

# Wallace A. Martins

*Curriculum Vitæ* — updated on August 2024  [pagespro.isae-supaero.fr/wallace-martins](https://pagespro.isae-supaero.fr/wallace-martins)

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## Current Position

09/2023–present **Full Professor**, *Institut Supérieur de l’Aéronautique et de l’Espace (ISAE-SUPAERO)*, Université de Toulouse, France

## Employment History

02/2022–08/2023 **Research Scientist**, *University of Luxembourg (UniLu) – Interdisciplinary Centre for Security, Reliability and Trust (SnT)*, Luxembourg

02/2019–01/2022 **Research Associate**, *UniLu – SnT*, Luxembourg

02/2013–04/2022 **Associate Professor**, *Federal University of Rio de Janeiro (UFRJ) – Electronics and Computer Engineering Dept.*, Rio de Janeiro, Brazil

01/2018–02/2018 **Visiting Researcher**, *Universidad de Alcalá*, Alcalá de Henares, Spain

07/2016–08/2016 **Visiting Researcher**, *Université de Lille 1*, Lille, France

08/2010–01/2013 **Assistant Professor**, *Federal Center for Tech. Education (CEFET/RJ) – Control and Automation Industrial Eng. Dept.*, Nova Iguaçu, Brazil

04/2009–06/2010 **Instructor**, *Techknowledge Training*, Rio de Janeiro, Brazil

04/2008–06/2008 **Visiting Researcher**, *University of Notre Dame*, South Bend (IN), USA

## Education

04/2009–12/2011 **D.Sc. Electrical Engineering**, *UFRJ*, Brazil

Advisor: Prof. Paulo S. R. Diniz, IEEE Fellow

Dissertation title: *Block-based transceivers with reduced redundancy*

03/2007–03/2009 **M.Sc. Electrical Engineering**, *UFRJ*, Brazil

Advisor: Prof. Paulo S. R. Diniz, IEEE Fellow

Dissertation title: *Block-based transceivers with minimum redundancy*

08/2002–08/2007 **B.Eng. Electronics Engineering (Cum Laude)**, *UFRJ*, Brazil

## Professional Service

### Editorial Boards

09/2024–present Senior Area Editor of the IEEE Signal Processing Letters

08/2024–present Editor of the IEEE Communications Letters

03/2022–present Associate Editor of the EURASIP Journal on Advances in Signal Processing

09/2020–09/2024 Associate Editor of the IEEE Signal Processing Letters

## Technical Area Committee

01/2023–present Theoretical and Methodological Trends in Signal Processing, EURASIP  
*Chair of the subcommittee for TMTSP Nominations/Elections*

## Conference Organization

2019 Chair of the Wireless Communications Technical Committee of the 37th  
Brazilian Symposium on Telecommunications and Signal Processing (SBrT),  
Petrópolis, Brazil

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## Administrative Positions

2016–2017 **Academic Coordinator**, *B.Eng. of Electronics and Computer Engineering*,  
UFRJ, Brazil

2016–2017 **Deputy Department Chairman**, *Electronics and Computer Engineering*  
*Dept.*, UFRJ, Brazil

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## Honors and Awards

03/2022 **Right to Supervise Doctoral Candidates (ADR)**, *UniLu*, Luxembourg

11/2020 **Best Paper Award**, *38th Brazilian Symposium on Telecommunications*  
*and Signal Processing (SBrT)*, Brazil

06/2020 **IEEE Senior Member**

01/2019 **Productivity Scholarship**, *CNPq (a Brazilian research council)*, Brazil

01/2019 **Got Energy Talent Fellowship**, *Horizon 2020*, Spain

01/2016 **Productivity Scholarship**, *CNPq*, Brazil

12/2012 **Best Brazilian Ph.D. Thesis Award in Engineering**, *CAPES*, Brazil

08/2009 **Best Student Paper Award**, *17th European Signal Processing Conference*  
*(EUSIPCO)*, Scotland

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## Languages

Portuguese Native

English Fluent

French Intermediate (B1)

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## Summary of Productions/Supervisions/Funding/Teaching

Patents	2	Funding (PI)	440 k€
Books	3	Funding (contr.)	3.5 M€
Book Chapters	3	Ph.D. Superv.	4
Journals	51	M.Sc. Superv.	8
Conferences	63	Committees	10 Ph.D./19 M.Sc.
Managed Projects	9	Teaching	> 2400 h in classroom

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## Patents

- P2 Beltrão, G.; **Martins, W. A.**; Bhavani Shankar, M. R.; Alae-Kerahroodi, M. ; Schroeder, U.; Tatarinov, D., “*System and method for breathing and heart rate estimation in radar-based vital sign monitoring systems*,” filed in 2022.
- P1 Beltrão, G.; Tatarinov, D.; Schroeder, U.; **Martins, W. A.**; Alae-Kerahroodi, M. ; Bhavani Shankar, M. R.; Zemlin, M., “*System and method of random body movement and interference mitigation for vital-sign monitoring using radar signals in medical applications*,” filed in 2021.

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## Books

- B3 Diniz, P. S. R.; Campos, M. L. R.; **Martins, W. A.**; Lima, M. V. S., and Apolinário Jr., J. A., “*Online Learning and Adaptive Filters*,” Cambridge University Press, Cambridge, UK, 2022 (hardback ISBN 9781108842129, e-book ISBN 9781108896139).
- B2 Lima, J. B.; Ribeiro, G. B.; **Martins, W. A.**; Elias, V. R. M.; Lewenfus, G., “*Graph Signal Processing: Fundamentals and Applications*” (in Portuguese), Brazilian Society of Applied and Computational Mathematics (*Sociedade Brasileira de Matemática Aplicada e Computacional*), Brazil, 2021 (ISBN 978-65-86388-05-3, e-ISBN 978-65-86388-04-6).
- B1 Diniz, P. S. R.; **Martins, W. A.**; Lima, M. V. S., “*Block Transceivers: OFDM and Beyond*,” Springer, Switzerland, 2012 (ISBN 978-3-031-00549-7, e-ISBN 978-3-031-01677-6).

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## Book Chapters

- BC3 Chougrani, H; Kodheli, O.; **Martins, W. A.**; Chaker, H.; Chatzinotas, S., “*Physical-Layer Aspects of Machine-Type Communications and Satellite Integration*,” chapter in *Integration of MTC and Satellites for IoT toward 6G Era*, by Alves, H.; Mikhaylov, K.; Höyhty, M.; (editors), Wiley-IEEE Press, 2024. (ISBN: 978-1-119-98214-2).
- BC2 **Martins, W. A.**; Lima, J. B.; Richard, C.; Chatzinotas, S., “*A Primer on Graph Signal Processing*,” chapter in *Signal Processing and Machine Learning Theory*, by Diniz, P.S.R. (editor), Academic Press, New York, NY, 2023. (ISBN-13: 978-0323917728, ISBN-10: 0323917720).
- BC1 Lima, J. B.; **Martins, W. A.**; Ribeiro, G. B.; Elias, V. R. M. – chapter on “*Graph Signal Processing: Fundamentals and Applications*” (in Portuguese) in the shortcourse book of the SBrT-2018 conference. João Pessoa, Brazil: IFPB Publisher, 2019 (pp. 43-85).

