

## OMAR RAMADAN

### **PERSONNEL DETAILS**

**Department:** Computer Engineering  
**Academic Title:** Prof. Dr.  
**Employment Status:** Full-Time  
**Date of Birth:** 13/06/1969  
**Nationality:** Jordanian  
**Gender:** Male  
**Marital Status:** Married  
**Work address:** Computer Engineering Department  
 Eastern Mediterranean University  
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### **EDUCATION**

**Ph. D. 1999 (CGPA 3.67/4.00)** Electrical and Electronic Engineering, Eastern Mediterranean University, TRNC, TURKEY

**M. Sc 1994 (CGPA 3.71/4.00)** Electrical and Electronic Engineering, Eastern Mediterranean University, TRNC, TURKEY

**B. Sc. 1992 (CGPA 3.62/4.00)** Electrical and Electronic Engineering, Eastern Mediterranean University, TRNC, TURKEY

### **RESEARCH FIELDS**

- Computational Electromagnetic
- Communication
- Parallel Computing
- Information retrieval and search engines

### **EMPLOYMENT**

#### ***Academic Experience***

<b>Rank</b>	<b>Department</b>	<b>Institution</b>	<b>Years</b>
Prof. Dr.	Computer Engineering	Eastern Mediterranean University	9/2009-present
Associate Prof. Dr.	Computer Engineering	Eastern Mediterranean University	9/2003-8/2009
Assistant Prof. Dr.	Computer Engineering	Eastern Mediterranean University	9/1999-8/2003
Part-time Lecturer	Electrical and Electronics Eng./Computer Eng.	Eastern Mediterranean University	2/1992-8/1999
Research and Teaching Assistant	Electrical and Electronics Engineering	Eastern Mediterranean University	9/1992-1/1999

### **ACTIVITIES**

**Teaching and Research Activities****Taught Courses:**

<b>Course code</b>	<b>Title</b>
CMPE447	Fiber optic communications
CMPE426	Digital signal processing
CMPE371	Analysis of algorithms
CMPE324	Computer architecture and organization
CMPE222	Assembly language programming
CMPE223	Logic design
CMPE224	Digital Logic Systems
CMPE226	Electronics for computer engineers
CMPE110	Fundamentals of computing and programming (C++)
CMPE112	Introduction to programming (C)
CMPE101	Foundation of computer engineering
EE466	Microwave theory
EE463	Antenna theory
EE441	Electronics III
EE422	Control systems
EE351	Electrical machinery
EE331	Electromagnetic theory II
EE323	Electrical measurements
EE240	Electronics I
EE232	Electromagnetic theory I
EE225	Fundamentals of electrical engineering
EE220	Circuit theory

**Postgraduate Projects Supervised To Date:****Completed**

- Ph.D.**
1. **"Improving the Performance of Multimedia Search Engines", Saed Al-Qaraleh**, Computer Engineering Department, Eastern Mediterranean University, TRNC, Turkey, Nov. 2015.
  2. **"Efficient Parallel Algorithms for Modeling Open Region Finite Difference Time Domain Grids", Oyku Akaydin**, Computer Engineering Department, Eastern Mediterranean University, TRNC, Turkey, Feb. 2008.
- M.Sc.**
1. **"An Efficient Algorithm for Mobile Positioning in 3D Space", Saif Abdullah**, Computer Engineering, EMU, TRNC, Turkey, Jul. 2015.
  2. **"Computationally Efficient Finite Difference Time Domain Algorithm for Modeling Electromagnetic Wave Interaction with Frequency Dependent Objects, Ahmad S. Salh**, Computer Engineering, Eastern Mediterranean University, Dec. 2012.
  3. **"Digital Signal Processing for the Analysis of the Finite Difference Time Domain (FDTD) Method", Meltem Yagli**, Computer Engineering Department, Eastern Mediterranean University, TRNC, Turkey, Feb. 2002.
  4. **"Parallel Implementation of Finite Difference Time Domain method using the MPI System", Oyku Akaydin**, Computer Engineering Department, Eastern Mediterranean University, TRNC, Turkey, Sep. 2001.

**Undergraduate Projects Supervised To Date:**

**B.Sc.** More than 50 B.Sc. projects in different areas in electrical and computer engineering.

**Other Activities:****(a) Reviewer :**

IEEE Microwave and Wireless Component Letters, IEEE Antennas and Wireless Propagation Letters, IEEE Transactions on Antennas and Propagation, IEEE Transactions on Electromagnetic Compatibility, IEEE Transactions on Microwave Theory and Techniques, IEEE Transactions on Geoscience and Remote Sensing, IET Electronics Letters, International Journal of Infrared and Millimeter Waves, Journal of Computational Physics, International Journal of Antennas and Propagation, COMPEL-THE INTERNATIONAL JOURNAL FOR COMPUTATION AND MATHEMATICS IN ELECTRICAL AND ELECTRONIC ENGINEERING.

