Marcelo Menezes de Carvalho

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April 26, 2026

Online Profiles

Google Scholar Profile: Marcelo M. Carvalho
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Education

2006	**Ph.D. Computer Engineering**, University of California Santa Cruz, USA. Dissertation Title: "Analytical Modeling of Medium Access Control Protocols in Wireless Networks," Advisor: Prof. J. J. Garcia-Luna-Aceves
2003	**M.Sc. Electrical and Computer Engineering**, University of California Santa Barbara, USA
1998	**M.Sc. Electrical Engineering**, State University of Campinas (Unicamp), Brazil
1995	**B.Sc. Electrical Engineering**, Federal University of Pernambuco, Brazil

Professional Experience

2023 – now	Assistant Professor, Ingram School of Engineering, Texas State University, USA
2023 – 2023	Lecturer, Ingram School of Engineering, Texas State University, USA
2021 – 2022	Associate Professor, Electrical Engineering Department, University of Brasília, Brazil
2011 – 2020	Tenured Assistant Professor, Electrical Engineering Dep., University of Brasília, Brazil
2009 – 2011	Assistant Professor, Electrical Engineering Department, University of Brasília, Brazil
2008 – 2009	Campus Director, Campus São José dos Campos, Federal University of São Paulo, Brazil
2008 – 2009	Assistant Professor, Computer Science Department, Federal University of São Paulo, Brazil
2006 – 2007	Post-Doctoral Researcher, Department of Electrical Engineering, Federal University of Campina Grande, Brazil
2000 – 2000	Intern Researcher at Fujant, Inc., United States of America

Other Positions

08/18 – 07/19	Visiting Research Scholar, Erik Jonsson School of Engineering and Computer Science, University of Texas at Dallas, United States of America.
01/12 – 03/12	Visiting Research Scholar, CONNECT, The Science Foundation Ireland Research Centre for Future Networks and Communications, Trinity College Dublin, Ireland.

Interests

Research:	Computer Networks, Wireless Networks, Internet of Things, Multimedia Networking
Teaching:	Communication Networks, Wireless Communications, Communication Systems, Multimedia Communications, Probability and Stochastic Processes.

Recognitions, Honors, and Awards

1. *Distinguished Service Award*, Track Chair, IEEE Cloud Summit, 2025.

2. *Best Paper Award*, José Antônio de França Junior and Marcelo M. Carvalho, "An ns-3 Model for Simultaneous Wireless Information and Power Transfer over IEEE 802.11 ah Networks," Proc. of the Workshop on ns-3 (WNS3), 2024.

3. *Honorable Metion*, Lucas S. Althoff, Alessandro R. Silva, Marcelo M. Carvalho, Mylene C.Q. Farias, "360Align: An Open Dataset and Software for Investigating QoE and Head Motion in 360 Videos with Alignment Edits," Proc. of the ACM International Conference on Interactive Media Experiences (IMX), 2024.

4. *Best Paper Award*, Myllena Prado, Lucas S. Althoff, Sana Alamgeer, Alessandro R. Silva, Ravi Prakash, Marcelo M. Carvalho, Mylene C. Q. Farias, "360RAT: A Tool for Annotating Regions of Interest in 360 Videos," XXVIII Brazilian Symposium on Multimedia and Web (WebMedia), Curitiba, Brazil, 2022.

5. *2nd Runner Up*, IEEE Signal Processing Cup on "Configuring an Intelligent Reflecting Surface for Wireless Communications," (Team Supervisor), IEEE Signal Processing Society, 2021

6. *Outstanding Service Award – Program Co-Chair*, The 16th IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS), Monterey, USA, 2019.

7. *Best Paper Award*, T. Viana and M. M. Carvalho, "In-band omnidirectional initial access via Alamouti scheme in millimeter-wave cellular networks," Proceedings of IFIP/IEEE Wireless Days, Dubai, United Arab Emirates, 2018.

8. *Distinguished Faculty Recognition*, an honor bestowed by the graduate class in Network Communications Engineering at the University of Brasília, 1st semester 2018.

9. *Distinguished Faculty Recognition*, an honor bestowed by the graduate class in Network Communications Engineering at the University of Brasília, 2nd semester 2016.

10. *Distinguished Faculty Recognition*, an honor bestowed by the graduate class in Network Communications Engineering at the University of Brasília, 1st semester of 2016.

11. *Distinguished Faculty Recognition*, an honor bestowed by the graduate class in Network Communications Engineering at the University of Brasília, 2nd semester of 2015.

12. *Distinguished Faculty Recognition* (Spokesman), an honor bestowed by the graduate class in Network Communications Engineering at the University of Brasília, 1st semester of 2015.

13. *Distinguished Faculty Recognition* (Spokesman), an honor bestowed by the graduate class in Network Communications Engineering at the University of Brasília, 2nd semester of 2014.

14. *Distinguished Faculty Recognition* (Spokesman), an honor bestowed by the graduate class in Network Communications Engineering at the University of Brasília, 1st semester of 2014.

15. *Distinguished Faculty Recognition* (Spokesman), an honor bestowed by the graduate class in Network Communications Engineering at the University of Brasília, 2nd semester of 2013.

16. *Distinguished Faculty Recognition*, an honor bestowed by the graduate class in Network Communications Engineering at the University of Brasília, 1st semester of 2013.

17. *Strategy Award* – "Mobile Offloading in Wireless Ad Hoc Networks," (Team Supervisor), Mobile Ad Hoc Networking Interoperability and Cooperation (MANIAC) Challenge, IETF 87, 2013.

18. *Distinguished Faculty Recognition*, an honor bestowed by the graduate class in Network Communications Engineering at the University of Brasília, 2nd semester of 2011.

19. *IEEE Communications Letters Exemplary Reviewer* (top 5%), 2010.

20. *Distinguished Faculty Recognition* (Spokesman), an honor bestowed by the graduate class in Network Communications Engineering at the University of Brasília, 2nd semester of 2010.

21. *Best Paper Candidate*, M. M. Carvalho, C. B. Margi, K. Obraczka, J. J. Garcia-Luna-Aceves, "Modeling Energy Consumption in Single-Hop IEEE 802.11 Ad Hoc Networks," Proceedings of the 13th International Conference on Computer Communications and Networks (ICCCN), Chicago, USA, 2004.

22. *CAPES Scholarship* for Full Ph.D. Studies at University of California Santa Cruz, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior, Brazil.

23. *CNPq Scholarship* for Full M.Sc. Studies at State University of Campinas, National Council for Scientific and Technological Development, Brazil.

Publications

Articles Published in Refereed Journals

1. S. A. Khan, D. Valles, M. M. Carvalho, W. Dong, "Conquering the Urban Firefighting Challenge: A Deep Q-Network Approach for Autonomous UAV Navigation," Inventions 2026, 11, 35.

2. Z. A. Simin, S. Aslan, M. M. Carvalho, D. Valles, "Enhanced Security of Bidirectional Communication in IoT-Driven Utility Networks Using Sertainty UXP and LoRaWAN," Sensors 2026, 26, 1752.

3. Yang Yang, Yulin Hu, M. Cenk Gursoy, and M. M. Carvalho, "Green Collaborative Inference in RIS-aided MEC Networks: Opportunities and Challenges," IEEE Internet of Things Magazine, vol. 9, no. 1, pp. 113-119, Jan. 2026.