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## Refereed Journal Articles

- J51 Lacoste, C.; **Martins, W. A.**; Chatzinotas, S.; Emiliani, L. D., "Resource dimensioning of broadband satellite return networks affected by spatially-correlated rain fade," *IEEE Transactions on Aerospace and Electronic Systems*, accepted in May 2024.
- J50 Singh, V.; Eappen, G.; **Martins, W. A.**; Palisetty, R.; Rojas, C. L. M.; Gonzalez-Rios, J. L.; Vásquez-Peralvo, J. A.; Krivochiza, J.; Merlano-Duncan, J. C.; Socarras, L. G.; Chatzinotas, S.; Ottersten, B., "Diversity combining scheme for time-varying STBC NGSO multi-satellite systems," *IEEE Communications Letters*, vol. 28, no. 4, pp. 882-886, April 2024.
- J49 Abdullah, Z.; Kisseleff, S.; **Martins, W. A.**; Chen, G.; Sanguinetti, L.; Ntontin, K.; Papazafeiropoulos, A.; Chatzinotas, S.; Ottersten, B., "Cooperative hybrid networks with active relays and RISs for B5G: Applications, challenges, and research directions," *IEEE Wireless Communications*, vol. 31, no. 1, pp. 126-132, February 2024.
- J48 Ortiz-Gomez, F. G.; Skatchkovsky, N.; Lagunas, E.; **Martins, W. A.**; Eappen, G.; Daoud, S.; Simeone, O.; Rajendran, B.; Chatzinotas, S., "Energy-efficient on-board radio resource management for satellite communications via neuromorphic computing," *IEEE Transactions on Machine Learning in Communications and Networking*, vol. 2, pp. 169-189, January 2024.
- J47 Zivuku, P.; Kisseleff, S.; Nguyen, V.-D.; **Martins, W. A.**; Ntontin, K.; Chatzinotas, S.; Ottersten, B., "Joint RIS-aided precoding and multislot scheduling for maximum user admission in smart cities," *IEEE Transactions on Communications*, vol. 72, no. 1, pp. 418-433, January 2024.
- J46 Silva, F. B.; Cetin, E.; **Martins, W. A.**, "Radio frequency interference mitigation via nonnegative matrix factorization for GNSS," *IEEE Transactions on Aerospace and Electronic Systems*, vol. 59, no. 4, pp. 3493-3504, August 2023.
- J45 Lacoste, C.; **Martins, W. A.**; Chatzinotas, S.; Emiliani, L. D., "Inbound carrier plan optimization for adaptive VSAT networks," *IEEE Transactions on Aerospace and Electronic Systems*, vol. 59, no. 2, pp. 1037-1050, April 2023.
- J44 Beltrão, G.; **Martins, W. A.**; Bhavani Shankar, M. R.; Alae-Kerahroodi, M.; Schroeder, U.; Tatarinov, D., "Adaptive nonlinear least squares framework for contactless vital sign monitoring," *IEEE Transactions on Microwave Theory and Techniques*, vol. 71, no. 4, pp. 1696-1710, April 2023.
- J43 Ntontin, K.; Boulogeorgos, A. A. A.; Björnson, E.; **Martins, W. A.**; Kisseleff, S.; Abadal, S.; Alarcón, E.; Papazafeiropoulos, A.; Lazarakis, F.; Chatzinotas, S., "Wireless energy harvesting for autonomous reconfigurable intelligent surfaces," *IEEE Transactions on Green Communications and Networking*, vol. 7, no. 1, pp. 114-129, March 2023.

- J42 Chaker, H.; Chougrani, H.; **Martins, W. A.**; Chatzinotas, S.; Grotz, J., “Matching traffic demand in GEO multibeam satellites: The joint use of dynamic beamforming and precoding under practical constraints,” *IEEE Transactions on Broadcasting*, vol. 68, no. 4, pp. 819-833, December 2022.
- J41 **Martins, W. A.**; Chatzinotas, S.; Ottersten, B., “Frequency-packed faster-than-Nyquist signaling via symbol-level precoding for multiuser MISO redundant transmissions,” *IEEE Transactions on Wireless Communications*, vol. 21, no. 10, pp. 8660-8674, October 2022.
- J40 Chougrani, H; Kisseleff, S.; **Martins, W. A.**; Chatzinotas, S., “NB-IoT random access for nonterrestrial networks: Preamble detection and uplink synchronization,” *IEEE Internet of Things Journal*, vol. 9, no. 16, pp. 14913-14927, August 2022.
- J39 Chaves, R. S.; Cetin, E.; Lima, M. V. S.; **Martins, W. A.**, “Fading-ratio-based selection for massive MIMO systems under line-of-sight propagation,” *Wireless Networks* (2022). <https://doi.org/10.1007/s11276-022-03065-y>.
- J38 Chaves, R. S.; Cetin, E.; Lima, M. V. S.; **Martins, W. A.**, “User selection for massive MIMO under line-of-sight propagation,” *IEEE Open Journal of the Communications Society*, vol. 3, pp. 867-887, May 2022.
- J37 Silva, F. B.; Cetin, E.; **Martins, W. A.**, “Radio frequency interference detection using nonnegative matrix factorization,” *IEEE Transactions on Aerospace and Electronic Systems*, vol. 58, no. 2, pp. 868-878, April 2022.
- J36 Beltrão, G.; Stutz, R.; Hornberger, F.; **Martins, W. A.**; Tatarinov, D.; Alae-Kerahroodi, M. ; Lindner, U.; Stock, L.; Kaiser, E.; Goedicke-Fritz, S.; Schroeder, U.; Bhavani Shankar, M. R.; Zemlin, M., “Contactless radar-based breathing monitoring of premature infants in the neonatal intensive care unit,” *Nature Scientific Reports* 12, 5150, March 2022.
- J35 Elias, V. R. M.; Gogineni, V. C.; **Martins, W. A.**; Werner, S., “Kernel regression over graphs using random Fourier features,” *IEEE Transactions on Signal Processing*, vol. 70, pp. 936-949, February 2022.
- J34 Mayouche, A.; **Martins, W. A.**; Tsinos, C.; Chatzinotas, S.; Ottersten, B., “Multi-antenna data-driven eavesdropping attacks and symbol-level precoding countermeasures,” *IEEE Open Journal of Vehicular Technology*, vol. 2, pp. 321–336, June 2021.
- J33 Mayouche, A.; **Martins, W. A.**; Chatzinotas, S.; Ottersten, B., “Data-driven precoded MIMO detection robust to channel estimation errors,” *IEEE Open Journal of the Communications Society*, vol. 2, pp. 1144–1157, May 2021.
- J32 Quintanilha, I. M.; Elias, V. R. M.; Silva, F. B.; Fonini, P. A. M.; Silva, E. A. B.; Netto, S. L.; Apolinário, J. A.; Campos, M. L. R.; **Martins, W. A.**; Wold, L. E.; Anderson, R. B., “A Fault detector/classifier for closed-ring power generators using machine learning,” *Reliability Engineering and System Safety*, vol. 212, 107614, August 2021.

