانشگاه از 1393 تا 1395
- 8- دانشیار از سال 2011
- 9- مسئول آزمایشگاه مخابرات ماهواره ای از سال 2010 تا حال
- 10- موسس و مسئول آزمایشگاه فرامواد از 2007 تا حال

لیست ثبت اختراعات:

- 1-K. Hosseini, Z. Atlasbaf, "Analysis and Synthesis of Singly-Curved Microstrip Structures Utilizing Modified Schwarz-Christoffel Transformation", No. 81428, 2014
- 2- Z.Vahidpour, K. Forooraghi, A. Fotowat & Z. Atlasbaf, "Fast Frequency sensing by using Phase-Frequency detector", No. 77943, 2013
- 3- Shamsaee, Z. Atlasbaf, "Design and Implementation of a Dual-band Single Layer Reflectarray Antenna in X and K Bands", No.77044, Sept. 2012
- 4- R.Shamsaee, Z. Atlasbaf, 'Design and Implementation of Broadband Reflectarray Antenna for Radar and Space Satellite Applications', No. 73946, Jan. 2012

تالیفات:

مشارکت در تالیف چهار فصل از کتب منتشر شده به زبان انگلیسی
 چاپ بیش از 100 مقاله ISI به زبان انگلیسی
 ارائه بیش از 60 مقاله در کنفرانس های داخلی و بین المللی
 انتشار بیش از بیست گزارش فنی از نتایج قراردادهای تحقیقاتی

رساله ها و پایان نامه های راهنمایی شده

رساله های دکترا: راهنمایی 7 تز دکتری و مشاوره 2 رساله دکترا
پایان نامه ها: راهنمایی و مشاوره بیش از 40 پایان نامه کارشناسی ارشد

فعالیت‌های علمی

- عضو ارشد انجمن مهندسی برق Member Senior IEEE
- راه اندازی آزمایشگاه فرامواد در دانشگاه تربیت مدرس
- عضو کمیته علمی کنفرانس MMWATT
- عضو کمیته علمی کنفرانس مهندسی برق ایران در چندین سال
- عضو هیات تحریریه مجله فنی و مهندسی مدرس از سال 86 تا 88
- عضو هیئت تحریریه مجله داخلی scientics Iranica از سال 2020 تا حال
- عضو هیئت تحریریه مجله Scientific Reports از سال 2022 تا حال

لیست مقالات از سال 2019:

2023

1. Bahareh Amini, Zahra Atlasbaf, "Design and analysis of high-sensitivity tunable graphene sensors for cancer detection", *Optical and Quantum Electronics* (2023) 55:446, <https://doi.org/10.1007/s11082-023-04679-y>, 2023
2. Mehri Ziaee Bideskan, Zahra Atlasbaf, Andrei V. Lavrinenko, "The Extended Method of Lines for the Characterization of Dielectric Metasurfaces for Ultraviolet Chiral Sensing", *IEEE Transactions on Antennas and Propagation*, <https://doi.org/10.1109/TAP.2023.3320901>, 2023
3. SEYED MAHDI HOSSEINI AND ZAHRA ATLASBAF, "Analysis of tightly-coupled dipole phased array antennas with metasurface superstrate", *Scientific Reports*, <https://doi.org/10.1038/s41598-023-44680-9>, 2023
4. Shima Inanloo, Zahra Atlasbaf, "A CPW-fed fractal monopole antenna with a reduced ground plane in the frequency range of 500 MHz-5.5 GHz", *IET Microwaves, Antennas & Propagation*, <https://doi.org/10.1049/mia2.12418>, 2023

2022

5. Mousa Abdollahvand, Eduardo Martinez-de-Rioja, Keyvan Forooraghi, Zahra Atlasbaf, José Antonio Encinar, Saptarshi Ghosh, Amir Ebrahimi, "Active frequency selective surface with switchable response for satellite communications in X and Ka bands", *International Journal of RF*