4. Gabriel de Castro Araújo, Henrique Domingues Garcia, Mylène C.Q. Farias, Ravi Prakash, and Marcelo M. Carvalho. 2025. "A 360-degree Video Player for Dynamic Video Editing Applications." ACM Transactions on Multimedia Computing, Communications and Applications, vol. 21, no. 9, 23 pages, September, 2025.

5. Lucas S. Althoff, Mylène C. Q. Farias, Alessandro R. Silva, and Marcelo M. Carvalho, "Impact of Alignment Edits on the Quality of Experience of 360° Videos, IEEE Access, vol. 11, pp. 108475–108492, 2023.

6. S. M. Soares and M. M. Carvalho, "An Analytical Model for the Aggregate Throughput of IEEE 802.11ah Networks under the Restricted Access Window Mechanism," Sensors, vol. 22, no. 15, p. 5561, Jul., 2022.

7. L. S. Brito and M. M. Carvalho, "Per-Hop Packet Auctions for Cooperative Routing in Wireless Networks," IEEE Access, v.9, pp. 36308–36327, 2021.

8. S. A. Fernandez, M. M. Carvalho, and D. G. Silva, "A Hybrid Metaheuristic Algorithm for the Efficient Placement of UAVs," Algorithms (MDPI), vol. 13, no. 12, p. 323, 2020.

9. M. M. Carvalho and J.J. Garcia-Luna-Aceves, "Carrier-Sense Multiple Access with Transmission Acquisition and Channel-Access Prioritization," IEEE Transactions on Communications, vol. 67, no. 12, pp. 8394–8407, Dec. 2019.

10. Itzel C. Olivos-Castillo, Ricardo Menchaca-Mendez, Rolando Menchaca-Mendez, Marcelo M. Carvalho and Mario E. Rivero-Angeles, "An Optimal Greedy Algorithm for the Single Access Contention Resolution Problem," IEEE Access, vol. 7, pp. 28452–28463, 2019.

11. M. M. Carvalho, F. Firyaguna, A. C. O. Christófaro, E. A. L. Andrade, T. S. Bonfim, "Joint Spatial Multiplexing and Transmit Diversity in MIMO Ad Hoc Networks," Ad Hoc Networks, vol. 81, pp. 1–16, 2018.

12. I. Villordo-Jimenez, N. Torres-Cruz, M. M. Carvalho, R. Menchaca-Mendez, M. E. Rivero-Angeles, R. Menchaca-Mendez, "A Selective-Awakening MAC Protocol for Energy-Efficient Data Forwarding in Linear Sensor Networks," Wireless Communications and Mobile Computing, vol. 2018, pp. 1–18, 2018.

13. F. Firyaguna, M. M. Carvalho, "Performance of Polling Disciplines for the Receiver-Initiated Binary Exponential Backoff MAC Protocol," Ad Hoc Networks, vol. 31, pp. 1–19, 2015.

14. G. B. T. Kalejaiye, J. A. S. R. Rondina, L. V. V. L. Albuquerque, T. L. Pereira, L. F. O. Campos, R. A. S. Melo, D. S. Mascarenhas, M. M. Carvalho, "Mobile Offloading in Wireless Ad Hoc Networks." ACM SIGCOMM Computer Communication Review, vol. 44, pp. 96–102, 2014.

15. M. C. Q. Farias, M. M. Carvalho, M. S. Alencar, "Digital Television Broadcasting in Brazil." IEEE Multimedia, vol. 15, pp. 64–70, 2008.

16. M. M. Carvalho, J. J. Garcia-Luna-Aceves, "A Packet Delay Analysis of IEEE 802.11 DCF in Single-Hop Ad Hoc Networks," Journal of Communication and Information Systems (Online), vol. 19, pp. 40–52, 2004. (Invited Paper)

Articles Published in Refereed Conference Proceedings

1. A. Maksud and M. M. Carvalho, "Deep Reinforcement Learning-based Dynamic TWT Scheduling for Heterogeneous Wi-Fi Networks," Int. Conference on Computer Communications and Networks (ICCCN), Honolulu, Hawaii, USA, 2026.

2. S. Chakraborty, G. C. Araujo, S. T. Faria, M. M. Carvalho, M.C.Q. Farias, "DSAL-PCQA: Enabling Distortion-Level and Language-Driven Reasoning for Point Cloud Quality Assessment," 18th Int. Conf. on Quality of Multimedia Experience (QoMEX), 2026.

3. K. S. Islam, A. Dutta, A. S. Anwar and M. M. Carvalho, "Reasoning Under Uncertainty in Multi-Agent Reinforcement Learning (MARL) with Upper Confidence Bound (UCB) Technique," 2026 IEEE 16th Annual Computing and Communication Workshop and Conference (CCWC), Las Vegas, NV, USA, 2026, pp. 1266-1273

4. M. S. Rahman and M. M. Carvalho, "Comparative Study of Clustering Algorithms for Device Grouping in Wi-fi Halow Networks," IEEE International Performance Computing and Communications Conference (IPCCC), pp. 1-2, Austin, TX, 2025.

5. D. W. Bowler, A. M. Deinhardt, M. M. Carvalho, T. M. Liu, M., Liu, T., D. Valles Molina, "Simulation-Based Smart Home Architecture for Autism Support Using CSI-Based Movement Detection." IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS), Chicago, IL, USA, pp. 705-710, 2025.

6. A. M. Deinhardt, D. W. Bowler, M. M. Carvalho, T. M. Liu, and D. Valles Molina." IoT for Autism: Analyzing Motor Behaviors in Virtual Environments Using Visual Data." IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS), Chicago, IL, USA, pp. 628-633, 2025.

7. K. S. Ramarapu, M. Resendiz, M. M. Carvalho and D. Valles, "Multi-Modal Emotion Temporal Environment Facial Classification to Help Children with ASD," IEEE 16th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON), Yorktown Heights, NY, USA, pp. 066-0666, 2025.

8. Y. Yang,M. C. Gursoy, M. M. Carvalho, " Throughput-Optimal RIS-Aided Uplink NOMA Transmissions With Downlink Simultaneous Wireless Information and Power Transfer." In IEEE Military Communications Conference (MILCOM) (pp. 118–123), 2024.

9. S. M. Soares and Marcelo M. Carvalho. "Impact of Rayleigh fading channel on IEEE 802.11 ah networks under restricted access window mechanism." In 2024 19th International Symposium on Wireless Communication Systems (ISWCS), pp. 1-6. IEEE, 2024.

10. Charlie Brent Mahana, Marcelo M. Carvalho, and Ravi Prakash. "Minimal Latency and Buffer-Constrained Gathering of Data in Sensor Networks." In 2024 19th International Symposium on Wireless Communication Systems (ISWCS), pp. 1-6., 2024.

11. Marcelo M. Carvalho and José Antônio de França Junior. "Sustainable Simultaneous Wireless Information and Power Transfer (SWIPT) Operation in IEEE 802.11 ah Networks." In 2024 IEEE International Conference on Communications Workshops (ICC Workshops), pp. 994-999. IEEE, 2024.

12. Lucas S. Althoff, Alessandro R. Silva, Marcelo M. Carvalho, and Mylene Q. Farias. "360Align: An Open Dataset and Software for Investigating QoE and Head Motion in 360 Videos with Alignment Edits." In Proceedings of the 2024 ACM International Conference on Interactive Media Experiences, pp. 41-55. 2024.