- J31 Kisseleff, S.; **Martins, W. A.**; Chatzinotas, S.; Ottersten, B., “Symbol-level precoding with constellation rotation in the finite block length regime,” *IEEE Communications Letters*, vol. 25, no. 7, pp. 2314–2318, July 2021.
- J30 Elias, V. R. M.; Gogineni, V. C.; **Martins, W. A.**; Werner, S., “Adaptive graph filters in reproducing kernel Hilbert spaces: Design and performance analysis,” *IEEE Transactions on Signal and Information Processing over Networks*, vol. 7, pp. 62–74, 2021.
- J29 Chaves, R. S.; Cetin, E.; Lima, M. V. S.; **Martins, W. A.**, “On the convergence of max-min fairness power allocation in massive MIMO systems,” *IEEE Communications Letters*, vol. 24, no. 12, pp. 2873–2877, December 2020.
- J28 **Martins, W. A.**; Shankar, B.M.R.; Ottersten, B., “Oversampled DFT-modulated biorthogonal filter banks: Perfect reconstruction designs and multiplierless approximations,” *IEEE Transactions on Circuits and Systems. II, Express Briefs*, vol. 67, no. 11, pp. 2777–2781, November 2020.
- J27 Lewenfus, G.; **Martins, W. A.**; Chatzinotas, S.; Ottersten, B., “Joint forecasting and interpolation of time-varying graph signals using deep learning,” *IEEE Transactions on Signal and Information Processing over Networks*, vol. 6, pp. 761–773, November 2020.
- J26 Kisseleff, S.; **Martins, W. A.**; Al-Hraishawi, H.; Chatzinotas, S.; Ottersten, B., “Reconfigurable intelligent surfaces for smart cities: Research challenges and opportunities,” *IEEE Open Journal of the Communications Society*, vol. 1, pp. 1781–1797, November 2020.
- J25 Elias, V. R. M.; **Martins, W. A.**; Werner, S., “Extended adjacency and scale-dependent graph Fourier transform via diffusion distances,” *IEEE Transactions on Signal and Information Processing over Networks*, vol. 6, pp. 592–604, August 2020.
- J24 Dias, T. L. B.; **Martins, W. A.**; Biscainho, L. W. P., “Multichannel source separation using time-deconvolutive CNMF,” *Journal of Communication and Information Systems*, vol. 35, no. 1, pp. 103–112, May 2020.
- J23 Silva, F. B.; **Martins, W. A.**, “Semi-blind data-selective and multiple threshold Volterra adaptive filtering,” *Circuits, Systems, and Signal Processing*, vol. 39, no. 3, pp. 1509–1532, March 2020.
- J22 Spelta, M. J. M.; **Martins, W. A.**, “Normalized LMS algorithm and data-selective strategies for adaptive graph signal estimation,” *Signal Processing*, vol. 167, 107326, February 2020.
- J21 Roldán, F. C.; **Martins, W. A.**; Diniz, P. S. R.; Moonen, M., “Achievable data rate of DCT-based multicarrier modulation systems,” *IEEE Transactions on Wireless Communications*, vol. 18, no. 3, pp. 1739–1749, March 2019.
- J20 Silva, F. B.; **Martins, W. A.**, “Data-selective Volterra adaptive filters,” *Circuits, Systems, and Signal Processing*, vol. 37, no. 10, pp. 4651–4664, October 2018.

- J19 Elias, V. R. M.; **Martins, W. A.**, “On the use of graph Fourier transform for light-field compression,” *Journal of Communication and Information Systems*, vol. 33, no. 1, pp. 92–103, May 2018.
- J18 Haddad, D. B.; Lima, M. V. S.; **Martins, W. A.**; Biscainho, L. W. P.; Nunes, L. O.; Lee, B., “Acoustic sensor self-localization: models and recent results,” *Wireless Communications and Mobile Computing*, vol. 2017, Article ID 7972146, pp. 1–13, October 2017.
- J17 **Martins, W. A.**; Campos, M. L. R.; Chaves, R. S.; Lordelo, C. P. V.; Ellmauthaler, A.; Nunes, L. O.; Barfoot, D. A., “Communication models for distributed acoustic sensing for telemetry (*Tutorial Paper*),” *IEEE Sensors Journal*, vol. 17, no. 15, pp. 4677–4688, August 2017.
- J16 **Martins, W. A.**; Lima, M. V. S.; Diniz, P. S. R.; Ferreira, T. N., “Optimal constraint vectors for set-membership affine projection algorithms,” *Signal Processing*, vol. 134, pp. 285–294, May 2017.
- J15 de Freitas, M. L.; **Martins, W. A.**; de Lima Filho, E. B.; da Silva Júnior, W. S., “New designs for reduced-redundancy transceivers,” *Circuits, Systems, and Signal Processing*, vol. 36, no. 5, pp. 2075–2101, May 2017.
- J14 Sobron, I.; Eizmendi, I.; **Martins, W. A.**; Diniz, P. S. R.; Ordiales, J. L.; Velez, M., “Implementation issues of adaptive energy detection in heterogeneous wireless networks,” *Sensors*, vol. 17, no. 4, pp. 1–17, April 2017.
- J13 Gussen, C. M. G.; Diniz, P. S. R.; Campos, M. L. R.; **Martins, W. A.**; Costa, F. M.; Gois, J., “A survey of underwater wireless communication technologies,” *Journal of Communication and Information Systems*, vol. 31, no. 1, pp. 242–255, October 2016.
- J12 Haddad, D. B.; **Martins, W. A.**; Costa, M. V. M.; Biscainho, L. W. P.; Nunes, L. O.; Lee, B., “Robust acoustic self-localization of mobile devices,” *IEEE Transactions on Mobile Computing*, vol. 15, no. 4, pp. 982–995, April 2016.
- J11 Sobron, I.; **Martins, W. A.**; Campos, M. L. R.; Velez, M., “Incumbent and LSA licensee classification through distributed cognitive networks,” *IEEE Transactions on Communications*, vol. 64, no. 1, pp. 94–103, January 2016.
- J10 Lima, M. V. S.; **Martins, W. A.**; Nunes, L. O.; Biscainho, L. W. P.; Ferreira, T. N.; Costa, M. V. M.; Gonçalves, F.; Said, A.; Lee, B., “A volumetric SRP with refinement step for sound source localization,” *IEEE Signal Processing Letters*, vol. 22, no. 8, pp. 1098–1102, August 2015.
- J9 Sobron, I.; Diniz, P. S. R.; **Martins, W. A.**; Velez, M., “Energy detection technique for adaptive spectrum sensing,” *IEEE Transactions on Communications*, vol. 63, no. 3, pp. 617–627, March 2015.