**(b) Department Committees :**

Curriculum committee  
 Summer training committee  
 Laboratory Committee  
 Teaching assistant committee

**PUBLICATIONS (116)****Journal Articles (73)**

1. **Ramadan, O.**, Runge-Kutta HIE-FDTD formulations for analyzing optical transmission through periodic array of magnetically-biased graphene micro-patch structures, *OPTIK* (261), Article Number 169225, JUL 2022 (SCI-E)
2. **Ramadan, O.**, Simplified FDTD Formulations for Magnetostatic Biased Graphene Simulations, *IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS* 19 (12) , pp.2290-2294, 2020 (SCI-E)
3. **Ramadan, O.**, Improved direct integration auxiliary differential equation FDTD scheme for modeling graphene drude dispersion, *OPTIK*, 165173, 2020 (SCI-E)
4. **Ramadan O**, Efficient and Stable Generalized Auxiliary Differential Equation FDTD Implementation of Graphene Dispersion, *COMPEL-THE INTERNATIONAL JOURNAL FOR COMPUTATION AND MATHEMATICS IN ELECTRICAL AND ELECTRONIC ENGINEERING*, vol. 38, 6, pp. 2070-2083, 2019. (SCI-E)
5. **Ramadan O**, A remark on the stability of the HIE-FDTD implementation of graphene dispersion based on the flux density D-E and the current density J-E constitutive relations, *INTERNATIONAL JOURNAL OF NUMERICAL MODELLING-ELECTRONIC NETWORKS DEVICES AND FIELDS*, Article Number: e2657, JUL 2019. (SCI)
6. **Ramadan O**, Detailed stability analysis of the Z-transform FDTD implementation of electrically thin Drude-like graphene layer, *OPTIK*, 185: 537-742, 2019. (SCI)
7. **Ramadan O**, Hybrid implicit-explicit FDTD implementation of graphene using generalized dispersive model, *OPTIK*, Vol. 180, pp. 760-767, 2019 (SCI)
8. **Ramadan O**, 2. Ramadan O, Revisiting the stability of the HIE-FDTD technique for modeling graphene dispersion, *JOURNAL OF COMPUTATIONAL PHYSICS*, Vol. 372, pp. 719-725, 2018 (SCI)
9. **Ramadan O**, Stability Improved ADE-FDTD Implementation of Drude Dispersive Models, *IEEE ANTENNAS AND PROPAGATION LETTERS*, Vol. 17, No. 5, pp. 1-4, May 2018 (SCI-E)
10. **Ramadan O**, Unified Integro-Differential Equation for Efficient Dispersive FDTD Simulations, *COMPEL-THE INTERNATIONAL JOURNAL FOR COMPUTATION AND MATHEMATICS IN ELECTRICAL AND ELECTRONIC ENGINEERING*, ACCEPTED, Mar. 2017 (SCI-E)
11. **Ramadan O**, A Note on the Stability of the FDTD Implementation of the Graphene Conductivity Modeled by a  $[2/2]$ -Padé Function, *OPTIK – INTERNATIONAL JOURNAL OF LIGHT AND ELECTRON OPTICS*, 140: 165-170, Jul. 2017 (SCI)
12. **Ramadan O**, On the Derivation of the Numerical Permittivity and Stability of the CDS-FDTD