13. José Antônio de França Junior and Marcelo Carvalho. "An ns-3 Model for Simultaneous Wireless Information and Power Transfer over IEEE 802.11 ah Networks." In Proceedings of the 2024 Workshop on ns-3, pp. 27-35. 2024. (**Best Paper Award**)

14. Gabriel C. Araújo, Henrique D. Garcia, Mylène C. Q. Farias, Ravi Prakash, Marcelo M. Carvalho, "360EAVP: A 360-degree Edition-Aware Video Player, Proc. of the 15th Int. Workshop on Immersive Mixed and Virtual Environment Systems, pp. 18-23, Vancouver, Canada, 2023.

15. José Antônio de F. Junior and Marcelo M. Carvalho,"Uma Extensão do ns-3 para Simulação de Transferência Simultânea de Informação e Energia Sem Fio (SWIPT) em Redes IEEE 802.11." Brazilian Symposium on Computer Networks and Distributed Systems, 2023.

16. Eduardo C. Oliveira, Stephanie M. Soares, and Marcelo M. Carvalho, "K-Means Based Grouping of Stations with Dynamic AID Assignment in IEEE 802.11ah Networks," The 18th International Conference on Mobility, Sensing and Networking (MSN), December 14–16, Guangzhou, China, 2022. (**Invited Paper**)

17. Myllena Prado, Lucas S. Althoff, Sana Alamgeer, Alessandro R. Silva, Ravi Prakash, Marcelo M. Carvalho, Mylene C. Q. Farias, "360RAT: A Tool for Annotating Regions of Interest in 360 Videos," XXVIII Brazilian Symposium on Multimedia and Web (WebMedia), Curitiba, Brazil, 2022. (**Best Paper Award**)

18. Lucas S. Althoff, Henrique D. Garcia, Dario D. R. Morais, Sana Alamgeer, Myllena A. Prado, Gabriel C. Araújo, Ravi Prakash, Marcelo M. Carvalho, and Mylene C.Q. Farias, "Designing a User-Centric Framework for Perceptually-Efficient Streaming of 360-degree Edited Videos," Image Quality and System Performance, Virtual Conference, Electronic Imaging, 2022.

19. Cleyson de V. Silva and M. M. Carvalho, "Slotted ALOHA for Wireless Powered Resource-Constrained Networks," IEEE International Conference on Communications (ICC), Montreal, Canada, 2021.

20. Dario D. R. Morais, Lucas S. Althoff, Ravi Prakash, M. M. Carvalho and Mylène C.Q. Farias, "A Content-Based Viewport Prediction Model," Image Quality and System Performance XVIII, Electronic Imaging, Virtual Conference, USA, 2021.

21. Ana Carolina O. Christófaro, M. M. Carvalho and D. G. Silva, "Performance of Metaheuristic Algorithms for the Controller Placement Problem in SDN," IEEE International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD), Virtual Conference, 2020.

22. H. D. Garcia, M. C. Q. Farias, R. Prakash, M. M. Carvalho, "Statistical Characterization of Tile Decoding Time of HEVC-Encoded 360° Video," Image Quality and System Performance, Electronic Imaging, 2020.

23. A.T. Nasrabadi, A. Samiei, A. Mahzari, R. P. McMahan, R. Prakash, M. C.Q. Farias and M. M. Carvalho, "A Taxonomy and Dataset for 360-degree Videos," ACM Multimedia Systems Conference (MMSys), Amherst, USA, 2019.

24. S. M. Soares and M. M. Carvalho, "Throughput Analytical Modeling of IEEE 802.11ah Wireless Networks," Proceedings of the IEEE Consumer Communications & Networking Conference (CCNC), Las Vegas, USA, 2019.

25. M. M. Carvalho and J. J. Garcia-Luna-Aceves, "Carrier-Sense Multiple Access with Transmission Acquisition (CSMA/TA)," Proceedings of IFIP Networking, Zurique, Switzerland, p. 325–333, 2018.

26. J. J. Garcia-Luna-Aceves, M. M. Carvalho, "Collaborative Collision Detection with Half-Duplex Radios," Proceedings of the IEEE Wireless Communications and Networking Conference (WCNC), Barcelona, Spain, 2018.

27. T. Viana and M. M. Carvalho, "In-Band Omnidirectional Initial Access via Alamouti Scheme in Millimeter-Wave Cellular Networks," Proceedings of Wireless Days (WD), 2018, Dubai, United Arab Emirates, p. 74–79, 2018. **(Best Paper Award)**

28. A. C. O. Christófaro, D. G. Silva, M. M. Carvalho, "Análise de Técnicas de Otimização Multiobjetivo para o Posicionamento de Controladores em Redes SDN," Anais do XXXV Simpósio Brasileiro de Telecomunicações e Processamento de Sinais (SBrT), São Pedro, Brazil, 2017.

29. S. M. Soares, M. M. Carvalho, "Revisiting the Analytical Modeling of the IEEE 802.11 Power Save Mode for Independent Basic Service Sets (IBSS)," Proceedings of the 14th ACM Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor, & Ubiquitous Networks (PE-WASUN), Miami, USA, p. 17–24, 2017.

30. G. B. Kalejaiye, H. R. Orefice, T. Moura, M. Bafutto, M. M. Carvalho, "Frugal Crowd Sensing for Bus Arrival Time Prediction in Developing Regions," (Poster), Proceedings of the 2nd International Conference on Internet-of-Things Design and Implementation (IoTDI), Pittsburgh, USA, p. 355, 2017.

31. T. A. Moura, G. B. Kalejaiye, H. R. Orefice, M. Bafutto, M. M. Carvalho, "Social Sensing in Developing Regions." (Poster), Proceedings of the 2nd International Workshop on Social Sensing (SocialSens), Pittsburgh, USA, p. 105, 2017.

32. E. V. Dias, E. R. A. Vargas, M. C. Q. Farias, M. M. Carvalho, "Feasibility of Video Streaming Offloading via Connection Sharing from LTE to WiFi Ad Hoc Networks," Proceedings of the International Workshop on Telecommunications (IWT), Santa Rita do Sapucaí, Brazil, 2015.

33. F. Firyaguna, M. M. Carvalho, "RIMAP: Receiver-Initiated MAC Protocol with Adaptive Polling Discipline," Proceedings of the International Symposium on Wireless Communication Systems (ISWCS), Brussels, p. 96–100, 2015.

34. J. C. Montealegre, M. M. Carvalho, R. M. de Moraes, "Deadline-Constrained Optimal Broadcasting under Hidden Terminals in Cognitive Networks," Proceedings of the Latin America Networking Conference (LANC), Montevideo, Uruguay, 2014.

35. L. E. de Oliveira, L. A. DaSilva, M. M. Carvalho, "OCA-MAC: Opportunistic Channel Aggregation for Wireless Ad Hoc Networks," Proceedings of the 12th Annual Mediterranean Ad Hoc Networking Workshop (MED-HOC-NET), Ajaccio, France, p. 116, 2013.

36. E. A. L. Andrade, F. Firyaguna, A. C. O. Christófaro, M. M. Carvalho, "An Approach for Discrete-Event Simulations of Alamouti Scheme in Ad Hoc Networks," Proceedings of the 18th IEEE International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD), Berlin, Germany, p. 212, 2013.

