Héctor Damián Dellavale Clara

✉ dellavale@cab.cnea.gov.ar

https://damian-dellavale.github.io

PhD in Engineering Science May 2024.

Current Research Position

Jan. 2014 - Present: **Associate researcher** of the Argentinian Scientific Council for Science and Technology (**CONICET**, http://www.conicet.gov.ar) at the Medical Physics Lab - Bariloche Atomic Center, Argentina.
Research: Data analysis for translational research in neuroscience and biomedical applications. Epilepsy, Prodromal biomarkers of neurodegenerative disorders. Oscillations and arrhythmic broadband activity. Nested biological rhythms. Neuromodulation. Inverse problems. Signal processing in real-time using FPGA technology.

Academic Data

Feb 2021 - Oct 2023: **Postdoctoral fellow**. Institut de Neurosciences des Systèmes (INS), Aix-Marseille Université - Épileptologie et Rythmologie Cérébrale - Hôpital de la Timone, Marseille, France. (https://ins-amu.fr/dynamap). Research: New signal processing tools to analyze invasive recordings in epileptic patients. Host: Prof. Fabrice Bartolomei. Prof. Christian Bénar.
July 2013 - Dec. 2013: **Postdoctoral fellow**. Institute of Microelectronic Systems - Leibniz University of Hannover, Germany (http://www.ims.uni-hannover.de). Research: Real-time processing system for closed-loop Deep Brain Stimulation (DBS). Host: Prof. Dr.-Eng. Holger Blume.
Apr. 2012 - June 2013: **Postdoctoral fellow**. Cavitation and Biotechnology Laboratory - Bariloche Atomic Center, Argentina. Research: Real-time signal processing instrumentation based on FPGA technology for biomedical applications.
Apr. 2006 - Feb. 2012: **Ph.D. in Engineering Science**. Balseiro Institute, National University of Cuyo (http://www.ib.edu.ar) and Cavitation and Biotechnology Laboratory - Bariloche Atomic Center, Argentina. Advisor: Dr. Fabián J. Bonetto. Research: Concurrent signal processing algorithms with applications in sonoluminescence. (http://ricabib.cab.cnea.gov.ar/338/).
Feb. 2005 - Apr. 2006: **Training in experimental physics**. Cavitation and Biotechnology Laboratory - Bariloche Atomic Center, Argentina. Advisor: Dr. Fabián J. Bonetto.
Feb. 2004 - Dec. 2004: **Specialization in Nuclear Energy Technological Applications**. Balseiro Institute, National University of Cuyo, Argentina.
(www.iaea.org/inis/collection/NCLCollectionStore/_Public/36/058/36058792.pdf)
Feb. 1994 - Oct. 2003: **Electronic Engineering**. National Technological University, Regional Faculty of Córdoba, Argentina.
Mar. 1988 - Dec. 1993: **Aeronautical Technician** (*magna cum laude*). National Technical School N° 7, Córdoba, Argentina.

Honors and Scholarships

2008: **Certificate of recognition** by Argentinian Centre of Engineering for thesis advising (http://cai.org.ar/). Awarded Nuclear Engineering thesis: Real-time particle image velocimetry based on FPGA technology, Student: José Miguel Iriarte Muñoz.
2013: **Awarded postdoctoral internship grant** from CONICET, Argentina.
2012: **Awarded full postdoctoral scholarship** from CONICET, Argentina.
2012: **Awarded grant** from The Abdus Salam International Centre for Theoretical Physics (ICTP), Italy (http://www.ictp.it/), to attend the Joint ICTP-TWAS Latin-American Advanced Course on FPGA Design for Scientific Instrumentation, Habana, Cuba.
2010: **Awarded grant** from The Abdus Salam International Centre for Theoretical Physics (ICTP), Italy (http://www.ictp.it/), to attend the ICTP Latin-American Basic Course on FPGA Design for Scientific Instrumentation, Mar del Plata, Argentina.

2009: **Awarded type II doctoral scholarship** from CONICET, Argentina.
2006: **Awarded type I soctoral scholarship** from CONICET, Argentina.
2005: **Training fellowship grant** from INVAP S.E. (Applied Research Company), Argentina (http://www.invap.net).
2004: **Awarded postgraduate scholarship** from Balseiro Institute, National University of Cuyo, Argentina.