- and *Microwave Computer-Aided Engineering*, Vol. 32, No.9, e23255, <https://doi.org/10.1002/mmce.23255>, Vol. 71, No. 12, pp. 9728-9737, 2022
6. Bahareh Amini, Zahra Atlasbaf," Two new broadband and tunable terahertz pyramid patch/disk absorbers based on graphene metasurface", *Photonics and Nanostructures - Fundamentals and Applications*, <https://doi.org/10.1016/j.photonics.2022.101048>, July 2022
 7. Maryam Shadi, Mohammad Reza Tavakol, Zahra Atlasbaf," Inverse design of compact power divider with arbitrary outputs for 5G applications", *Scientific Reports*, <https://doi.org/10.1038/s41598-022-17212-0>, 12:12844, 2022
 8. Maryam Shadi, Zahra Atlasbaf," Randomly overlap subarray feeding network to reduce the number of phase shifter in 28GHz", *PLOS ONE*, <https://doi.org/10.1371/journal.pone.0277404>, December 8, 2022
 9. Shiva Hayati Raad, Zahra Atlasbaf," Dual-Band Reconfigurable Refractive Index Sensing Using All-Graphene Core-Shell Spherical Nanoparticles", *IEEE TRANSACTIONS ON NANOTECHNOLOGY*, VOL. 21, pp.137-142, <https://doi.org/10.1109/TNANO.2022.3152599>, 2022
 10. Shiva Hayati Raad Zahra Atlasbaf," Full Coverage of the Solar Spectrum and Beyond Using All-Manganese Plasmonic Shell Array", *Plasmonics*, Vol. 17, pp. 851–857, <https://doi.org/10.1007/s11468-021-01566-8>, 2022
 11. Shiva Hayati Raad, Zahra Atlasbaf, Alessio Monti, Alessandro Toscano, AND Filiberto Bilotti," On the surface impedance modeling of metasurfaces composed of graphene-coated spherical nanoparticles", *Journal of the Optical Society of America B*, Vol. 39, No. 3, pp. 917-923, <https://doi.org/10.1364/JOSAB.448936>, March 2022
 12. Alessio Monti, Shiva Hayati Raad, Zahra Atlasbaf, Alessandro Toscano, AND Filiberto Bilotti," Maximizing the forward scattering of dielectric nanoantennas through surface impedance coatings", *Optics Letters*, Vol. 47, No. 10 / 15, pp. 2386-2389, <https://doi.org/10.1364/OL.456958>, May 2022
 13. SEYED MAHDI HOSSEINI AND ZAHRA ATLASBAF," Analysis of Connected Arrays and Capacitively Coupled Arrays", *IEEE Access*, pp. 28147-28154, <https://doi.org/10.1109/ACCESS.2022.3156594>, March 2022
 14. Fatemeh Moharrami & Zahra Atlasbaf," Stability study of the modified HIE-FDTD method for modeling graphene as a surface boundary condition", *Waves in Random and Complex Media*, <https://doi.org/10.1080/17455030.2022.2051770>, 2022

2021

15. Shiva Hayati Raad, Zahra Atlasbaf, "Solar cell design using graphene-based hollow nano-pillars" *Scientific Reports*, <https://doi.org/10.1038/s41598-021-95684-2>, 2021
16. Shiva Hayati Raad, Zahra Atlasbaf, "Dual polarized engineering the extinction cross-section of a dielectric wire using graphene-based oligomers", *Scientific Reports*, <https://doi.org/10.1038/s41598-021-87145-7>, 2021
17. AHAD SHEIKHOESLAMI, ZAHRA ATLASBAF," Novel Phase Distributions for Electronically Large Beam-Scanning Reflectarrays", *Scientific Reports*, <https://doi.org/10.1038/s41598-021-00883-6>, Vol. 11, 2021
18. ZAHRA LA SEMIIMENI, ZAHRA ATLASBAF AND NIMA KARBASCHI," Dual-Functional Ultrawideband Antenna with High Fidelity Factor for Body Area Networks and Microwave Imaging

Systems”, *IEEE Access*, <https://doi.org/10.1109/ACCESS.2021.3104511>, VOL. 9, pp. 112930-112941, 2021