37. T. S. Bonfim, M. M. Carvalho, "Reversing the IEEE 802.11 Backoff Algorithm for Receiver-Initiated MAC Protocols," Proceedings of the 8th International Wireless Communications and Mobile Computing Conference (IWCMC), Limassol, Cyprus, p. 269, 2012.

38. F. Firyaguna, A. C. O. Christófaro, E. A. L. Andrade, T. S. Bonfim, M. M. Carvalho, "Throughput Performance of V-BLAST-Enabled Wireless Ad Hoc Networks," Proceedings of the 1st IEEE International Conference on Communications in China (ICCC), Beijing, China, p. 688, 2012.

39. M. C. Q. Farias, M. M. Carvalho, H. T. M. Kussaba, B. H. A. Noronha, "A Hybrid Metric for Digital Video Quality Assessment," Proceedings IEEE International Symposium on Broadband Multimedia Systems and Broadcasting (BMSB), Metropolitan Area Nuremberg, Germany, 2011.

40. T. S. Bonfim, M. C. Q. Farias, M. M. Carvalho, "Video Quality Evaluation for a Digital Television Broadcasting Scenario," Proceedings of the International Workshop on Video Processing and Quality Metrics for Consumer Electronics (VPQM), Phoenix, USA, 2010.

41. M. C. Q. Farias, M. M. Carvalho, "Video Quality Assessment Based on Data Hiding for IEEE 802.11 Wireless Networks," Proceedings IEEE International Symposium on Broadband Multimedia Systems and Broadcasting (BMSB), Shanghai, 2010.

42. M. M. Carvalho, J. J. Garcia-Luna-Aceves, "Analytical Modeling of Ad Hoc Networks that Utilize Space-Time Coding," Proceedings of the 4th International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt), Boston, USA, 2006.

43. M. M. Carvalho, J. J. Garcia-Luna-Aceves, "Modeling Wireless Ad Hoc Networks with Directional Antennas," Proceedings of the IEEE Conference on Computer Networks (INFOCOM), Barcelona, Spain, 2006. **(18% Acceptance Ratio)**

44. M. M. Carvalho, J. J. Garcia-Luna-Aceves, "Modeling Single-Hop Wireless Networks under Rician Fading Channels," Proceedings of the IEEE Wireless Communications and Networking Conference (WCNC), Atlanta, USA, p. 219–224, 2004.

45. M. M. Carvalho, J. J. Garcia-Luna-Aceves, "A Scalable Model for Channel Access Protocols in Multihop Ad Hoc Networks," Proceedings of the ACM Annual International Conference on Mobile Computing and Networking (MobiCom), Philadelphia, USA, p. 330–344, 2004. **(8% Acceptance Ratio)**

46. M. M. Carvalho, C. B. Margi, K. Obraczka, J. J. Garcia-Luna-Aceves, "Modeling Energy Consumption in Single-Hop IEEE 802.11 Ad Hoc Networks," Proceedings of the 13th International Conference on Computer Communications and Networks (ICCCN), Chicago, USA, p. 367–372, 2004. **(Best Paper Candidate)**

47. M. M. Carvalho, J. J. Garcia-Luna-Aceves, "Delay Analysis of IEEE 802.11 in Single-Hop Networks," Proceedings of the IEEE International Conference on Network Protocols (ICNP), Atlanta, USA, p. 146–155, 2003. **(13% Acceptance Ratio)**

48. L. Flynn, R. Vullikanti, M. M. Carvalho, and R. Balakrishnan, " "Yo G-Money!" Y(ireless) O(pen) G(PS-oriented advertised ways to make) MONEY!", The 5th International Symposium on Wireless Personal Multimedia Communications (WPMC), p. 1197–1201, 2002.

49. M. M. Carvalho, D. S. Arantes, "Predição de Tráfego Auto-Similar em Redes ATM," Anais do XV Simpósio Brasileiro de Telecomunicações, Recife, PE, Brazil, 1997.

50. M. M. Carvalho, D. S. Arantes, "Predição de Tráfego Auto-Similar Utilizando Redes Neurais do Tipo FIR," Anais do IV Simpósio Brasileiro de Redes Neurais, Goiânia, Goiás, Brazil, 1997.

Book Chapters

1. M. M. Carvalho, M. C. Q. Farias, "Digital Terrestrial Television Multimedia Broadcasting (DTMB)," Digital Television Systems, Cambridge University Press, 2009.
2. M. C. Q. Farias, M. M. Carvalho, "International System for Digital Television (ISDTV), Digital Television Systems," Cambridge University Press, 2009.

Service

Organizing Committee

1. **Track Co-Chair**, IEEE Cloud Summit, Washington DC, USA, 2026 (current)
2. **Track Co-Chair**, IEEE Cloud Summit, Washington DC, USA, 2025.
3. **Co-Chair**, Special Session on Next Generation Wireless Networking Strategies, 19th International Symposium on Wireless Communication Systems (ISWCS), Rio de Janeiro, Brazil, 2024.
4. **Track Co-Chair**, The 24th IEEE/ACM international Symposium on Cluster, Cloud and Internet Computing (CCGrid' 24), Philadelphia, USA, 2024
5. **Publicity Co-Chair**: The 20th IEEE International Conference on Mobile Ad Hoc and Smart Systems (MASS), Toronto, Canada, 2023.
6. **Workshop Co-Chair**: The First Workshop on Photorealistic Image and Environment Synthesis for Multimedia Experiments (PIES-ME), co-located with ACM Multimedia, Lisbon, Portugal, 2022.
7. **Area Co-Chair**: Hot Topics in Networking (HOT), The 29th International Conference on Computer Communications and Networks (ICCCN), Honolulu, Hawaii, USA, 2020.
8. **Program Co-Chair**: The 16th IEEE International Conference on Mobile Ad Hoc and Smart Systems (MASS), Monterey, CA, 2019.
9. **Publicity Chair**: IEEE International Workshop on Flexible and Agile Networks (FlexNets), in conjunction with IEEE INFOCOM, Paris, France, 2019.
10. **Publicity Chair**: IEEE International Workshop on Flexible and Agile Networks (FlexNets), in conjunction with IEEE WCNC, Barcelona, Spain, 2018.
11. **General Co-Chair**: The 13th IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS), Brasília, Brazil, 2016.
12. **General Co-Chair**: IEEE International Workshop on CellulAR Traffic Offloading to Opportunistic Networks (CARTOON), in conjunction with IEEE MASS, Philadelphia, USA, 2014.