Teaching Experience

June 2009 - Present: **Educational Researcher Category III** granted by the National Commission of Categorization, Argentinian Ministry of Education (https://www.argentina.gob.ar/educacion).
Feb. 2014 - Present: **Head of practical assignments** of Signals and Systems I and II chairs (Telecommunications Eng.) at Balseiro Institute, National University of Cuyo, Argentina (http://www.ib.edu.ar/academicas/ingenieria-en-telecomunicaciones/item/631-plantel-docente-de-ingenieria-en-telecomunicaciones.html).
July 2008 - Apr. 2013: **Head of practical assignments** of Electronics chair (Degree in Physics, Nuclear and Mechanical Eng.) at Balseiro Institute, National University of Cuyo, Argentina (http://www.ib.edu.ar).
Feb. 2008 - July 2008: **Teaching assistant** of Instrumentation and Control chair (Nuclear Eng.) at Balseiro Institute, National University of Cuyo, Argentina (http://www.ib.edu.ar).
Aug. 2007: **Teaching assistant** in Control II (Discrete time control systems) chair (Degree in Physics, Nuclear and Mechanical Engineering) at Balseiro Institute, National University of Cuyo, Argentina (http://www.ib.edu.ar).

Human Resources Training

Aug. 2020 - Dec 2021: **Advisor of Bachelor of Science in Telecommunications Engineering**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Advanced signal processing and machine learning techniques for characterizing electrocardiographic recordings from cardiac risk patients (https://ricabib.cab.cnea.gov.ar/1114/). Student: Franco Selleski.
Apr. 2016 - Dec. 2020: **Advisor of Ph.D. in Physics**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Adaptive neuromodulation paradigms with applications to the treatment of motor disorders (https://ricabib.cab.cnea.gov.ar/964/). Student: Osvaldo Velarde.
Sept. 2014 - Sept. 2021: **Advisor of Ph.D. in Engineering Science**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Digital signal processing for microwave kinetic Inductance detector (MKID) array (https://ricabib.cab.cnea.gov.ar/985/). Student: Luis Horacio Arnaldi.
Aug. 2017 - Aug. 2019: **Co-Advisor of Master of Science in Engineering**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Processing of neural recordings and state classification using machine learning algorithms. Student: Facundo Rodriguez.
Aug. 2015 - Aug. 2019: **Co-Advisor of Master of Science in Engineering**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Characterization and signal conditioning for an inductive position sensor for the control rods of a SMR nuclear reactor (http://campi.cab.cnea.gov.ar/tocs/24190.pdf). Student: Iván Nomdedeu.
Aug. 2015 - Aug. 2018: **Advisor of Master of Science in Engineering**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Optimization and implementation of signal processing algorithms for neuroprosthetics (http://campi.cab.cnea.gov.ar/tocs/23745.pdf). Student: Javier Ignacio Velez.
Aug. 2015 - Dec. 2016: **Advisor of Master of Science in Physics**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Photoplethysmography based on augmented reality with applications in pediatric monitoring (http://ricabib.cab.cnea.gov.ar/635/). Student: Carlos Eduardo Valencia Urbina.
Aug. 2014 - June 2015: **Advisor of Bachelor of Science in Mechanical Engineering**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Design and implementation of a table-top system for real time electrical impedance tomography (http://ricabib.cab.cnea.gov.ar/509/). Student: Ignacio Martín Ferreiro.
Aug. 2014 - Dec. 2015: **Advisor of Master of Science in Physics**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Study of basal ganglia dynamics with applications to motor disorders (http://ricabib.cab.cnea.gov.ar/520/). Student: Osvaldo Velarde.

Mar. 2012 - July 2015: **Co-Advisor of Master of Science in Engineering**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Signal Processing Algorithms for a SONAR system with multiple transducers. Student: Mariana Mattenet.
July 2009 - Sept. 2010: **Collaborator of Master of Science in Engineering**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: 3D object orientation: implementation of artificial neural networks using programmable logic (http://ricabib.cab.cnea.gov.ar/215/). Student: Federico Javier Carnevale.
July 2008 - July 2009: **Advisor of Bachelor of Science in Mechanical Engineering**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Design and implementation of a laser positioning system with applications in biotechnology (http://campi.cab.cnea.gov.ar/tocs/21120.pdf). Student: Federico Javier Carnevale.
July 2007 - July 2008: **Co-Advisor of Bachelor of Science in Nuclear Engineering**. Balseiro Institute, National University of Cuyo, Argentina. Thesis: Real-time particle image velocimetry based on FPGA technology (www.iaea.org/inis/collection/NCLCollectionStore/_Public/41/113/41113340.pdf). Student: José Miguel Iriarte Muñoz.