- Implementation of High-Order Constitutive Relations, **IEEE TRANSACTION AND ANTENNAS AND PROPAGATIONS**, 65(3):1486-1489, Mar. 2017. (SCI)
13. **Ramadan O**, On the Stability of the FDTD Implementation of High Order Rational Constitutive Relations, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS**, 27(1): 4-6, Jan. 2017 (SCI)
  14. **Ramadan O**, Stability Considerations for the Direct FDTD Implementation of the Dispersive Quadratic Complex Rational Function Models, **IEEE TRANSACTION AND ANTENNAS AND PROPAGATIONS**, 64(11): 4929-4932, NOV. 2016. (SCI)
  15. **Ramadan O**, On the Equivalence of the Stability of the D-E and J-E ADE-FDTD Schemes for Implementing the Modified Lorentz Dispersive Model, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS**, 25(7): 487-488, JUL. 2015. (SCI)
  16. Alqaraleh S, **Ramadan O**, and Salamah M, Efficient Watcher Based Web Crawler Design, **ASLIB JOURNAL INFORMATION MANAGEMENT**, 67(6): 663-686, Dec. 2015. (SCI-Expanded)
  17. **Ramadan O**, Systematic Wave-Equation Finite Difference Time Domain Formulations for Modeling Wave-Propagation in General Linear and Non-linear Dispersive Materials, **INTERNATIONAL JOURNAL OF MODERN PHYSICS C**, 26(4), 1550046, 15 pages, 2015 (SCI).
  18. **Ramadan O**, Unconditionally Stable Split-Step Finite Difference Time Domain Formulations for Double-Dispersive Electromagnetic Materials, **COMPUTER PHYSICS COMMUNICATIONS**, 185(12): 3094-3098, DEC. 2014. (SCI)
  19. **Ramadan O**, Unified Frequency-Dependent Split-Step FDTD Formulations Based on the Complex-Conjugate Pole-Residue Pairs Model, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS**, 24(8): 509-511, AUG. 2014. (SCI)
  20. Alqaraleh S, and **Ramadan O**, Elimination of repeated occurrences in multimedia search engines, **INTERNATIONAL ARAB JOURNAL OF INFORMATION TECHNOLOGY**, 11(2): 134-139, MAR. 2014. (SCI-Expanded)
  21. **Ramadan O**, Improved and Efficient Unconditionally Stable Complex-Envelope Frequency Dependent FDTD Formulations Based on the Implicit Locally One-Dimensional Scheme, **JOURNAL of ELECTROMAGNETIC WAVES AND APPLICATIONS**, 28(3): 334-345, Jan. 2014. (SCI-Expanded)
  22. **Ramadan O**, Efficient ADE-WE-PML Formulations for Scalar Dispersive FDTD Applications, **IET ELECTRONIC LETTERS**, 49(2): 157-159, Jan. 2013. (SCI)
  23. **Ramadan O**, Efficient LOD-SC-PML Formulations for Dispersive Electromagnetic Applications, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS**, 47(6): 297-300, Jun. 2012. (SCI)
  24. **Ramadan O**, Unified matrix-exponential FDTD formulations for modeling electrically and magnetically dispersive materials, **COMPUTER PHYSICS COMMUNICATIONS**, 183(5): 1101-1106 2012. (SCI)
  25. **Ramadan O**, General ADE Formulations of the SC-PML for Modeling Multi-Term Dispersive FDTD Applications, **IET ELECTRONICS LETTERS**, 47(20): 1122-1124 2011. (SCI)
  26. **Ramadan O**, General ADI-FDTD Formulations for Multi-Term Dispersive Electromagnetic Applications, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS**: 21(10): 513-515 2011. (SCI)
  27. **Ramadan O**, Systematic Split-Step Perfectly Matched Layer Formulations for Modeling Dispersive Open Region FDTD Applications, **IET MICROWAVE, ANETANNAS & PROPAGATION**: 5(9): 1062-1066 2011. (SCI)
  28. **Ramadan O**, Z-transform Based Complex Envelope ADI-PML Algorithm for Modeling Drude Dispersive Source-Free WE-FDTD Applications, **IET MICROWAVE, ANETANNAS & PROPAGATION**: 5(9): 1067-1072 2011. (SCI)
  29. **Ramadan O**, Complex Envelope Split-Step Wave-Equation FDTD Formulations for Dispersive Electromagnetic Applications, **IET ELECTRONICS LETTERS**, 47 (4): 250-252 2011. (SCI)
  30. **Ramadan O**, On the Accuracy of Three Different Six Stages SS-FDTD Methods for Modeling Narrow-Band Electromagnetic Applications, **IEEE TRANSACTIONA ON ANTENNAS AND PROPAGATION**, 58(9): 3078-3080 2010. (SCI)