Technical Programa Committee

- IEEE International Conference on Communications (ICC) (2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026)
- IEEE Wireless Communications and Networking Conference (WCNC) (2020, 2021, 2022, 2023, 2024, 2025, 2026)
- IEEE International Conference on Artificial Intelligence in Information and Communication (ICAIIC) (2025, 2026)
- IEEE International Conference on Machine Learning for Communication and Networking (ICMLCN) (2024, 2025, 2026)
- IEEE Consumer Communications & Networking Conference (CCNC) (2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024)
- IEEE Conference on Distributed Computing Systems (ICDCS) (2025, 2026)
- IEEE International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD) (2025)

- IEEE Vehicular Technology Conference (VTC) Spring (2016, 2017, 2018)
- IEEE Symposium on Computers and Communications (ISCC) (2019, 2020, 2021, 2022)
- IEEE International Workshop on Cloud-Network Convergence (CNC) (2025)
- IEEE Vehicular Technology Conference (VTC) Fall (2016, 2017)
- IEEE Global Communications Conference (GLOBECOM) (2016, 2025)
- ACM Symposium on Mobility Management and Wireless Access (MobiWAC) (2018, 2019, 2020, 2021, 2022, 2023, 2025, 2026)
- IEEE Online Conference on Green Communications (GreenComm) (2015, 2016)
- IEEE International Wireless Communications & Mobile Computing Conference (IWCMC) (2013, 2014, 2015, 2016, 2017)
- IEEE IEEE Conference on Local Computer Networks (LCN) (2023, 2024)
- IEEE International Conference on Communication Software and Networks (ICCSN) (2023)
- IEEE/IFIP Wireless Days (2013, 2014, 2016, 2017, 2018)
- ITU/IEEE Kaleidoscope (2011, 2013, 2014, 2016, 2017, 2018, 2019, 2020)
- IFIP/IEEE Cloud and Internet of Things (CIoT) (2016, 2018, 2020, 2022, 2023, 2024, 2026)
- IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC) (2019, 2022)
- IEEE Workshop on Flexible and Agile Networks (FlexNets) (2018, 2019, 2021)
- IEEE International Conference on Green Computing and Communications (GreenCom) (2019)
- IEEE International Conference on Computer Communicatoins and Networks (ICCCN) (2008)
- IEEE International Conference on Mobile Ad-Hoc and Sensor Networks (MSN) (2016)
- European Conference on Networks and Communications (EuCNC) (2019, 2020, 2021, 2022, 2024)
- International Conference on Big Data Computing and Communications (BigCom) (2016, 2019)
- IWCMC Smart Infrastructures for Crowd Management Workskop (SICM) (2018, 2019, 2020)
- IEEE PIMRC Workshop on The Economics of Wireless Network Virtualization (2017)
- IEEE Int. Conference on Wireless Technologies, Embedded, and Intelligent Systems (WITS) (2019)
- International Conference on Ubiquitous and Future Networks (ICUFN) (2019, 2020, 2021, 2022, 2023, 2024)
- Symposium on Internet of Things, Fog Computing and Wireless Location Technologies (SIFL) (2019)
- WPerformance (2010, 2012, 2013, 2014, 2015, 2016, 2017)
- International Conference on Innovations in Information Technology (IIT'16) (2016)
- International Symposium on Intelligent Systems Technologies and Applications (ISTA) (2015)
- International Conference on Information Science and Security (ICISS) (2015)
- International Telecommunications Symposium (ITS) (2014)
- International Symposium on Intelligent Informatics (ISI) (2014)
- Brazilian Symposium on Telecommunications (SBrT) (2015, 2016, 2018)

Editorial Board

- **Editor**, Applied Sciences, January 2025 – present.
- **Associate Editor**, Special Issue on IEEE MASS 2019, Journal of Computer Science and Technology, 2020.

Professional Societies

- Vice-Chair, IEEE Central Texas Austin ComSoc – SPSoc – CTSoc Joint Chapter (2024 – Present)
- IEEE Member
- ACM Member
- Vice-Chair, IEEE Centro-Norte Brazil Section, 2011-2012.

Session Chair

- IEEE International Conference on Computer Communications and Networks (ICCCN), 2020.
- IEEE Wireless Communications and Networking Conference (WCNC), 2018.
- ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), 2017.
- International Symposium on Wireless Communication Systems (ISWCS), 2015.

Journal Reviewer

1. IEEE/ACM Transactions on Networking
2. IEEE Transactions on Communications
3. IEEE Transaction on Mobile Computing
4. IEEE Transactions on Wireless Communications
5. IEEE Communications Magazine
6. IEEE Wireless Communications
7. IEEE Communications Letters
8. IEEE Internet of Things Journal
9. IEEE Transactions on Computers
10. IEEE Transactions on Parallel and Distributed Systems
11. IEEE Antennas and Propagation Magazine
12. IEEE Access
13. ACM Transactions on Multimedia Computing, Communications, and Applications
14. ACM Computing Surveys
15. Elsevier Ad Hoc Networks
16. Elsevier Computer Communications
17. Elsevier Journal of Network and Computer Applications
18. Elsevier Physical Communication
19. Elsevier Computer Networks
20. Springer Wireless Personal Communications
21. AEU International Journal of Electronics and Communications
22. EURASIP Journal on Wireless Communications and Networking
23. IET Journal of Engineering
24. Wireless Networks
25. Electronics Letters

26. The Computer Journal (Oxford University Press)
27. Journal of Parallel and Distributed Computing
28. Telecommunication Systems
29. ICT Express

Conference Reviewer

1. IEEE INFOCOM (2010, 2011, 2012, 2013)
2. IEEE WCNC (2007, 2008, 2010, 2011, 2012, 2013, 2014, 2015)
3. IEEE GLOBECOM (2005, 2008, 2013, 2014)
4. IEEE ICC (2011)
5. IEEE MILCOM (2011)
6. IEEE CCNC (2011)
7. IEEE SECON (2015)
8. IEEE LATINCOM (2010, 2011)
9. IEEE/IFIP CNSM (2014)

Panels

1. Industry Panel: The Need for Smart Solutions Empowered by Sensing, AI/ML, 5G and Beyond, IEEE Global Communications Conference, Kuala Lumpur, Malaysia. December 7, 2023.
2. Smart Networks Panel, Digital 360 Summit, San Marcos, TX, United States. September 26, 2023.
3. "Cyber-Physical Challenges in Social Spaces," (Panelist) The 1st International Workshop on Social Sensing (SocialSens), Dallas, USA, 2015.

Academic Advisor

Postdoctoral Supervisor

1. Dr. Yang Yang, Ph.D. Syracuse University, March 2024 to present.
2. Dr. Ahmed Maksud, Ph.D. University of California Riverside, August 2024 to present.

Current Ph.D. Students

1. Gabriel de Castro Araújo, Texas State University

Current M.S. Students

1. Abdullah Al Safi
2. Ahmed Selim Anwar
3. Umme Farhana

Ph.D. Graduates

1. Stephanie Miranda Soares, "An Analytical Model for IEEE 802.11ah Networks Under the Restricted Access Window Mechanism and Rayleigh Fading Channel," Department of Electrical Engineering, University of Brasilia, 2024.