Refereeing

Journals: Nature Scientific Reports, Chaos, PLOS ONE, Signal Processing (Elsevier), Biomedical signal processing and control (Elsevier), Clinical Neurophysiology (Elsevier).
Proceedings: Scientific Committee Member of the 1st Conference on scientific instrumentation CRIA 2014, Costa Rica.
Proceedings: FPGA Topic Chair at the 4th Argentinian Conference on Embedded Systems CASE 2014, Buenos Aires, Arg.
Proceedings: Review at the 3rd Argentinian Conference on Embedded Systems CASE 2013, Buenos Aires, Arg.
Theses: Bachelor, Master and PhD theses in Physics and Engineering. Balseiro Institute, National University of Cuyo, Arg.
Projects: Evaluation of scientific research projects for the Argentinian Scientific Council for Science and Technology (CONICET).
Committee: Academic Committee Member for Master of Science in Physics. Balseiro Institute, National University of Cuyo, Arg.

Other Scientific and Academic Activities

2015 - Present: Organizing committee member of the local version of the **Brain Awareness Week** in San Carlos de Bariloche, Argentina. (https://semanadelcerebro.com.ar/).
2017: Invited short course "Signal processing of neuronal recordings (Local Field Potentials)", Physics department at the National University of South, Bahía Blanca, Argentina.
2017: Assistant to the course "Evolution of Neural Computation" - Maldacena program, Prof. Alessandro Treves. Balseiro Institute, National University of Cuyo, Argentina.
2016: Teaching assistant at "José A. Balseiro 2016 Nuevas Tendencias de Investigación en Física Médica" (http://fisica.cab.cnea.gov.ar/jab2016/). Balseiro Institute, National University of Cuyo, Argentina.
2014: Teaching assistant at "José A. Balseiro 2014 Modelado en Neurociencias" (http://fisica.cab.cnea.gov.ar/escuelaib2014-neurociencias). Balseiro Institute, National University of Cuyo, Argentina.
2013: Assistant to the 36th European Conference on Visual Perception (ECVP 2013), 25/29 August 2013, Bremen, Germany.
2013: Invited Member of the First ICTP FPGA Expert Meeting "Scientific Applications of FPGA Technology: Challenges and Opportunities", International Centre for Theoretical Physics (ICTP-UNESCO), Trieste, Italy (http://indico.ictp.it/event/a13352/)
2012: Assistant to the Joint ICTP-TWAS Latin-American Advanced Course on FPGA Design for Scientific Instrumentation, Habana, Cuba (http://agenda.ictp.it/smr.php?2384).

2010 Assistant to the ICTP Latin-American Basic Course on FPGA Design for Scientific Instrumentation, FPGA technology and firmware programming school, Mar del Plata, Argentina (http://agenda.ictp.it/smr.php?2177).

Grants

C016-2016: **Principal Investigator.** Amount: AR$ 14,000. SECTyP National University of Cuyo, Argentina.
C018-2016: **Co-investigator.** Amount: AR$ 14,000. SECTyP National University of Cuyo, Argentina.
PICT-2014-1966: **Co-investigator.** Amount: AR$ 600,000. Type A: Strategic development plan of Argentina 2020. National Agency of Scientific and Technological Promotion (ANPCYT), Argentina (http://www.agencia.mincyt.gov.ar).
PICT-2012-0702: **Principal Investigator.** Amount: AR$ 60,000. Type B: Young investigator. National Agency of Scientific and Technological Promotion (ANPCYT), Argentina (http://www.agencia.mincyt.gov.ar).
ANR 600-0036/10 (2011): **Collaborator.** Amount: AR$ 522,000. National Agency of Scientific and Technological Promotion (ANPCYT), Argentina (http://www.agencia.mincyt.gov.ar).
PICT-2005-26209: **Collaborator.** Amount: AR$ 700,000. National Agency of Scientific and Technological Promotion (ANPCYT), Argentina (http://www.agencia.mincyt.gov.ar).

Patents

Amarillo Y, **Dellavale D**, Nadal M, Portillo J (2018), Electronic system for concurrent implementation of patch clamp and dynamic clamp techniques in neuronal activity recording experiments. Argentina Patent (Patent number: P20170101319).

Peer-reviewed publications

1. Ueda T, Garnier E, **Dellavale D**, Bartolomei F, Bénar CG (2024), Identification of the epileptogenic zone using phase-amplitude coupling on ictal electroencephalography: authentic or spurious PAC?, Submitted to Clinical Neurophysiology.