- J8 Nunes, L. O.; **Martins, W. A.**; Lima, M. V. S.; Biscainho, L. W. P.; Costa, M. V. M.; Gonçalves, F.; Said, A.; Lee, B., “A steered-response power algorithm employing hierarchical search for acoustic source localization using microphone arrays,” *IEEE Transactions on Signal Processing*, vol. 62, no. 19, pp. 5171–5183, October 2014.
- J7 Lima, M. V. S.; Ferreira, T. N; **Martins, W. A.**; Diniz, P. S. R., “Sparsity-aware data-selective adaptive filters,” *IEEE Transactions on Signal Processing*, vol. 62, no. 17, pp. 4557–4572, September 2014.
- J6 **Martins, W. A.**; Diniz, P. S. R., “DHT-Based transceivers with reduced redundancy,” *IEEE Transactions on Signal Processing*, vol. 60, no. 11, pp. 6080–6085, November 2012.
- J5 **Martins, W. A.**; Diniz, P. S. R., “LTI transceivers with reduced redundancy,” *IEEE Transactions on Signal Processing*, vol. 60, no. 2, pp. 766–780, February 2012.
- J4 **Martins, W. A.**; Diniz, P. S. R., “Analysis of zero-padded optimal transceivers,” *IEEE Transactions on Signal Processing*, vol. 59, no. 11, pp. 5443–5457, November 2011.
- J3 **Martins, W. A.**; Diniz, P. S. R., “Memoryless block transceivers with minimum redundancy based on Hartley transforms,” *Signal Processing*, vol. 91, no. 2, pp. 240–251, February 2011.
- J2 **Martins, W. A.**; Diniz, P. S. R., “Suboptimal linear MMSE equalizers with minimum redundancy,” *IEEE Signal Processing Letters*, vol. 17, no. 4, pp. 387–390, April 2010.
- J1 **Martins, W. A.**; Diniz, P. S. R., “Block-based transceivers with minimum redundancy,” *IEEE Transactions on Signal Processing*, vol. 58, no. 3, pp. 1321–1333, March 2010.

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## Refereed Conference Papers

- C63 Rojas, C. L. M.; Palisetty, R.; Krivochiza, J.; González, J. L.; Marrero, L. M.; **Martins, W. A.**; Merlano-Duncan, J. C.; Chatzinotas, S., “Time-Misalignment Estimation in Overlapped DVB-S2X Waveforms,” *2024 IEEE Wireless Communications and Networking Conference (WCNC)*, Dubai, United Arab Emirates, April 2024, pp. 1-6.
- C62 Palisetty, R.; Eappen, G.; Singh, V.; Garces-Socarras, L. M.; Vu, H. N.; Vásquez-Peralvo, J. A.; González, J. L.; Merlano-Duncan, J. C.; **Martins, W. A.**; Chatzinotas, S.; Ottersten, B.; Coskun, A.; King, S.; D’Addio, S.; Angeletti, P., “FPGA implementation of efficient 2D-FFT beamforming for on-board processing in satellites,” *2023 IEEE 98th Vehicular Technology Conference (VTC2023-Fall)*, Hong Kong, Hong Kong, October 2023, pp. 1-7.
- C61 Moreira, T. F.; Filomeno, M. L.; **Martins, W. A.**; Ribeiro, M. V., “A frequency division modulation for CSS-based communication systems: An initial discussion,” *2023 Symposium on Internet of Things (SIoT)*, São Paulo, Brazil, October 2023, pp. 1-5.



- C60 Merlano-Duncan, J. C.; Vu, H. N.; Palisetty, R.; Eappen, G.; Vásquez-Peralvo, J. A.; **Martins, W. A.**; Chatzinotas, S.; Ottersten, B., “Harnessing the power of swarm satellite networks with wideband distributed beamforming,” *2023 IEEE 34th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Toronto, Canada, September 2023, pp. 1-6.
- C59 Zaeem, R. M.; Merlano-Duncan, J. C.; **Martins, W. A.**; Vu, H. N.; Chatzinotas, S.; Ottersten, B., “Resource allocation and user scheduling design for user-centric cell-free massive MIMO systems,” *2023 IEEE 34th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Toronto, Canada, September 2023, pp. 1-7.
- C58 Palisetty, R.; Garces-Socarras, L. M.; Chaker, H.; Singh, V.; Eappen, G.; **Martins, W. A.**; Vu, H. N.; Vásquez-Peralvo, J. A.; González, J. L.; Merlano-Duncan, J. C.; Chatzinotas, S.; Ottersten, B.; Coskun, A.; King, S.; D’Addio, S.; Angeletti, P., “FPGA implementation of efficient beamformer for on-board processing in MEO satellites,” *2023 IEEE 34th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Toronto, Canada, September 2023, pp. 1-7.
- C57 Zivuku, P.; Kisseleff, S.; **Martins, W. A.**; Al-Hraishawi, H.; Chatzinotas, S.; Ottersten, B., “Performance of joint symbol level precoding and RIS phase shift design in the finite block length regime with constellation rotation,” *2023 IEEE 34th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Toronto, Canada, September 2023, pp. 1-7.
- C56 Daoud, S. S. A.; Eappen, G.; Ortiz-Gomez, F. G.; Lagunas, E.; **Martins, W. A.**; Chatzinotas, S., “CNN-based on-board interference detection in satellite systems: An analysis of dataset impact on performance,” in *Proc. 2023 IEEE Intern. Conf. on Acoust. Speech and Signal Processing (ICASSP, Satellite Workshop)*, Rhodes Island, Greece, June 2023, pp. 1–5.
- C55 Vu, H. N.; Abdullah, Z.; Eappen, G.; Merlano-Duncan, J. C.; Palisetty, R.; González, J. L.; **Martins, W. A.**; Chou, H.-F.; Vásquez-Peralvo, J. A.; Garces-Socarras, L. M. ; Chaker, H.; Chatzinotas, S., “Joint linear precoding and DFT beamforming design for massive MIMO satellite communication,” in *Proc. 2022 IEEE Globecom Workshops (GC Wkshps)*, Rio de Janeiro, Brazil, December 2022.
- C54 Chaker, H.; Chougrani, H.; **Martins, W. A.**; Chatzinotas, S.; Grotz, J., “Dynamic beam-layout design for MEO high throughput satellite systems,” in *Proc. 2022 IEEE Globecom Workshops (GC Wkshps)*, Rio de Janeiro, Brazil, December 2022.
- C53 Silva, F. B.; Cetin, E.; **Martins, W. A.**; Tuthill, J., “Interference mitigation via NMF for radio astronomy applications: A feasibility study,” in *Proc. 15th International Conference on Sensing Technology (ICST)*, Sydney, Australia, December 2022, pp. 352-364.