M.Sc. Graduates

1. Md Saif Rahman, "Comparative Study of Clustering Algorithms for Device Grouping in Wi-Fi HaLow Networks," 2025. M.Sc. Thesis – Texas State University.
2. José Antônio de França Junior, "An NS-3 Module for Simulation of Simultaneous Wireless Information and Power Transfer (SWIPT) over IEEE 802.11 Networks." 2023. M.Sc. Thesis (Electrical Engineering) – University of Brasilia.
3. Gabriel de Castro Araújo, "360EAVP: The Edition-Aware 360-degree Video Player," 2023. M.Sc. Thesis (Electrical Engineering) – University of Brasília.
4. Cleyson de Vasconcelos Silva. "Slotted ALOHA for Wireless Powered Resource-Constrained Networks." 2021. M.Sc. Thesis (Electrical Engineering) – University of Brasília.
5. Rodrigo Werberirch da Silva Moreira de Oliveira. "Multi-Robot Motion Planning under Restricted Communications." 2020. M.Sc. Thesis (Electrical Engineering) (Co-Advisor) – University of Brasília.
6. Stephanie Miranda Soares. "Analytical Modeling of IEEE 802.11ah Wireless Networks." 2018. M.Sc. Thesis (Electrical Engineering) – University of Brasília.
7. Ana Carolina de Oliveira Christófaro. "Analysis of Multi-objective Optimization Techniques for the Positioning of Controllers in Software-Defined Networks." 2018. M.Sc. Thesis (Electrical Engineering) (Co-advisor) – University of Brasília.
8. Thayane Rodrigues Viana. "Omnidirectional Initial User Access in mmWave Networks based on the Alamouti Scheme." 2017. M.Sc. Thesis (Electrical Engineering) – University of Brasília.
9. Lucas Soares de Brito. "Performance of the Tightness Strategy in Recursive Auctions for Device-to-Device Data Offloading." 2016. M.Sc. Thesis (Electrical Engineering) – University of Brasília.
10. Juan Camilo Montealegre. "Deadline-Constrained Optimal Periodic Broadcasting under Hidden Terminals in Vehicular Networks." 2015. M.Sc. Thesis (Electrical Engineering) (Co-advisor) – University of Brasília.
11. Fadhil Firyaguna. "Performance of Polling Disciplines for a Receiver-Initiated MAC Protocol for Wireless Ad Hoc Neworks." 2014. M.Sc. Thesis (Electrical Engineering) – University of Brasília.
12. Larissa Marinho Eglem de Oliveira "OCA-MAC: Medium Access Control Protocol with Opportunistic Channel Aggregation." 2013. M.Sc. Thesis (Electrical Engineering) – University of Brasília.
13. Tiago da Silva Bonfim. "RIMP: Medium Access Control Protocol with Multipacket Reception for Ad Hoc Networks." 2013. M.Sc. Thesis (Electrical Engineering) – University of Brasília.

B.Sc. Graduates – Scientific Initiation Scholarship Program

These are advised undergraduate students funded by approved projects (in which I was the PI) to participate in a one-year program sponsored by the Brazilian Government.

1. Li Wing Kee Ramos, "MAC Protocol for Simultaneous Wireless Information and Power Transfer (SWIPT) for the Internet of Things ," 2022.
2. Pedro Caio Castro Cortes de Carvalho Coutinho, "Design of Medium Access Control Protocol for Dense Wireless Networks," 2018.
3. André Seiki Figueiredo Komeno, "Design of Medium Access Control Protocol for Linear Sensor Networks," 2018.
4. Nathália Barros Viana, "Elastic Medium Access Control Protocol for the Internet of Things," 2018.
5. Nícolas Silva Gomes dos Santos, "Medium Access Control Protocol for Wireless Networks based on Full-Duplex Radios," 2018.
6. Stephanie Miranda Soares, "Energy Consumption Reduction in Sensor Networks based on Medium Access Control and Signal Processing," 2015.
7. Taís Laurindo Pereira, "Energy Efficient Routing in Ad Hoc Networks," 2014.
8. Daniel Serra Mascarenhas, "Mobile Data Offloading Strategies through Ad Hoc Networks," 2014.

9. Camila Lumy Nakano, “Routing in Ad Hoc Networks with Dynamic Spectrum Access,” 2014.
10. Ana Cláudia Cardoso de Souza, “Impact Evaluation of Primary User Behavior on the Performance of Cognitive Ad Hoc Networks,” 2013.
11. Mateus Marcuzzo da Rosa, “Implementation and Simulation of a Receiver-Initiated Medium Access Control Protocol,” 2013.
12. Eduardo Vergne Dias, “Performance Evaluation of MIMO Ad Hoc Networks based on the IEEE 802.11n Standard,” 2013.
13. Taís Laurindo Pereira, “Multipath Routing in Cognitive Ad Hoc Networks,” 2013.
14. Raphael Augusto Souza de Melo, “Implementation of a Routing Protocol for Wireless Ad Hoc Networks based on Android Devices,” 2013.
15. Leonardo Albuquerque, “Android-Based Wireless Ad Hoc Networks,” 2013.
16. Gabriel B. T. Kalejaiye, “Android-Based Wireless Ad Hoc Networks,” 2013.
17. Luiz Felipe Campos, “Android-Based Wireless Ad Hoc Networks,” 2013.
18. João Antônio Rondina, “Android-Based Wireless Ad Hoc Networks,” 2013.
19. Fadhil Firyaguna, “Medium Access Control Protocol based on Multi-packet Reception for Ad Hoc Networks,” 2012.
20. Éverton Augusto de Lima Andrade, “Design of Medium Access Control Protocol for Wireless Ad Hoc Networks with Transmit Diversity,” 2012.
21. Pedro Vítor Rodrigues da Conceição, “Multipath Routing in Cognitive Ad Hoc Networks,” 2012.
22. Fadhil Firyaguna, “Spatial Multiplexing in Wireless Ad Hoc Networks,” 2011.
23. Éverton Augusto de Lima Andrade, “Transmit Diversity in Wireless Ad Hoc Networks,” 2011.
24. Thiago Sebba, “Capacity Dimension in Wireless Ad Hoc Networks,” 2011.
25. Marcelo Sano Okubo, “Sensor Network Design for Oil Exploration,” Federal University of São Paulo, 2008.

B.Sc. Graduates – Capstone Project

1. Eduardo da Costa Oliveira, “K-Means Based Grouping of Stations with Dynamic AID Assignment in IEEE 802.11ah Networks,” 2022.
2. Leonardo Corrêa Fossi and Lucas Garcia Reis Ferreira, “Real-Time Baby Monitoring Based on an Internet of Things Architecture,” 2021.
3. Felipe Barreto de Oliveira and João Vítor Mendes Loures, “An Internet of Things Architecture for Fall Detection in Ambient Assisted Living,” 2021.
4. Jacqueline Cristina Lima de Souza, “Implementation of a Robot Ad-Hoc Network based on the Robot Operational System (ROS),” 2018.
5. Marina Maia Herejk, “Mobility Impact on D2D Data Offloading via Recursive Auctions and the Tightness Strategy,” 2016.
6. Stephanie Miranda Soares, “ Analytical Modeling of the IEEE 802.11 PSM Throughput,” 2015.
7. Reinaldo Gutierrez Pimenta and Rodrigo Lobo, “ Implementation and Performance Evaluation of the IEEE 802.15.4 CSMA/CA Protocol on the SimpliciTI Platform with MSP430 Microcontrollers,” 2015.
8. Éverton Augusto de Lima Andrade, “ Performance of Traffic Offloading over Android-based Ad Hoc Networks,” 2015.
9. Eduardo Vergne Dias and Eduardo Rafael Alves Vargas, “ Performance of Ad Hoc Networks for Digital Video Traffic Offloading,” 2014.
10. Camila Lumy Nakano and Thayane Rodrigues Viana, “Performance of Ad Hoc Networks for Cellular Traffic Offloading,” 2014.