31. **Ramadan O**, Strang Split-Step FDTD Formulations for Modeling Dispersive Electromagnetic Applications, **IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS**, 9: 592-594 2010. **(SCI-Expanded)**
32. **Ramadan O**, A Short Comment on the Equivalence of the Shift-Operator FDTD method and the Bilinear Frequency Approximation Technique for Modeling Dispersive Electromagnetic Applications, **COMPUTER PHYSICS COMMUNICATIONS**, 181(7): 1275-1276 2010. **(SCI)**
33. **Ramadan O**, Split-step FDTD Algorithm for DNG Meta-materials, **IET MICROWAVE, ANETANNAS & PROPAGATION**, 4(5): 566-570 2010. **(SCI)**
34. **Ramadan O**, Unconditionally Stable Bilinear Transformation FDTD Algorithm for Modeling Double-Negative Meta-material Electromagnetic Problems, **JOURNAL OF INFRARED, MILLIMETER AND TERAHERTZ WAVES**, 31(3): 288-301 2010. **(SCI)**
35. **Ramadan O**, DSP-PML Algorithm for Open Region DNG Meta-material FDTD Simulations, **IET ELECTRONICS LETTERS**, 46(1): 16-18 2010. **(SCI)**
36. **Ramadan O**, Complex Envelope Four-Stage ADI-FDTD Algorithm for Narrowband Electromagnetic Applications, **IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS**, 8: 1084-1087 2009. **(SCI-Expanded)**
37. **Ramadan O**, An Implicit 4-Stage ADI Wave-Equation PML Algorithm for 2-D FDTD Simulations, **IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS**, 8: 391-393 2009. **(SCI-Expanded)**
38. **Ramadan O**, Complex Envelope Six-Stages Split-Step PML Algorithm for Open Region Electromagnetic Problems, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS**: 18(11): 713-715 2008. **(SCI)**
39. **Ramadan O**, Accuracy improved multi-stages ADI-PML algorithm for dispersive open region FDTD problems, **IEE ELECTRONICS LETTERS** 44 (20): 1167-1168, SEP 2008. **(SCI)**
40. **Ramadan O**, An Improved Implicit Split-Step Algorithm for Dispersive Band-Limited FDTD Applications, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS** 18 (8): 497-499, JUL 2008. **(SCI)**
41. **Ramadan O**, Envelope LOD Wave Equation PML Algorithm for Dispersive Band-Limited FDTD Applications, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS** 18 (5): 293-295 MAY 2008. **(SCI)**
42. **Ramadan O**, and Akaydin O, Efficient parallel PML algorithms for truncating finite difference time domain simulations, **ELECTRICAL ENGINEERING** 90 (3): 175-180 FEB 2008. **(SCI)**
43. **Ramadan O**, Unconditionally stable locally one dimensional wave equation PML algorithm for 2-D FDTD simulations, **MICROWAVE AND OPTICAL TECHNOLOGY LETTERS** 50 (1): 18-22 Jan 2008. **(SCI-Expanded)**
44. **Ramadan O**, Complex envelope crank-nicolson nearly PML algorithm for the left-handed material FDTD simulations, **INTERNATIONAL JOURNAL OF INFRARED AND MILLIMETER WAVES** 28 (9): 691-698 SEP 2007. **(SCI)**
45. **Ramadan O**, Second-order split-step envelope PML algorithm for 2D FDTD simulations, **ELECTRONICS LETTERS** 43 (15): 792-794 JUL 2007. **(SCI)**
46. **Ramadan O**, Unsplit field implicit PML algorithm for complex envelope dispersive LOD-FDTD simulations, **ELECTRONICS LETTERS** 43 (5): 267-268 MAR 2007. **(SCI)**
47. **Ramadan O**, Three dimensional MPT parallel implementation of the PML algorithm for truncating finite-difference time-domain Grids, **PARALLEL COMPUTING** 33 (2): 109-115 MAR 2007. **(SCI-Expanded)**
48. **Ramadan O**, Unconditionally stable complex envelope wave equation PML algorithm for band limited FDTD simulations, **INTERNATIONAL JOURNAL OF INFRARED AND MILLIMETER WAVES** 28 (1): 113-119 JAN 2007. **(SCI)**
49. **Ramadan O**, An efficient state-space ADI-PML algorithm for truncating DNG metamaterial FDTD domains, **MICROWAVE AND OPTICAL TECHNOLOGY LETTERS** 49 (2): 494-498 FEB 2007. **(SCI-Expanded)**
50. **Ramadan O**, Complex envelope ADI-PML algorithm for truncating Lorentz dispersive 2-D-FDTD domains, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS** 17 (1): 4-6 JAN 2007. **(SCI)**
51. **Ramadan O**, Oztoprak AY, Unconditionally stable Crank-Nicolson wave-equation PML