- C52 Ortiz-Gomez, F. G.; Lagunas, E.; Simeone, O; Rajendran, B.; **Martins, W. A.**; Navarro, T. ; Chatzinotas, S., “Towards the application of neuromorphic computing to satellite communications,” in *Proc. 39th International Communications Satellite Systems Conference (ICSSC)*, Stresa, Italy, October 2022, pp. 91-97.
- C51 Pompeo, B. ; Nicolalde-Rodríguez, D. P.; Apolinário Jr., J. A.; Campos, M. L. R.; **Martins, W. A.**, “TDOA/FDOA-based estimation of target’s location and velocity in passive radar systems using feedforward neural networks,” (in Portuguese) *2022 40th Brazilian Telecommunication and Signal Processing Symposium (SBrT)*, Santa Rita do Sapucaí, Brazil, September 2022, pp. 1–5.
- C50 Ntontin, K.; Boulogeorgos, A. A. A.; Björnson, E.; Selimis, D.; **Martins, W. A.**; Abadal, S.; Alexiou, A.; Lazarakis, F.; Kisseleff, S.; Chatzinotas, S., “Autonomous reconfigurable intelligent surfaces through wireless energy harvesting,” *2022 IEEE 95th Vehicular Technology Conference (VTC2022-Spring)*, Helsinki, Finland, June 2022, pp. 1-6.
- C49 Abdullah, Z.; Kisseleff, S.; Ntontin, K.; **Martins, W. A.**; Chatzinotas, S.; Ottersten, B., “Successive decode-and-forward relaying with reconfigurable intelligent surfaces,” *2022 IEEE International Conference on Communications (ICC)*, Seoul, Korea, May 2022, pp. 2633-2638.
- C48 Abdullah, Z.; Kisseleff, S.; Ntontin, K.; **Martins, W. A.**; Chatzinotas, S.; Ottersten, B., “Double-RIS communication with DF relaying for coverage extension: Is one relay enough?,” *2022 IEEE International Conference on Communications (ICC)*, Seoul, Korea, May 2022, pp. 2639-2644.
- C47 Zivuku, P.; Kisseleff, S.; Nguyen, V.-D.; Ntontin, K.; **Martins, W. A.**; Chatzinotas, S.; Ottersten, B., “Maximizing the number of served users in a smart city using reconfigurable intelligent surfaces,” *2022 IEEE Wireless Communications and Networking Conference (WCNC)*, Austin, TX, USA, April 2022, pp. 494-499.
- C46 Chaker, H.; Maturo, N.; Chatzinotas, S.; Chougrani, H.; **Martins, W. A.**; Grotz, J., “Enablers for matching demand in GEO multi-beam satellites: Dynamic beamforming, precoding, or both?,” *38th International Communications Satellite Systems Conferences (ICSSC)*, Arlington, VA, USA, September 2021, pp. 104-111.
- C45 Nicolalde-Rodríguez, D. P.; **Martins, W. A.**; Apolinário Jr., J. A.; Caloba, L. P., “Passive coherent location of a target using neural networks,” (in Portuguese) *2021 39th Brazilian Telecommunication and Signal Processing Symposium (SBrT)*, Fortaleza, Brazil, September 2021, pp. 1–5.
- C44 Silva, F. B.; Cetin, E.; **Martins, W. A.**, “DME interference mitigation for GNSS receivers via nonnegative matrix factorization,” in *Proc. 2021 General Assembly and Scientific Symposium of the International Union of Radio Science (URSI GASS)*, Rome, Italy, September 2021, pp. 1–4.

- C43 Chaves, R. S.; Cetin, E.; Lima, M. V. S.; **Martins, W. A.**, “User selection based on inter-channel interference for massive MIMO under line-of-sight propagation,” in *Proc. 2021 General Assembly and Scientific Symposium of the International Union of Radio Science (URSI GASS)*, Rome, Italy, September 2021, pp. 1–4.
- C42 Elias, V. R. M.; Gogineni, V. C.; **Martins, W. A.**; Werner, S., “Kernel regression on graphs in random Fourier features space,” in *Proc. 2021 IEEE Intern. Conf. on Acoust. Speech and Signal Processing (ICASSP)*, Toronto, Canada, June 2021, pp. 1–5.
- C41 Silva, F. B.; Cetin, E.; **Martins, W. A.**, “ADS-B signal detection via time-frequency analysis for radio astronomy applications,” in *Proc. 2021 IEEE International Symposium on Circuits and Systems (ISCAS)*, Daegu, South Korea, May 2021, pp. 1–4.
- C40 Mayouche, A.; **Martins, W. A.**; Tsinos, C.; Chatzinotas, S.; Ottersten, B., “A novel learning-based hard decoding scheme and symbol-level precoding countermeasures,” in *Proc. 2021 IEEE Wireless Communications and Networking Conference (WCNC)*, Nanjing, China, March 2021, pp. 1–6.
- C39 Nicolalde, D. P.; Apolinário Jr., J. A.; **Martins, W. A.**, “Robust passive coherent location via nonlinearly constrained least squares,” in *Proc. 12th IEEE Latin America Symposium on Circuits and System (LASCAS)*, Arequipa, Peru, February 2021, pp. 1–4.
- C38 Gogineni, V. C.; Elias, V. R. M.; **Martins, W. A.**; Werner, S., “Graph diffusion kernel LMS using random Fourier features,” in *Proc. 2020 54th Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, November 2020, pp. 1–5.
- C37 Elias, V. R. M.; **Martins, W. A.**; Werner, S., “Diffusion-based virtual graph adjacency for Fourier analysis of network signals,” in *Proc. 2020 38th Brazilian Telecommunication and Signal Processing Symposium (SBrT)*, Florianópolis, Brazil, November 2020, pp. 1–5. **Best Paper Award.**
- C36 **Martins, W. A.**; Spano, D.; Chatzinotas, S; Ottersten, B., “Faster-than-Nyquist signaling via spatiotemporal symbol-level precoding for multi-user MISO redundant transmissions,” in *Proc. 2020 IEEE Intern. Conf. on Acoust. Speech and Signal Processing (ICASSP)*, Barcelona, Spain, May 2020, pp. 5090–5094.
- C35 Dias, T. L. B.; **Martins, W. A.**; Biscainho, L. W. P., “Time-deconvolutive CNMF for multichannel blind source separation,” in *Proc. 2019 37th Brazilian Telecommunication and Signal Processing Symposium (SBrT)*, Petrópolis, Brazil, October 2019, pp. 1–5.
- C34 Lewenfus, G.; **Martins, W. A.**; Chatzinotas, S.; Ottersten, B., “On the use of vertex-frequency analysis for anomaly detection in graph signals,” in *Proc. 2019 37th Brazilian Telecommunication and Signal Processing Symposium (SBrT)*, Petrópolis, Brazil, October 2019, pp. 1–5.