11. Evandro da Costa Oliveira Júnior, “Dynamic Address Assignment in Android-Based Wireless Ad Hoc Networks,” 2014.
12. Hélder Paz Machado and Raphael Augusto Souza de Melo, “Energy-Efficient AODV Routing Protocol for Android Platforms,” 2013.
13. Ana Carolina de Oliveira Christófaro and Fadhil Firyaguna, “Implementation and Simulation of Wireless Ad Hoc Networks with Multiple Antennas,” 2012.
14. Lucas Soares de Brito and Rodrigo Morais Silva, “Reliable Medium Access Control Protocol for Underwater Network Communications,” 2011.
15. Amanda Marques da Silva and Pedro Henrique Mesquita, “Implementation and Peformance Evaluation of a Medium Access Control Protocol for Cognitive Ad Hoc Networks,” 2010.
16. Larissa Eglem Oliveira and Priscilla Amorim Rodrigues, “Analytical Modeling and Performance Evaluation of a Medium Access Control Protocol for Cognitive Ad Hoc Networks,” 2010.

Committees

Administration and Curricular Development

- MS Engineering Admission Committee, Ingram School of Engineering, Texas State University, 2023 – present.
- IEEE HKN Faculty Advisor, Ingram School of Engineering, Texas State University, 2025 – present.
- IT Oversight Committee, Ingram School of Engineering, Texas State University, 2023 – 2025.
- Faculty Search Committee, Ingram School of Engineering, Texas State University, 2024 – 2025.
- Undergraduate Advisor, H-LSAMP Scholars Program, Texas State University, 2024.
- Scholarship Committee, Ingram School of Engineering, Texas State University, 2023 – 2024.
- Faculty Search Committe, Ingram School of Engineering, Texas State University, 2023 – 2024.
- Member of the Graduate Council of the Graduate Program in Electronics and Automation Systems Engineering, Department of Electrical Engineering, University of Brasilia, 2016 – 2018.
- Tenure Faculty Evaluation Committee, School of Technology, University of Brasília, 2017.
- Faculty Hiring Committee, Federal University of Santa Catarina, 2013.
- Tenure Faculty Evaluation Committee, School of Technology, University of Brasília, 2013.
- Faculty Hiring Committee, University of São Paulo, 2008.
- Faculty Hiring Committee, Federal University of São Paulo, 2008.
- Campus Director, Federal University of São Paulo, August 2008 – May, 2009.
- Coordinator of the Computer Science Undergraduate Program at Federal University of São Paulo, February 2008 – August 2008.

Ph.D. Committee

1. Minh Phu Vuong, “Constrained Graph Partitioning: Algorithms and Applications,” Computer Science Department, Texas State University, 2025 (Dissertation Proposal)
2. Luis Roman, “Proposal and Evaluation of Authentication and Authorization Protocols for CWD-WPT Charging Stations.” Department of Electrical Engineering, University of Brasilia, 2023.
3. Tarek Sayjari, “Ensuring the QoS requirements for scalable SDWSN through network slicing using IEEE 802.15.4e TSCH.” Polytechnic School, University of Sao Paulo, Brazil, 2023.
4. Paulo Filipe Cândido Barbosa, “Uma Proposta de Otimização de Consumo de Energia e Interoperabilidade de Protocolos MAC para Redes IoT e de Sensores empregando Machine Learning,” (Qualifying Exam), Federal University of Pernambuco, 2021.

5. Tarek Sayjari, “Application-Awware Scheduling for IEEE 802.15.4e TSCH in SDWSN,” (Qualifying Exam), University of São Paulo, 2021.

6. Renan Cerqueira Afonso Alves, “Roteamento Eficiente em Redes Restritas com Enlaces Unidirecionais através de Redes Definidas por Software,” University of São Paulo, 2020.

7. Yarisley Peña Llerena, “Radio Resource Allocation and SDN Controller Placement Problem considering D2D communications management,” (Qualifying Exam), University of Brasília, 2020.

8. Hugerles Sales Silva, “Avaliação de Transmissão de Sinais M-QAM em Modelos de Canais Sujeitos a Ruído Impulsivo e Desvanecimento Generalizado,” Federal University of Campina Grande, 2018.

9. Luciano Mauro Arley Sup, “Novas Metodologias AQM e TCP Visando a Eficiência de Fluxos de Controle UDP e Dados TCP/IP Compartilhados,” University of Brasília, 2017.

10. Vinícius Galvão Guimarães, “Towards a Novel Energy-Efficient IoT Network Protocol Stack,” Qualifying Exam, University of Brasília, 2018.

11. Pravati Swain, “Performance Analysis of IEEE 802.11 DCF Power Save Mode in IBSS,” Indian Institute of Technology, Guwahati, 2013.

12. Cláudio Castro Monteiro, “Framework para Entrega de Vídeo a Usuários Móveis em Redes sem Fio Heterogêneas,” Qualifying Exam, University of Brasilia, 2010.

M.Sc. Committee

1. Zaheen Simin, “Secure Bidirectional Communication in IoT-Driven Utility Networks using Sertainty UXP and LoRaWAN,” Ingram School of Engineering, Texas State University, 2025.

2. Shafiqul Khan, “UAV Navigation for Urban Firefighting Using Deep Reinforcement Learning,” Ingram School of Engineering, Texas State University, 2025.

3. Shravani Kuntal, “Implementation of Logic Circuits using a Hybrid Model with Low-Power Techniques,” Ingram School of Engineering, Texas State University, 2025.

4. Kaavya Ramarapu, “Environmental Emotion Recognition for Children with ASD,” ngram School of Engineering, Texas State University, 2025.

5. Wilton Santana, “”Improving Full-Duplex MAC Protocols for Wireless Ad Hoc Networks with Many-to-Many Multiuser Communication.” Computer Science Department, Federal University of Pernambuco, Brazil, 2023.

6. James Stark III, “Field-Programmable Gate Array Based Accelerators for Sparse Banded Matrices.” Ingram School of Enbineering, Texas State University, 2023.

7. Samuel Ducca, “Low-cost animal and pedestrian crossing detection in rural roads using WiFi sensing and deep learning.” Candidacy Exam. Department of Computer and Digital Systems Engineering, University of Sao Paulo, 2023

8. Pedro Henrique Andrade Trindade, “DVB-RCS2 Satellite Return Link: Queuing Model and Resource Allocation Optimization Based on Game Theory,” University of Brasília, 2022

9. Guilherme Lustosa Ricarte, “Interface de Controle Portátil para Ciclismo por Estimulação Elétrica Funcional,” University of Brasília, 2021.

10. Gabriel de Carvalho Ferreira, “Uma Nova Técnica para Melhorar a Acurácia e Eficiência do Sensoriamento Colaborativo em Redes 5G para Áreas Remotas,” University of Brasília, 2020.

11. Beatriz Oliveira Câmara da Fé, “Roteador Nanoeletrônico para Redes-em-Chip,” University of Brasília, 2017.

12. Pabblo Cardelino Ghobad, “M2MMAC: Um Novo Protocolo MAC Multicanal para Comunicação Muitos-para-Muitos em Redes 802.11,” University of Brasília, 2017.

13. Ruben Ortega Blanco, “Análise de SINR e BER para Redes Acústicas Subaquáticas,” University of Brasília, 2015.

14. Felipe Moraes Modesto, “Características do Usuário Primário e seu Impacto nos Mecanismos de Acesso Dinâmico ao Espectro,” University of Brasília, 2017.