- formulations for truncating FDTD domains, **ELECTRICAL ENGINEERING** 89 (2): 89-93 DEC 2006. **(SCI)**
52. **Ramadan O**, Complex envelope Crank Nicolson PML algorithm for band-limited electromagnetic applications, **ELECTRONICS LETTERS** 42 (23): 1325-1326 NOV 2006. **(SCI)**
  53. **Ramadan O**, Unconditionally stable Crank-Nicolson nearly PML algorithm for truncating linear Lorentz dispersive FDTD domains, **IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES** 54 (6): 2807-2812 Part 2 JUN 2006. **(SCI)**
  54. **Ramadan O**, Generalized 3-D DSP-based FDTD algorithm for modeling the APM, **ELECTRICAL ENGINEERING** 88 (5): 327-335 JUN 2006. **(SCI)**
  55. **Ramadan O**, ADI-WEPLM: Unconditionally stable PML algorithm for truncating WE-FDTD domains, **MICROWAVE AND OPTICAL TECHNOLOGY LETTERS** 48 (6): 1029-1032 JUN 2006. **(SCI-Expanded)**
  56. **Ramadan O**, On the accuracy of the nearly PML for nonlinear FDTD domains **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS** 16 (3): 101-103 MAR 2006. **(SCI)**
  57. **Ramadan O**, ZT-ADIPML: Unconditionally stable PML algorithm for FDTD simulations, **MICROWAVE AND OPTICAL TECHNOLOGY LETTERS** 48 (2): 393-396 FEB 2006. **(SCI-Expanded)**
  58. **Ramadan O**, Unconditionally stable Z-transform ADI-PML algorithm for Lorentzian double negative meta-materials, **INTERNATIONAL JOURNAL OF INFRARED AND MILLIMETER WAVES** 26 (12): 1757-1770 DEC 2005. **(SCI)**
  59. **Ramadan O**, Unsplit-field PML algorithm for truncating nonlinear FDTD domains, **INTERNATIONAL JOURNAL OF INFRARED AND MILLIMETER WAVES** 26 (8): 1151-1161 AUG 2005. **(SCI)**
  60. **Ramadan O**, Unconditionally stable nearly PML algorithm for linear dispersive media, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS** 15 (7): 490-492 JUL 2005. **(SCI)**
  61. **Ramadan O**, Unconditionally stable ADI-FDTD formulations of the APTAL for frequency-dependent media, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS** 14 (11): 537-539 NOV 2004. **(SCI)**
  62. **Ramadan O**, Unconditionally stable ADI-FDTD implementation of PML for frequency dispersive Debye media, **ELECTRONICS LETTERS** 40 (4): 230-232 FEB 2004. **(SCI)**
  63. **Ramadan O**, Z-transform-based FDTD algorithm for anisotropic perfectly matched layer, **ELECTRONICS LETTERS** 39 (22): 1570-1572 OCT 2003. **(SCI)**
  64. **Ramadan O**, Oztoprak AY, Z-transform implementation of the perfectly matched layer for truncating FDTD domains, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS** 13 (9): 402-404 SEP 2003. **(SCI)**
  65. **Ramadan O**, Digital filtering technique for the FDTD implementation of the anisotropic perfectly matched layer, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS** 13 (8): 340-342 AUG 2003. **(SCI)**
  66. **Ramadan O**, State-space FDTD implementation of anisotropic perfectly matched layer, **ELECTRONICS LETTERS** 39 (13): 969-970 JUN 2003. **(SCI)**
  67. **Ramadan O**, Auxiliary differential equation formulation: An efficient implementation of the perfectly matched layer, **IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS** 13 (2): 69-71 FEB 2003. **(SCI)**
  68. **Ramadan O**, Oztoprak AY, An efficient implementation of the PML for truncating FDTD domains, **MICROWAVE AND OPTICAL TECHNOLOGY LETTERS** 36 (1): 55-60 JAN 2003. **(SCI-Expanded)**
  69. **Ramadan O**, Comment on "A PML-FDTD formulation for the simulation of optical structures", **MICROWAVE AND OPTICAL TECHNOLOGY LETTERS** 36 (1): 74-76 JAN 2003. **(SCI-Expanded)**
  70. **Ramadan O**, Oztoprak AY, DSP techniques for implementation of perfectly matched layer for truncating FDTD domains, **ELECTRONICS LETTERS** 38 (5): 211-212 FEB 2002. **(SCI)**
  71. **Ramadan O**, Niazi AY, Truncating FDTD computational domains with perfectly matched layer regions backed by lossy ABCs, **MICROWAVE AND OPTICAL TECHNOLOGY LETTERS** 18 (5): 328-331 AUG 1998. **(SCI-Expanded)**
  72. **Ramadan O**, Niazi AY, One way wave equation type ABCs for terminating low loss media, **ELECTRONICS LETTERS** 33 (24): 2052-2054 NOV 1997. **(SCI)**