2. Acerbo E, Botzanowski B, **Dellavale D**, Stern MA, Cole ER, et al. (2024), Improved Temporal Focality of Non-invasive Deep-brain Stimulation using Pulses Temporally Interfering Electric Fields with Applications in Epilepsy, Submitted to Brain Stimulation.
   bioRxiv DOI: 10.1101/2024.01.11.575301

3. **Dellavale D**, Troisi Lopez E, Romano A, Rabuffo G, Sorrentino P (2024), Linking neuronal avalanches with oscillatory and broadband 1/f activities in the resting human brain, Submitted to PLOS Computational Biology. bioRxiv DOI: 10.1101/2024.02.28.582552

4. **Dellavale D**, Bonini F, Pizzo F, Makhalova J, Wendling F, Badier JM, Bartolomei F, Bénar CG (2023), Spontaneous fast-ultradian dynamics of polymorphic interictal events in drug-resistant focal epilepsy, Epilepsia 64(8), 2027-2043. DOI: 10.1111/epi.17655
   medRxiv DOI: 10.1101/2023.04.05.23288085
   Processing tool: https://github.com/damian-dellavale/node

5. **Dellavale D**, Badier J M, Bonini F, Dauly G, Wendling F, Bénar C G* (2021), Data driven features learning based on a weak supervision paradigm for detection and clustering of epileptiform waveforms observed in local field potential recordings, Bernstein Conference 2021.
   DOI: 10.12751/nncn.bc2021.p057
   Videos: https://youtu.be/PfJyadRk4K0, https://youtu.be/RjUmVtsAhPg

6. Arnaldi L H and **Dellavale H D*** (2021), Oversampled filter bank channelizer for cryogenic detectors, Rev. Sci. Instrum. 92, 023304. DOI: 10.1063/5.0035449

7. Velarde O, Mato G*, **Dellavale D*** (2020), Adaptive neuromodulatory scheme based on deep reinforcement learning, Bernstein Conference 2020. DOI: 10.12751/nncn.bc2020.0234
   Video: https://youtu.be/RZHd9xYWCec

8. Zizumbo Colunga J, Parra S, Urdapilleta E, **Dellavale D*** (2020), Cross frequency couplings and directionality between neuronal oscillations in the somatosensory pathway of macaque monkeys during a vibrotactile discrimination task, Bernstein Conference 2020.
   DOI: 10.12751/nncn.bc2020.0283

9. Parra Sánchez S, Zizumbo Colunga J, **Dellavale D**, Urdapilleta E* (2020), On some differences between multiunit and single-unit coding properties in behaving animals, Bernstein Conference 2020. DOI: 10.12751/nncn.bc2020.0156

10. **Dellavale D***, Velarde O, Mato G, Urdapilleta E* (2020), Complex interplay between spectral harmonicity and different types of cross frequency couplings in non linear oscillators and biologically plausible neural network models, Phys. Rev. E 102(6), 062401.
    DOI: 10.1103/PhysRevE.102.062401
    bioRxiv DOI: 10.1101/2020.10.15.341800
    Processing tool: https://github.com/damian-dellavale/Time-Locked-Index

11. **Dellavale D***, Urdapilleta E, Cámpora N, Velarde O, Kochen S, Mato G (2020), Two types of ictal phase-amplitude couplings in epilepsy patients revealed by spectral harmonicity of intracerebral EEG recordings, Clinical Neurophysiology, Vol. 131, No. 8, 1866-1885.
    DOI: https://doi.org/10.1016/j.clinph.2020.04.160
    bioRxiv DOI: 10.1101/2020.03.13.991299

12. **Dellavale D***, Rosselló J M (2019), Cross-frequency couplings in non-sinusoidal dynamics of interacting oscillators: Acoustic estimation of the radial position and spatial stability of nonlinear oscillating bubbles, Ultrasonics Sonochemistry, 51, 424-438. DOI: 10.1016/j.ultsonch.2018.07.026

13. Velarde O, Urdapilleta E, Mato G*, **Dellavale D*** (2019), Bifurcation structure determines different phase-amplitude coupling patterns in the activity of biologically plausible neural networks, NeuroImage, Vol. 202, No. 116031. DOI: 10.1016/j.neuroimage.2019.116031