15. Lucas Rodrigues de Paula, “Capacidade de Redes Ad Hoc Densas Considerando Desvanecimento e a Lei de Conservação de Energia,” University of Brasília, 2013.

16. Lucas de Melo Guimarães, “Proposta Técnica para Reserva de Canal e Atenuação do Problema de Surdez de Antenas em Comunicações Direcionais,” University of Brasília, 2013.

17. Bernardo Vergne Dias, “Proposta e Avaliação de Arquitetura Adaptativa para Transmissão Multidestinatária e ao Vivo de Vídeo Escalável em Rede Par-a-Par,” University of Brasília, 2012.

18. Rodrigo Mulinari, “Esquemas Adaptativos para Distribuição de Vídeo na Internet,” University of Brasília, 2010.

19. Paulo Ribeiro Lins Júnior, “Roteamento Baseado na Qualidade de Conexão em Redes Ópticas WDM,” Federal University of Campina Grande, 2007.

20. Jerônimo Silva Rocha, “Avaliação de Desempenho de Redes UMTS,” Feeral University of Campina Grande, 2007.

Invited Talks

1. “Pushing the Limits of Good Old CSMA: Are We Done Yet?” Celebrating 50 Years of the ALOHA System and the Future of Networking, CITRIS and the BANATAO Institute, Santa Clara, USA, January 24, 2020.

2. “Carrier-Sense Multiple Access with Transmission Acquisition and Channel-Access Prioritization,” Jack Baskin School of Engineering, University of California Santa Cruz, USA, November 14, 2019.

3. “Carrier-Sense Multiple Access with Transmission Acquisition and Channel-Access Prioritization,” IEEE ComSoc Santa Clara Chapter, Santa Clara, USA, November 13, 2019.

4. “Carrier-Sense Multiple Access with Transmission Acquisition (CSMA/TA),” College of Science and Technology, Temple University, November 1, 2018.

5. “Carrier-Sense Multiple Access with Transmission Acquisition (CSMA/TA),” Universitat Politècnica de Catalunya (UPC), April 19, 2018.

6. “Performance of the Tightness Strategy in Recursive Auctions for Multihop Data Offloading,” Computer Science Department, University of Texas at Dallas, February 6, 2017.

7. “Performance of the Tightness Strategy in Recursive Auctions for Multihop Data Offloading,” Jack Baskin School of Engineering, University of California Santa Cruz, February 2, 2017.

8. “The Internet of Things: Facts, Hype, and Opportunities,” (Panelist), IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), Dallas, USA, 2015.

9. “Mobile Data Offloading to Wireless Ad Hoc Networks: The Tightness Strategy,” CONNECT, The Science Foundation Ireland Research Centre for Future Networks and Communications, Trinity College Dublin, July 16, 2014.

10. “The Receiver-Initiated Binary Exponential Backoff (RIBB) MAC Protocol,” Jack Baskin School of Engineering, University of California Santa Cruz, February 3, 2013.

11. “OCA-MAC: Opportunistic Spectrum Access by Control Hitchhiking on IEEE 802.11 Networks,” CONNECT, The Science Foundation Ireland Research Centre for Future Networks and Communications, Trinity College Dublin, June 5, 2011.

12. “An IEEE 802.11-based Medium Access Control Protocol for Opportunistic Access in Wireless Networks,” Cognitive Radio Workshop, CPqD Research Center, Brazil, June 15, 2011.

Teaching – List of Courses Taught

Year	Semester	Course
2006	1	Principles of Communications (at UFCG)
2007	1	Computer Networks (at UFCG)
2008	1	Statistics and Probability (at Unifesp)
2008	2	Computer Architecture (at Unifesp)
2009	1	Computer Networks (at Unifesp)
2009	2	ENE 169676, Computer Programming for Engineers
2009	2	ENE 170801, Mobile Communications
2010	1	ENE 167959, Networking Fundamentals
2010	1	ENE 170801, Mobile Communications
2010	2	ENE 167959, Networking Fundamentals
2010	2	ENE 167916 - Topics in Digital Systems
2010	2	Topics in Control and Automation (Graduate Course)
2011	1	ENE 167959 - Networking Fundamentals
2011	1	ENE 167894 - Special Topics in Telecommunications
2011	1	ENE 363685 - Computer Networks (Graduate Course)
2011	2	ENE 167495 - Network Protocols and Architecture
2011	2	ENE 167894 - Special Topics in Telecommunications
2011	2	ENE 363685 - Computer Networks (Graduate Course)
2012	1	ENE 167495 - Network Protocols and Architecture
2012	1	ENE 363685 - Computer Networks (Graduate Course)
2012	2	ENE 167495 - Network Protocols and Architecture
2012	2	ENE 206652 - Topics in Communications Networks 2
2013	1	ENE 160024 - Telecommunications Networks 1
2013	1	ENE 206644 - Topics in Communications Networks 1
2013	2	ENE 167959 - Networking Fundamentals
2013	2	ENE 363685 - Computer Networks (Graduate Course)
2014	1	ENE 167959 - Networking Fundamentals
2014	1	ENE 206644 - Topics in Communication Networks 1
2014	2	ENE 108529 - Telecommunications Networks
2014	2	ENE 170801 - Mobile Communications
2015	1	ENE 167959 - Networking Fundamentals
2015	1	ENE 208833 - Local Area Networks
2015	2	ENE 167959 - Networking Fundamentals
2015	2	ENE 367354 - Stochastic Processes (Graduate Course)
2016	1	ENE 167959 - Networking Fundamentals
2016	1	ENE 169617 - Topics in Engineering
2016	2	ENE 167959 - Networking Fundamentals
2016	2	ENE 367354 - Stochastic Processes (Graduate Course)
2017	1	ENE 167959 - Networking Fundamentals
2017	1	ENE 111848 - Electric Circuits Lab
2017	2	ENE 367354 - Stochastic Processes (Graduate Course)
2017	2	ENE 167959 - Networking Fundamentals
2018	1	ENE 111848 - Electric Circuits Lab
2018	1	ENE 111848 - Electric Circuits Lab
2019	2	ENE 367354 - Stochastic Processes (Graduate Course)
2019	2	ENE 111848 - Electric Circuits Lab
2020	1	ENE 367354 - Computer Networks (Graduate Course)
2020	1	ENE 111848 - Electric Circuits Lab

Classroom Teaching

Year	Semester	Course
2020	2	ENE 367354 - Stochastic Processes (Graduate Course)
2020	2	ENE 111848 - Electric Circuits Lab
2021	1	ENE 367354 - Computer Networks (Graduate Course)
2021	1	ENE 111848 - Electric Circuits Lab
2021	2	ENE 367354 - Stochastic Processes (Graduate Course)
2021	2	ENE 111848 - Electric Circuits Lab
2022	1	ENE 000282 - Electric Circuits Lab
2023	1	EE 3370 - Signals and Systems
2023	1	EE 4372 - Communication Networks
2023	1	CS 3339 - Computer Architecture
2023	1	CS 5310 - Networks and Communications
2023	1	EE 5372 - Advanced Networks
2023	2	EE 3370 - Signals and Systems
2024	1	EE 3370 - Signals and Systems
2024	2	EE 3350 - Electronics I
2024	2	EE 4370 - Communication Systems
2025	1	EE 3370 - Signals and Systems
2025	2	EE 3370 - Signals and Systems
2025	2	Senior Design 1