- 73. Ramadan O**, Niazi AY, Improved formulations for higher order absorbing boundary conditions, **ELECTRONICS LETTERS** 33 (7): 568-570 MAR 1997. **(SCI)**

### **Other refereed journals (8)**

- 74.** Alqaraleh, S., and **Ramadan, O.**, Efficient Implicit Content-based Image Re-ranking Approach, Accepted, **Journal of Information and Knowledge Management. (SCOPUS)**
- 75. Ramadan O**, Runge-Kutta Exponential Time Differencing Scheme for Incorporating Graphene Dispersion in the FDTD Simulations, **PROGRESS IN ELECTROMAGNETICS RESEARCH LETTERS**, 84: 15-21, 2019. **(SCOPUS)**
- 76.** Alqaraleh S, and **Ramadan O**, Utilizing Query by Example for Fast and Accurate Multimedia Retrieval, **APPLIED MATHEMATICS & INFORMATION SCIENCES**, 9(1): 125-134, Jan. 2015. **(SCI-Expanded)**
- 77. Ramadan O**, An Effective Unconditionally Stable Algorithm for Dispersive Finite Difference Time Domain Simulations, **LECTURE NOTES IN COMPUTER SCIENCE** 4707: 388-397 August 2007.
- 78. Ramadan O.**, A Parallel FDTD Algorithm for the Solution of Maxwell's Equations with Nearly PML Absorbing Boundary Conditions, **LECTURE NOTES IN COMPUTER SCIENCE** 4707: 421-430 August 2007.
- 79.** Akaydin O, **Ramadan O**, 3-D parallel implementation of the wave-equation PML algorithm using distributed system, **LECTURE NOTES IN COMPUTER SCIENCE** 4263: 834-843 October 2006.
- 80. Ramadan O**, DSP-based ADI-PML formulations for truncating linear Debye and Lorentz dispersive FDTD domains, **LECTURE NOTES IN COMPUTER SCIENCE** 3483: 926-935 May 2005.
- 81. Ramadan O**, Akaydin O, Salamah M, et al., Parallel implementation of the wave-equation finite-difference time-domain method using the message passing interface, **LECTURE NOTES IN COMPUTER SCIENCE** 3280:810-818 October 2004.

### **Conference Presentations (35)**

- 82.** Alqaraleh, S., and **Ramadan, O.**, Efficient Implicit Content-based Image Re-ranking Approach, The International Conference on Intelligent Computing Systems and Data Analytics Applications (ICSDAA-2019), 1-3 December 2019, Irbid, Jordan, pp. 1-3 (Extended version of the paper will appear in Journal of Information and Knowledge Management. (SCOPUS))
- 83. Ramadan O.**, A Digital Signal Processing Approach for the Finite Difference Time Domain Simulations of Graphene Nanomaterial, 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT), 9-11 April 2019, Amman, Jordan, pp. 758 – 761.
- 84. Ramadan O.**, General Dispersive Hybrid Implicit-Explicit Finite Difference Time Domain Formulations for Nanomaterial and Graphene Simulations, The 9<sup>th</sup> Jordanian International Mechanical Engineering Conference (JIMEC2018), Amman/Jordan, 16-18 October 2018.
- 85. Ramadan O**, Improved Re-ranking Approach for Multimedia Search Engines, The 9<sup>th</sup> International Conference on Information and Communication Systems (ICICS 2018), Amman, Jordan: 3-5 April, 2018, pp. 111-116. **IEEEExplore**, DOI: [10.1109/IACS.2018.8355451](https://doi.org/10.1109/IACS.2018.8355451)
- 86. Ramadan O.**, A Review of Progress in DSP Implementation of Dispersive Electromagnetic Materials in the Finite Difference Time Domain Method, The Second Irbid International Engineering Conference (IIEC2017), Irbid, Jordan, 14-16 November 2017.
- 87. Ramadan O.**, DSP-Based Stability Framework for the Analysis of the Explicit and the Implicit Frequency Dependent Finite Difference Time Domain Methods, The 8<sup>th</sup> International Conference on Information Technology, Amman, Jordan, May 17-18, 2017. **IEEEExplore**, DOI: [10.1109/ICITECH.2017.8079947](https://doi.org/10.1109/ICITECH.2017.8079947)
- 88. Ramadan O.**, Efficient Parallel FDTD Algorithm for Modeling Infinite Graphene Sheet Simulations, The 8<sup>th</sup> International Conference on Information and Communication Systems (ICICS 2017), Amman, Jordan: 4-6 April, 2017. **IEEEExplore**, DOI: [10.1109/IACS.2017.7921939](https://doi.org/10.1109/IACS.2017.7921939)
- 89. Ramadan O.**, Compact DSP-Based FDTD Modeling of Doubly Dispersive Electromagnetic Materials, The third international conference on Environmental Design and Innovation (ZEC2016), Amman, Jordan, 16-18 May, 2016.
- 90. Ramadan O.**, DSP Approach for Time-Domain Modelling of Wave-Propagation in Source-Free