- C33 **Martins, W. A.**; Roldán, F. C.; **Martins, W. A.**; Moonen, M.; Diniz, P. S. R., “Intersymbol and intercarrier interference in OFDM transmissions through highly dispersive channels,” in *Proc. 2019 European Signal Processing Conference*, A Coruña, Spain, September 2019, pp. 1–5.
- C32 Ferreira, T. N.; **Martins, W. A.**; Lima, M. V. S.; Diniz, P. S. R., “Convex combination of constraint vectors for set-membership affine projection algorithms,” in *Proc. 2019 IEEE Intern. Conf. on Acoust. Speech and Signal Processing (ICASSP)*, Brighton, UK, May 2019, pp. 4858–4862.
- C31 Spelta, M. J. M.; **Martins, W. A.**, “Online temperature estimation using graph signals,” in *Proc. 2018 36th Brazilian Telecommunication and Signal Processing Symposium (SBrT)*, Campina Grande, Brazil, September 2018, pp. 1–5.
- C30 Spelta, M. J. M.; **Martins, W. A.**, “Optimal constraint vectors for set-membership proportionate affine projection algorithms,” in *Proc. 2018 IEEE Statistical Signal Processing Workshop (SSP)*, Freiburg, Germany, June 2018, pp. 523–527.
- C29 Elias, V. R. M.; **Martins, W. A.**, “Graph Fourier transform for light field compression,” in *Proc. 2017 35th Brazilian Telecommunication and Signal Processing Symposium (SBrT)*, São Pedro, Brazil, September 2017, pp. 881–885.
- C28 Chaves, R. S.; **Martins, W. A.**; Diniz, P. S. R., “Modeling and simulation of underwater acoustic communication systems,” in *Proc. 2017 35th Brazilian Telecommunication and Signal Processing Symposium (SBrT)*, São Pedro, Brazil, September 2017, pp. 607–611.
- C27 Silva, F. B.; **Martins, W. A.**, “A computational platform for visible light communications,” in *Proc. 2017 35th Brazilian Telecommunication and Signal Processing Symposium (SBrT)*, São Pedro, Brazil, September 2017, pp. 891–895.
- C26 Lima, M. V. S.; Ferreira, T. N.; **Martins, W. A.**; Mendonça, M. O. K.; Diniz, P. S. R., “Performance evaluation of adaptive filters for sparse wireless channel estimation,” in *Proc. 2017 European Signal Processing Conference*, Kos island, Greece, August 2017, pp. 2670–2674.
- C25 Silva, F. B.; **Martins, W. A.**, “Localização de fontes acústicas por SRP-PHAT volumétrico robusto,” in *Proc. 2016 34th Brazilian Telecommunication Symposium (SBrT)*, Santarém, Brazil, September 2016, pp. 568–572.
- C24 Ferreira, T. N.; Lima, M. V. S.; Diniz, P. S. R.; **Martins, W. A.**, “Low-complexity proportionate algorithms with sparsity-promoting penalties,” in *Proc. 2016 IEEE International Symposium on Circuits and Systems (ISCAS)*, Montreal, Canada, May 2016, pp. 253–256.
- C23 Chaves, R. S.; Diniz, P. S. R.; **Martins, W. A.**; Gussen, C. M. G., “On regularization of reduced redundancy transceivers,” in *Proc. 2015 33rd Brazilian Telecommunication Symposium (SBrT)*, Juiz de Fora, Brazil, September 2015, pp. 1–4.

- C22 Silva, F. B.; **Martins, W. A.**, “Robust TDOA-based sound source localization,” in *Proc. 2015 33rd Brazilian Telecommunication Symposium (SBrT)*, Juiz de Fora, Brazil, September 2015, pp. 1–2. **Best Student Paper Award to my B.Eng. student, Mr. Felipe B. Silva.**
- C21 Haddad, D. B.; Biscainho, L. W. P.; **Martins, W. A.**; Lima, M. V. S., “Sensitivity analysis of an acoustic sensor localization technique,” in *Proc. of 13 Audio Engineering Society (Brazil)*, São Paulo, Brazil, May 2015, pp. 42–46.
- C20 Ferreira, T. N.; Lima, M. V. S.; **Martins, W. A.**; Diniz, P. S. R., “Modified sparsity-aware set-membership affine projection algorithm,” in *Proc. 2015 IEEE Int. Conf. on Digital Signal Processing (DSP)*, Cingapore, June 2015, pp. 833–837.
- C19 Gussen, C. M. G.; Chaves, R. S.; Diniz, P. S. R.; **Martins, W. A.**, “Doppler effects on transceivers with reduced redundancy,” in *Proc. 2015 IEEE Int. Conf. on Digital Signal Processing (DSP)*, Cingapore, June 2015, pp. 388–392.
- C18 Haddad, D. B.; **Martins, W. A.**; Biscainho, L. W. P.; Costa, M. V. M.; Kim, K.H., “Choosing coherent times of flight for improved acoustic sensor localization,” in *Proc. 2014 International Telecommunications Symposium (ITS)*, São Paulo, Brazil, October 2014, pp. 1–5.
- C17 Lima, M. V. S.; Sobron, I.; **Martins, W. A.**; Diniz, P. S. R., “Stability and MSE analyses of affine projection algorithms for sparse system identification,” in *Proc. 2014 IEEE Intern. Conf. on Acoust. Speech and Signal Processing (ICASSP)*, Florence, Italy, May 2014, pp. 6399–6403.
- C16 Sobron, I.; **Martins, W. A.**; Campos, M. L. R.; Velez, M., “Data-selective cooperative spectrum sensing based on imperfect information exchange,” in *Proc. 2014 IEEE Conf. on Dynamic Spectrum Access Networks (DySPAN)*, McLean, USA, April 2014, pp. 129–132.
- C15 Haddad, D. B.; Nunes, L. O.; **Martins, W. A.**; Biscainho, L. W. P.; Lee, B., “Closed-form solutions for robust acoustic sensor localization,” in *Proc. 2013 IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, New Paltz, USA, October 2013, pp. 1–4.
- C14 **Martins, W. A.**; Nunes, L. O.; Haddad, D. B.; Biscainho, L. W. P.; Lima, M. V. S.; Costa, M. V. M.; Lee, B., “Time-of-flight selection for improved acoustic sensor localization using multiple loudspeakers,” in *Proc. 2013 31st Brazilian Telecommunication Symposium (SBrT)*, Fortaleza, Brazil, September 2013, pp. 1–5.
- C13 Sobron, I.; **Martins, W. A.**; Ribeiro, F. C.; Campos, M. L. R. de, “Set-membership adaptive soft combining for distributed cooperative spectrum sensing,” in *Proc. 10th Intern. Symposium on Wireless Communication Systems (ISWCS)*, Ilmenau, Germany, August 2013, pp. 275–279.