19. MEHRI ZIAEE BIDESKAN, KEYVAN FOROORAGHI, ZAHRA ATLASBAF, ALI MEHRDADIAN AND ANDREI V. LAVRINENKO, “Method of lines for the analysis of tunable plasmonic devices composed of graphene-dielectric stack arrays”, *Optics Express*, <https://doi.org/10.1364/OE.433185>, Vol. 29, No. 18 / 30 Aug 2021 / 28787
20. Shiva Hayati Raad, Zahra Atlasbaf “Bi-functional tunable reflector/high-Q absorber design using VO₂ assisted graphene-coated cylinder array”, *Optics Express* 17510, <https://doi.org/10.1364/OE.423129>, Vol. 29, No. 11 / 24 May 2021
21. Mehri Ziaee Bideskan, Keyvan Forooraghi & Zahra Atlasbaf, “Method of lines for analysis of plane wave scattering by periodic arrays of magnetically-biased graphene strips”, *Nature Scientific Reports*, <https://doi.org/10.1038/s41598-021-86882-z>, (2021) 11:7588, 2021
22. F. Moharrami, Z. Atlasbaf,” Stability Analysis of the SIBC Modeling of Graphene in the FDTD Method”, *IEEE Transactions on Antennas and Propagation*, <https://doi.org/10.1109/TAP.2020.3019575>, Vol. 69, Issue 4, pp. 2421 – 2426, April 2021

2020

23. Shiva Hayati Raad, Zahra Atlasbaf, Carlos J. Zapata-Rodríguez,” Broadband absorption using all-graphene grating-coupled nanoparticles on a reflector”, *Scientific Reports*, <https://doi.org/10.1038/s41598-020-76037-x>, 2020
24. Reza Shamsaee Malfajania, Alireza Gholipourb, and Zahra Atlasbaf,” Linear to circular polarization converter single-layer reflectarray antenna”, <https://doi.org/10.1080/02726343.2021.1864580>, *ELECTROMAGNETICS*, 2020
25. Hayati Raad, Shiva, Atlasbaf, Zahra, Carlos J. Zapata-Rodríguez, Mahmoud Shahabadi, Jalil Rashed-Mohassel,” Dyadic Green’s Function for the Electrically Biased Graphene-Based Multilayered Spherical Structures”, *Journal of Quantitative Spectroscopy and Radiative Transfer*, <https://doi.org/10.1016/j.jqsrt.2020.107251>, 256 (2020) 107251, 2020
26. P.Noehian, Zahra Atlasbaf,” A Novel Single Layer Ultra-Wide Band Metamaterial Absorber”, *Progress In Electromagnetics Research Letters*, Vol. 93, pp. 107–114, 2020
27. Z. Lasemiimani, Z. Atlasbaf, “Impact of Fidelity Factor on Breast Cancer Detection”, *IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS*, <https://doi.org/10.1109/LAWP.2020.3011801>, Vol. 19, No. 10, pp. 1649-1653, OCTOBER 2020
28. M. Shadi, Z. Atlasbaf,” Meta-Heuristic Multi-Objective as an Affordable Method for Improving the Grating Lobe in a Wide Scan Phased Array Antenna”, *Progress in Electromagnetics Research C*, vol. 103, pp. 155–166, 2020
29. Hayati Raad, Shiva, Atlasbaf, Zahra,” Broadband continuous/discrete spectrum optical absorber using graphene-wrapped fractal oligomers”, *Optics Express*, <https://doi.org/10.1364/OE.396500>, pp. 18049-18058, vol. 28, no. 12, 2020
30. A. Esmailnia, Z. Atlasbaf,” A Quadrupole Tensor Analysis Approach to Design a Broadband Absorber”, *IEEE Access*, <https://doi.org/10.1109/ACCESS.2020.2984769>, pp. 65513- 65519, 2020
31. S.Tajik, Z. Atlasbaf,” Investigating Extraordinary Optical Transmission and sensing performance through periodic bilayer magneto-plasmonic structure”, *Journal of Applied Physics*, <https://doi.org/10.1063/1.5116180>, vol. 127, no. 2, 2020