14. **Dellavale D***, Urdapilleta E, Cámpora N, Velarde O, Kochen S, Mato G (2018), Characterization of cross frequency couplings produced by harmonic and non-harmonic frequency bands during seizure activity from intracerebral recordings in patients candidate to epilepsy surgery, Society for Neuroscience annual meeting 2018, San Diego - California, USA.
    URL: https://abstractsonline.com/pp8/#!/4649/presentation/26010

15. Mato G, Velarde O, Urdapilleta E, **Dellavale D*** (2018), Mechanisms of cross-frequency coupling in network models of Parkinson's disease, Society for Neuroscience annual meeting, San Diego - California, USA. URL: https://abstractsonline.com/pp8/#!/4649/presentation/30271

16. Velarde O, Mato G, **Dellavale D*** (2017), Mechanisms for pattern specificity of deep-brain stimulation in Parkinson's disease, PLOS ONE 12(8): e0182884.
    DOI: 10.1371/journal.pone.0182884
    Model source code: http://modeldb.yale.edu/260949

17. **Dellavale D*** and Rosselló J M (2016), Cross-frequency coupling and phase synchronization in nonlinear acoustics, Proceedings of Meetings on Acoustics (Acoustical Society of America), Vol. 28, 055001. DOI: 10.1121/2.0000294. 22nd International Congress on Acoustics ICA2016, Buenos Aires, Argentina (http://ica2016.org.ar/)

18. Rosselló J M*, **Dellavale D** and Bonetto F (2016), Positional stability and radial dynamics of sonoluminescent bubbles under bi-harmonic driving: Effect of the high-frequency component and its relative phase, Ultrasonics Sonochemistry, Vol. 31, pp. 610–625. DOI: 10.1016/j.ultsonch.2016.02.013

19. Rosselló J M*, **Dellavale D** and Bonetto F (2015), Stable tridimensional bubble surfaces in multibubble sonoluminescence, Ultrasonics Sonochemistry, Vol. 22, pp. 59-69. DOI: 10.1016/j.ultsonch.2014.06.003

20. **Dellavale D**, Kock M, Blume H*, Alam M, Schwabe K and Krauss J K* (2014), Implementation of Phase-to-Amplitude Coupling Analysis Algorithms in Deep Brain Stimulation Devices, 48th DGBMT Annual Conference, Hannover - Germany. Published in the Joint journal of the German Society for Biomedical Engineering in VDE and the Austrian and Swiss Societies for Biomedical Engineering, Vol 59 (S1), 2014 by Walter de Gruyter - Berlin - Boston. ISSN 0013-5585. DOI: 10.1515/bmt-2014-5002

21. **Dellavale D**, Leibold C, Payá-Vayá G, Blume H*, Alam M, Schwabe K, and Krauss J K* (2013), Optimization of a Phase-to-Amplitude Coupling Algorithm for Real-Time processing of Brain Electrical Signals, ICT.OPEN Conference, Eindhoven, Netherlands. URL: https://www.researchgate.net/publication/260614486_Optimization_of_a_Phase-to-Amplitude_Coupling_Algorithm_for_Real-Time_Processing_of_Brain_Electrical_Signals

22. Rosselló J M*, **Dellavale D** and Bonetto F (2013), Energy concentration and positional stability of sonoluminescent bubbles in sulfuric acid for different static pressures, Physical Review E, Vol. 88, 033026. DOI: 10.1103/PhysRevE.88.033026

23. Rechiman L M*, **Dellavale D** and Bonetto F (2013), Path suppression of strongly collapsing bubbles at finite and low Reynolds numbers, Physical Review E, Vol. 87, 063004. DOI: 10.1103/PhysRevE.87.063004

24. Rechiman L M*, **Dellavale D**, Bonetto F (2012), Numerical description of moving single bubble sonoluminescence state in sulfuric acid, X Argentinian Conference on Computational Mechanics (MECOM 2012), Salta, Argentina. URL: https://cimec.org.ar/ojs/index.php/mc/article/view/4064

25. **Dellavale D***, Rechiman L, Rosselló J M and Bonetto F (2012), Upscaling energy concentration in multi-frequency single bubble sonoluminescence with strongly degassed sulfuric acid, Physical Review E, Vol. 86, 016320. DOI: 10.1103/PhysRevE.86.016320

26. Bellotti M, **Dellavale D**, Fabián Bonetto F* (2012), A new technique to detect ocular pathologies based on electrical measurement implemented on programmable logic, IEEE Trans. on Inst. & Meas., Vol. 61, No. 12. DOI: 10.1109/TIM.2012.2210458