- C12 Lima, M. V. S.; **Martins, W. A.**; Diniz, P. S. R., “Affine projection algorithms for sparse system identification,” in *Proc. 2013 IEEE Intern. Conf. on Acoust. Speech and Signal Processing (ICASSP)*, Vancouver, Canada, May 2013, pp. 5666–5670.
- C11 Nunes, L. O.; **Martins, W. A.**; Lima, M. V. S.; Biscainho, L. W. P.; Lee, B.; Said, A.; Shafer, R. F., “Discriminability measure for microphone array source localization,” in *Proc. 2012 International Workshop on Acoustic Signal Enhancement (IWAENC)*, Aachen, Germany, September 2012, pp. 1–4.
- C10 **Martins, W. A.**; Diniz, P. S. R., “Block-based decision-feedback equalizers with reduced redundancy,” in *Proc. 2012 European Signal Processing Conference*, Bucharest, Romania, August 2012, pp. 56–60.
- C9 Lima, M. V. S.; Gussen, C. M. G.; Espíndola, B. N.; Ferreira, T. N.; **Martins, W. A.**; Diniz, P. S. R., “Open-source physical-layer simulator for LTE systems,” in *Proc. 2012 IEEE Intern. Conf. on Acoust. Speech and Signal Processing (ICASSP)*, Kyoto, Japan, March 2012, pp. 2781–2784.
- C8 **Martins, W. A.**; Diniz, P. S. R., “Combating noise gains in high-throughput block transceivers using CSI at the transmitter,” in *Proc. 7th Intern. Symposium on Wireless Communication Systems (ISWCS)*, York, UK, September 2010, pp. 275–279.
- C7 **Martins, W. A.**; Diniz, P. S. R., “Low-redundancy transceivers for wireless networks,” in *Proc. 17th Intern. Conference on Systems, Signals and Image Processing (IWSSIP 2010)*, Rio de Janeiro, Brazil, June 2010, pp. 20–23.
- C6 **Martins, W. A.**; Diniz, P. S. R., “Pilot-aided designs of memoryless block equalizers with minimum redundancy,” in *Proc. 2010 IEEE International Symposium on Circuits and Systems (ISCAS)*, Paris, France, May 2010, pp. 3112–3115.
- C5 **Martins, W. A.**; Diniz, P. S. R.; and Huang, Y. F., “On the normalized minimum error-entropy adaptive algorithm: cost function and update recursion,” in *Proc. 2010 IEEE Latin American Symposium on Circuits and Systems*, Foz do Iguacu, Brazil, February 2010, pp. 160–162.
- C4 **Martins, W. A.**; Diniz, P. S. R., “Minimum redundancy multicarrier and single-carrier systems based on Hartley transforms,” in *Proc. 2009 European Signal Processing Conference*, Glasgow, Scotland, August 2009, pp. 661–665. **Best Student Paper Award.**
- C3 **Martins, W. A.**; Lima, M. V. S.; Diniz, P. S. R., “Semi-blind data-selective equalizers for QAM,” in *Proc. 2008 9th IEEE Workshop on Signal Processing Advances in Wireless Communications*, Recife, Brazil, July 2008, pp. 501–505.
- C2 Diniz, P. S. R.; Lima, M. V. S.; **Martins, W. A.**, “Semi-blind data-selective algorithms for channel equalization,” in *Proc. 2008 IEEE International Symposium on Circuits and Systems*, Seattle, WA, May 2008, pp. 53–56.

- C1 **Martins, W. A.**; Diniz, P. S. R.; Nagashima, T. F., “Mutual influence of techniques for CCI suppression in the GPRS,” (in Portuguese), in *Proc. 2008 25th Brazilian Telecommunication Symposium (SBrT)*, Rio de Janeiro, Brazil, September 2008, pp. 1–6.

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## Finished Supervisions

### Doctoral Students

- PhD4 Rafael da Silva Chaves. Contributions to massive MIMO: Power allocation, user selection, and cell-free communications, 2022. Ph.D. thesis (Electrical Engineering Program) - Federal University of Rio de Janeiro & Macquarie University (Sydney, Australia – cotutelle).
- PhD3 Felipe Barboza da Silva. Radio frequency interference detection and mitigation for GNSS and radio astronomy applications, 2022. Ph.D. thesis (Electrical Engineering Program) - Federal University of Rio de Janeiro & Macquarie University (Sydney, Australia – cotutelle).
- PhD2 Vitor Rosa Meireles Elias. Modeling and learning strategies for graph signal processing, 2021. Ph.D. thesis (Electrical Engineering Program) - Federal University of Rio de Janeiro & Norwegian University of Science and Technology (Trondheim, Norway – cotutelle).
- PhD1 Camila Maria Gabriel Gussen. Underwater acoustic communication under Doppler effects, 2018. Ph.D. thesis (Electrical Engineering Program) - Federal University of Rio de Janeiro.

### Master Students

- MSc8 Gabriela Lewenfus. Data-driven processing of graph signals for anomaly detection and forecasting, 2020. M.Sc. dissertation (Electrical Engineering Program) - Federal University of Rio de Janeiro.
- MSc7 Marcelo Jorge Mendes Spelta. Adaptive filtering algorithms and data-selective strategies for graph signal estimation, 2019. M.Sc. dissertation (Electrical Engineering Program) - Federal University of Rio de Janeiro.
- MSc6 Rafael da Silva Chaves. Joint precoding and antenna selection in massive MIMO systems, 2018. M.Sc. dissertation (Electrical Engineering Program) - Federal University of Rio de Janeiro.
- MSc5 Felipe Barboza da Silva. Nonlinear adaptive equalization with data-selection in VLC systems, 2018. M.Sc. dissertation (Electrical Engineering Program) - Federal University of Rio de Janeiro.
- MSc4 Claudio Romero. An investigation on blind source separation methods involving non-negative representations and spatial diversity, 2017. M.Sc. dissertation (Electrical Engineering Program) - Federal University of Rio de Janeiro.
- MSc3 Gabriel Mendes Gouvea. Time-frequency representations with adaptive resolution with applications in audio, 2016. M.Sc. dissertation (Electrical Engineering Program) - Federal University of Rio de Janeiro.

MSc2 Mauro Lopes de Freitas. Adaptive equalization in transceivers with reduced redundancy, 2014. M.Sc. dissertation (Electrical Engineering Program) - Federal University of Amazonas.

MSc1 Frederico Augusto Wegelin. Leakage detection system in pipes based on adaptive filtering, 2014. M.Sc. dissertation (Electrical Engineering Program) - Federal University of Rio de Janeiro.