32. F. Moharrami, Z. Atlasbaf," Simulation of Graphene-Dielectric multilayer metamaterial by implementing SBC model of graphene in the HIE-FDTD method", *IEEE Transactions on Antennas and Propagation*, <https://doi.org/10.1109/TAP.2019.2948505>, vol. 68, no. 3, pp. 2238- 2245, 2020
33. M. Abdolavand, k. Forooraghi, Jose A. Encinar, Z. Atlasbaf," A 20/30 GHz Reflectarray Backed by FSS for Shared Aperture Ku/Ka-Band Satellite Communication Antennas", *IEEE Antennas and Wireless Propagation Letters*, <https://doi.org/10.1109/LAWP.2020.2972024>, vol. 19, no. 4, pp. 566-571, 2020
34. M. Abdolavand, K. Forooraghi, Jose A. Encinar, Z. Atlasbaf, Eduardo Martinez-de-Rioja," Design and Demonstration of a Tri-band Frequency Selective Surface for Space Applications in X, K and Ka Bands", *Microwave and Optical Technology Letters*, <https://doi.org/10.1002/mop.32225>, pp. 1-10, 2020
35. F. Moharrami: Z. Atlasbaf," Tunable GRIN Lensing Based on Graphene-Dielectric Multilayer Metamaterial", *J. Optics (IOP)*, <https://doi.org/10.1088/2040-8986/ab6425>, 22,025102 (9pp), 2020

2019

36. M. Abdolavand, K. Forooraghi, Jose. A. Encinar, Z. Atlasbaf," Design and fabrication of a novel single-layer Ka-band reflectarray antenna," *International Journal of Microwave and Wireless Technologies*, <https://doi.org/10.1017/S1759078719001582>, vol. 23, pp. 1-10, December 2019
37. Hayati Raad, Shiva, Zapata-Rodriguez, Carlos J, Atlasbaf, Zahra," Multi-frequency near-field enhancement with graphene-coated nano-disk homo-dimers", *Journal of Optics Express*, <https://doi.org/10.1364/OE.27.037012>, vol. 27, no. 25, pp. 37012-37024, December 2019
38. Hayati Raad, Shiva; Atlasbaf, Zahra; Jalil Rashed-Mohassel; Mahmoud Shahabadi,"Scattering from Graphene-Based Multilayered Spherical Structures, *IEEE Transactions on Nanotechnology*, <https://doi.org/10.1109/TNANO.2019.2942972>, vol. 18, pp. 1129-1136, 2019
39. Hayati Raad, Shiva; Zapata-Rodriguez, Carlos J; Atlasbaf, Zahra, "Graphene-coated resonators with frequency-selective super-scattering and invisibility", *Journal of Physics D: Applied Physics*, <https://doi.org/10.1088/1361-6463/ab3fbc>, vol. 5, 495101(7 pages), 2019
40. Hayati Raad, Shiva; Atlasbaf, Zahra," Tunable optical meta-surface using graphene-coated spherical nanoparticles", *AIP Advances* 9, 075224; <https://doi.org/10.1063/1.5101000>, 2019
41. Hayati Raad, Shiva, Atlasbaf, Zahra,"Dyadic analysis of a cylindrical wire consisting of a cover with fully-populated surface conductivity tensor", *Journal of Optics Express* 21214, vol. 27, no. 15, <https://doi.org/10.1364/OE.27.021214>, 2019
42. Hayati Raad, Shiva, Zapata-Rodriguez, Carlos J, Atlasbaf, Zahra," Multi-frequency Super-Scattering from Sub-Wavelength Graphene-Coated Nanotubes", *Journal of the Optical Society of America B*, vol. 36, no. 8, pp. 2292-2298, <https://doi.org/10.1364/JOSAB.99.099999>, 2019
43. Shiva Hayati Raad, Zahra Atlasbaf, Mahmoud Shahabadi, Jalil Rashed-Mohassel," Dyadic Green's Function for the Tensor Surface Conductivity Boundary Condition", <https://doi.org/10.1109/TNANO.2019.2942972>, vol. 55, no. 11, *IEEE Transactions on Magnetics*, 2019
44. Shiva Hayati Raad, Zahra Atlasbaf," Equivalent RLC Ladder Circuit for Light Scattering by Graphene-Coated Nano-Spheres", *IEEE Transactions on Nanotechnology*, vol. 18, pp. 212-219, <https://doi.org/10.1109/TNANO.2019.2893350>, 2019