

# Wallace A. Martins

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

## 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

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

09/2020–present 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 Basic (A2)

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## Summary of Productions/Supervisions/Funding/Teaching

Patents	2	Funding (PI)	300 k€
Books	3	Funding (contr.)	3 M€
Book Chapters	3	Ph.D. Superv.	4
Journals	50	M.Sc. Superv.	8
Conferences	62	Committees	7 Ph.D./19 M.Sc.
Managed Projects	8	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

- 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).
- 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).
- BC3 Chougrani, H; Kodheli, O.; **Martins, W. A.**; Chatzinotas, S., “*PHY Aspects of MTC and Satellite Integration*,” chapter in *Integration of MTC and Satellites for IoT Toward 6G Era*, by Marko, H.; Mikhaylov, K.; Alves, H. (editors), Wiley/IEEE Press, 2024. (ISBN-13: 9781119933977).

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## Refereed Journal Articles

- 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*, accepted in January 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.; Alaei-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

- 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 Iguaçu, 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 Sarmiento 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. Biscainho).
- 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: Haliburton (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
- 7 Ph.D. dissertations