### B.Eng. Students

- BEng19 Thadeu Luiz Barbosa Dias. Time-deconvolutive CNMF for multichannel blind source separation. 2019. B.Eng. final project (Electronics and Computer Engineering) - Federal University of Rio de Janeiro.
- BEng18 Gabriel Lima Santos da Cruz. OFDM transmission system using an SDR platform. 2018. B.Eng. final project (Electronics and Computer Engineering) - Federal University of Rio de Janeiro.
- BEng17 Bernardo Teixeira Marques. A study on MIMO VLC systems. 2018. B.Eng. final project (Electronics and Computer Engineering) - Federal University of Rio de Janeiro.
- BEng16 Lucas Daniel Tavares Oliveira. Genetic algorithm and particle swarm applied to the localization of acoustic sensors. 2017. B.Eng. final project (Electronics and Computer Engineering) - Federal University of Rio de Janeiro.
- BEng15 Rafael da Silva Chaves. Modeling and simulations of underwater acoustic communication systems. 2016. B.Eng. final project (Electronics and Computer Engineering) - Federal University of Rio de Janeiro.
- BEng14 Felipe Barboza da Silva. Acoustic source localization using microphone array. 2015. B.Eng. final project (Electronics and Computer Engineering) - Federal University of Rio de Janeiro.
- BEng12-13 Pedro Marco Ronconi Marques e Victor de Paula G. da Rosa. Direction of arrival estimation of acoustic signals and video tracking with applications in surveillance, 2014. B.Eng. final project (Control and Automation Industrial Engineering) - Federal Center for Technological Education Celso Suckow da Fonseca.
- BEng11 Maurício do Vale Madeira da Costa. Acoustic sensor localization methods, 2013. B.Eng. final project (Electronics and Computer Engineering) - Federal University of Rio de Janeiro.
- BEng9-10 Eduardo Santos da Silva e Felipe da Costa Oliveira. System identification using IIR adaptive filtering. B.Eng. final project (Control and Automation Industrial Engineering) - Federal Center for Technological Education Celso Suckow da Fonseca.
- BEng7-8 Amanda do Carmo Silva e Leonardo Spártaco Carvalho de Sá. Wireless instrumentation in an industrial environment. B.Eng. final project (Control and Automation Industrial Engineering) - Federal Center for Technological Education Celso Suckow da Fonseca.



- BEng6 Dionísio Henrique C. de Sá Só Martins. Automatic electric guitar tuner. B.Eng. final project (Control and Automation Industrial Engineering) - Federal Center for Technological Education Celso Suckow da Fonseca.
- BEng5 Rafael Vieira de Paula. Massflow measuring based on Coriolis effect. B.Eng. final project (Control and Automation Industrial Engineering) - Federal Center for Technological Education Celso Suckow da Fonseca.
- BEng3-4 Tatiane Oliveira Machado e Vagner Sarmento Furtado. Transducing, Control, and Monitoring of temperature in a tank. B.Eng. final project (Control and Automation Industrial Engineering) - Federal Center for Technological Education Celso Suckow da Fonseca.
- BEng1 Gabriel Nascimento Machado. Algorithms for source localization and capture of acoustic signals using microphone array, 2011. B.Eng. final project (Electronics and Computer Engineering) - Federal University of Rio de Janeiro (with Prof. Luiz W. P. Biscaíno).
- BEng1 Camila Maria Gabriel Gussen. Study and simulation of the LTE physical layer in a downlink connection, 2008. B.Eng. final project (Electronics and Computer Engineering) - Federal University of Rio de Janeiro (with Prof. Paulo S. R. Diniz).

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## Current Supervisions

### Doctoral Student

- PhD6 Túlio Fernandes Moreira. Orthogonal chirp-frequency division multiplexing for digital communications, 2022-today. Ph.D. thesis (Electrical Engineering Program) - Federal University of Juiz de Fora (with Prof. Moisés V. Ribeiro).
- PhD5 Daniel Patricio Nicolalde-Rodriguez. Joint passive coherent location in 5G and IoT for critical infrastructure protection, 2020-today. Ph.D. thesis (Electrical Engineering Program) - Federal University of Rio de Janeiro (with Prof. Marcello L.R. Campos and Prof. José A. Apolinário Jr.)

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## Research Projects and Grants

### Principal Investigator (PI) in Public Research Grant Acquisition

- 2019–withdrew **Power line and visible light superfast transceivers for smart grid and Internet-of-things applications**, *Universidad de Alcalá*, Horizon 2020 Marie Skłodowska-Curie Actions, budget: 125,760.00€
- 11/2018-10/2021 **Graph signal processing for broadband communications**, *UFRJ*, funding agency: FAPERJ, budget: 16,130.09€
- 11/2016-10/2019 **Smart signal processing in interdisciplinary environments**, *UFRJ*, funding agency: FAPERJ, budget: 59,459.02€
- 01/2015-12/2017 **Improvements in the usage of wireless channels, in source/sensor location, and in signal reconstruction**, *UFRJ*, funding agency: FAPERJ, budget: 17,171.84€

- 01/2014-12/2017 **Signal processing applications for reduced-redundancy communications and acoustic source and sensor location**, *UFRJ*, funding agency: CAPES, budget: 40,358.80€
- 01/2014-12/2015 **Efficient use of wireless communication channels**, *UFRJ*, funding agency: CNPq, budget: 6,129.14€
- [PI in Industry-partnered Research Project Acquisition](#)
- 10/2014-04/2015 **Distributed acoustic sensing (DAS)**, *UFRJ*, industrial partner: Halliburton (US company), budget: 39,191.31€
- [Key Contributor in Research Project Acquisition](#)
- 01/2023-06/2025 **Luxembourg experimental network for quantum communication infrastructure (Lux4QCI)**, *UniLu* (*coordinating partner*), EC Digital Europe Program, budget: 7,534,675.71€ (50% cofunded)  
Role: Lead Scientist (PI: Prof. Symeon Chatzinotas)
- 05/2022-02/2023 **The application of neuromorphic processors to SatCom applications (NeuroSat)**, *UniLu* (*prime*), ESA, budget: 349,949.77€  
Role: Work Package (WP) Leader/Technical Contributor (PI: Dr. Eva Lagunas)
- 01/2021-12/2023 **Reconfigurable intelligent surfaces for smart cities (RISOTTI)**, *UniLu*, FNR, budget: 1,115,553.09€  
Role: WP Leader and Technical Contributor (PI: Prof. Björn Ottersten)

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## Other

- Research Projects Contributor in 17 research projects with industrial partnership.
- Reviewer Journals (e.g., IEEE TSP, TWC, SIPN, CL, TVT, TCAS) and conferences.
- Committees Participation as an assessment committee member in:
- 25 B.Eng. dissertations
  - 19 M.Sc. dissertations
  - 11 Ph.D. qualification exams
  - 10 Ph.D. dissertations