- Frequency-Dependent Materials, The 9<sup>th</sup> Jordan International Electrical and Electronics Engineering Conference, (JIEEEEC 2015), Amman, Jordan: 12-14 October, 2015. **IEEEExplore DOI: [10.1109/JIEEEEC.2015.7470744](https://doi.org/10.1109/JIEEEEC.2015.7470744)**.
- 91. Ramadan O.**, Salh A., and Salamah M., An Effective Parallel FDTD Algorithm For Modeling 3D Frequency-Dependent Electromagnetic Applications, The 7<sup>th</sup> International Conference on Information Technology, (ICIT 2015), Amman, Jordan, May 12-15, 2015, pp. 632-636.
  - 92. Ramadan O.** Digital Signal Processing Approach for Modeling Electrically and Magnetically Dispersive Electromagnetic Applications, The 2013 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT 2013), Amman, Jordan, Dec. 3-5, 2013, pp. 1-3. **IEEE xplore: DOI: [10.1109/AEECT.2013.6716475](https://doi.org/10.1109/AEECT.2013.6716475)**
  - 93. Ramadan O.**, Efficient Complex-Envelope Wave-Equation Perfectly Matched Layer Formulations for Modeling Band-limited Frequency Dependent Electromagnetic Applications, The 8<sup>th</sup> Jordanian International Electrical and Electronics Engineering Conference, (JIEEEEC 2013), Amman, Jordan, Apr., 16-18, 2013, pp. 1-3.
  - 94. Alqaraleh S, Ramadan O.**, Improving the Performance of Query by Sketch Using Parallel Techniques, The 3<sup>rd</sup> International Conference on Information and Communication Systems (ICICS2012), Amman, Jordan, April, 3-5, 2012.
  - 95. Ramadan O.**, Exponential Evolution FDTD Operator for General Dispersive Electromagnetic Applications, Mosharaka International Conference on Communications, Propagation and Electronics (MIC-CPE2012), Istanbul, Turkey, February, 3-5, 2012, pp. 17-21.
  - 96. Ramadan O.**, An Efficient MPI-Based Parallel Wave-Equation FDTD Algorithm for Dispersive Electromagnetic Applications, The 5<sup>th</sup> International Conference on Information Technology, (ICIT'11), Amman, Jordan, May 11-13, 2011
  - 97. Ramadan O.**, A Unified Unconditionally Stable Split-step FDTD Algorithm for Modeling General Dispersive Electromagnetic Applications, Mosharaka International Conference on Communications, Propagation and Electronics (MIC-CPE2011), Amman, Jordan, 4-6 Feb., 2011
  - 98. Ramadan O.**, Complex Envelope Alternating Direction Implicit WEPML Algorithm for Dispersive Open Region Electromagnetic Applications Mosharaka International Conference on Communications, Propagation and Electronics (MIC-CPE2010), Amman, Jordan, March, 5-7, 2010. **Extended version of this paper has been published in the IET Microwaves, antennas and propagation journal (SCI).**
  - 99. Ramadan O.**, Extension of the Strang Split-Step FDTD Algorithm for Modeling Band-limited Drude Dispersive Electromagnetic Applications, Mosharaka International Conference on Communications, Propagation and Electronics (MIC-CPE2010), Amman, Jordan, March, 5-7, 2010. **Extended version of this paper has been published in the IET Microwaves, antennas and propagation journal (SCI).**
  - 100. Ramadan O.**, CN-PML Algorithm for 1-D Broad-Band DNG-FDTD Simulations, Mosharaka International Conference on Communications, Propagation and Electronics (MIC-CPE 2009), Amman - Jordan, 6-8 Feb. 2009. **Extended version of this paper has been published in the IET Microwaves, antennas and propagation journal (SCI).**
  - 101. Ramadan O.**, DSP-PML Algorithm for Open Region DNG Meta-material FDTD Simulations, The third Mosharaka International Conference on Communications, Signals and Coding (MIC-CSC2009)" Amman - Jordan, 19-21 Nov. 2009
  - 102. Ramadan O.**, An Extension of the DSP-FDTD Algorithm for Modeling Open Region Dispersive, Mosharaka International Conference on Communications, Networking and Information Technology. Amman, Jordan, 5-7 Dec., 2008
  - 103. Ramadan O** and Oyku Akaydin, Parallel Implementation of the Anisotropic Perfectly Matched Layer for Open Region Electromagnetic Problems, Mosharaka International Conference on Communications, Networking and Information Technology. Amman, Jordan, 5-7 Dec., 2008
  - 104. Ramadan O.**, An Efficient Digital Signal Processing Algorithm for the Time Domain Simulations of Dispersive Electromagnetic Problems, the 5th International Workshop on Signal Processing and its Applications (WSPA08), UAE, 18-20, March, 2008.
  - 105. Ramadan O.**, Z-Transform PML Algorithm for Truncating Metamaterial FDTD Domains, International Conference on Communication, Computer & Power (ICCCP'07), Muscat, February 19-21, 2007, pp. 437-440
  - 106. Ramadan O.**, On the use of the Digital Filtering Techniques for the Simulations of Electromagnetic Problems in the Time Domains, The International Conference on Information Sciences, Signal Processing and their Applications (ISSPA07), 12-15/02/2007.



- 107. Ramadan O**, Z-transform PML algorithm for truncating metamaterial FDTD domains, 2006 IEEE GCC Conference (GCC), 20-22 March 2006 pp. 1 – 4.
- 108. Ramadan O**, Akaydin O, Parallel implementation of the PML algorithm for truncating finite-difference time-domain grids, IEEE International Conference on Computer Systems and Applications, MAR 08-11, 2006, vol. 1-3 , pp. 118-122.
- 109. Ramadan O**, Generalized unconditionally stable Crank-Nicolson PML formulations for truncating FDTD domains, 35th European Microwave Conference (EuMC), OCT 04-06, 2005, VOLS 1-3, pp. 877-879.
- 110. Ramadan O**, Unconditionally stable ADI-FDTD formulations of the PML for left-handed materials, 35th European Microwave Conference (EuMC), OCT 04-06, 2005, VOLS 1-3, pp. 1121-1123.
- 111. Ramadan O**, Efficient PML formulations for truncating nonlinear FDTD domains Workshop on Computational Electromagnet in Time-Domain, SEP 12-14, 2005 2005 WORKSHOP ON COMPUTATIONAL ELECTROMAGNETICS IN TIME-DOMAIN (CEM-TD), pp. 100-102.
- 112. Ramadan O**, DSP-based ADI-PML formulations for truncating linear Debye and Lorentz dispersive FDTD domains, International Conference on Computational Science and Its Applications (ICCSA 2005), MAY 09-12, 2005, VOL 4, pp. 926-935.
- 113. Ramadan O**, Oztoprak AY, Generalized PML formulations for the termination of the wave-equation FDTD domains, IEEE International Symposium on Electromagnetic Compatibility (EMC), MAY 11-16, 2003, VOLS 1 AND 2, pp. 779-781.
- 114. Ramadan O**, Unsplit-field FDTD implementations of the PML using DSP algorithms IEEE International Symposium on Electromagnetic Compatibility (EMC), MAY 11-16, 2003 2003, VOLS 1 AND 2, pp. 856-858.
- 115. Ramadan O** and Oztoprak A.Y., "A simple method to improve the Performance of FD-TD absorbing boundary conditions", AP2000 Millennium Conference on Antennas & Propagation, April 2000.
- 116. Ramadan O** and Oztoprak AY, "An Efficient FD-TD lossy absorbing boundary condition, AP2000 Millennium Conference on Antennas & Propagation, April, 2000.

## **PROFESSIONAL MEMBERSHIPS AND AWARDS**

### ***Membership to Professional Institutes:***

- IEEE (USA), 1992

### ***Honor and Awards:***

- Full time scholarship for the M.Sc. and the Ph.D. studies, 1992-1999
- Dean's High Honor List (1988-1992).
- Graduated with the highest CGPA (3.62/4.00) and ranked as the first of the Electrical and Electronic Engineering Department, Eastern Mediterranean University, July/1992.

## **COMPUTER SKILLS**

- Computer Languages C, C++, PASCAL, FORTRAN, Assembly, Python.
- Parallel Programming Models Message Passing Interface (MPI)

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