27. Bast W*, **Dellavale D**, Bonetto F (2011), An FPGA implementation of a "Dynamic-Clamp" system, Proc. of VII Southern Programmable Logic Conference (SPL11), ISBN: 978-1-4244-8847-6, pp. 167-172, Córdoba, Argentina. DOI: 10.1109/SPL.2011.5782643

28. **Dellavale D***, Urteaga R, Bonetto F (2010), Analytical study of the acoustic field in a spherical resonator for single bubble sonoluminescence, J. Acoust. Soc. Am., Vol. 127 (1), 186-197. DOI: 10.1121/1.3257208

29. Iriarte Muñoz J M*, **Dellavale D**, Sonnaillon M O, Bonetto F (2009), Real - time particle image velocimetry based on FPGA technology, IEEE Proc. of V Southern Programmable Logic Conference (SPL09), ISBN: 978-1-4244-3847-1, pp. 147-152, Sao Carlos, Brazil.

DOI: 10.1109/SPL.2009.4914899

30. **Dellavale D***, Sonnaillon M O, Bonetto F (2008), FPGA Based Multi-Harmonic Control System for Single Bubble Sonoluminescence, IEEE Proc. of IV Southern Programmable Logic Conference (SPL08), ISBN: 978-1-4244-1992-0, pp. 269-272, Bariloche, Argentina.
DOI: 10.1109/SPL.2008.4547774

31. Urteaga R*, **Dellavale D**, Puente G F and Bonetto F (2008), Experimental study of transient paths to the extinction in sonoluminescence, J. Acoust. Soc. Am., Vol. 124 (3), 1490-1496.
DOI: 10.1121/1.2903854.

32. Urteaga R*, **Dellavale D**, Puente G F and Bonetto F (2007), Positional stability as the light emission limit in sonoluminescence with sulfuric acid, Physical Review E, Vol. 76, 056317.
DOI: 10.1103/PhysRevE.76.056317

Publications without peer-review process

1. Castillo García M, Urdapilleta S, **Dellavale D**, Urdapilleta E* (2022), Influencia del acoplamiento eléctrico entre neuronas inhibitorias en la modulación del ritmo theta sobre las oscilaciones gamma en un modelo in silico, 107a Reunión de la Asociación Física Argentina, San Carlos de Bariloche, Río Negro, Argentina. URL: https://www.fisica.org.ar/

2. Gesualdi F and **Dellavale D*** (2018), In vivo light-tissue interaction: Spatio-temporal and spectro-temporal characterization of the photoplethysmographic signal, Machine Learning Summer School, Buenos Aires, Argentina. URL: http://mlss2018.net.ar/

3. Gesualdi F and **Dellavale D*** (2017), Interacción de la luz con tejido vivo: caracterizaciones espacio-temporal y espectral-temporal simultáneas de la señal fotopletismográfica [*Light-tissue interaction: Spatio-temporal and spectro-temporal simultaneous characterization of the photoplethysmographic signal*], 102nd National Meeting of Argentinian Physics Society (AFA), La Plata, Buenos Aires, Argentina. URL: https://www.fisica.org.ar/

4. Velez J, Gesualdi F, Velarde O, Urdapilleta E and **Dellavale D*** (2017), Acoplamiento inter-frecuencia en fotopletismografía como potencial biomarcador para la caracterización in vivo de sistemas fisiológicos [*Cross frequency coupling in photoplethysmography for the characterization of physiological systems*], 102nd National Meeting of Argentinian Physics Society (AFA), La Plata, Buenos Aires, Argentina. URL: https://www.fisica.org.ar/

5. Velarde O, Urdapilleta E, Mato G, **Dellavale D*** (2017), Génesis de acoplamiento inter-frecuencia en los ganglios de la base asociado al desarrollo de trastornos motores [*Mechanisms of cross frequency couplings in the parkinsonian basal ganglia*], 102nd National Meeting of Argentinian Physics Society (AFA), La Plata, Buenos Aires, Argentina. URL: https://www.fisica.org.ar/

6. Calderón A H, Capellino R A, Roman F R, **Dellavale D**, Cascallares G, Franco D L, López-Wortzman M, Nadal M S, Gleiser P M, Lindenbaum S, Risau S, Riva S, Amarillo Y (2017), Sleep quality in a population sample of Bariloche, 25 International Congress of Psychiatry organized by the Argentinean Phyquiatry Society (AAP), Buenos Aires, Argentina. URL: http://www.aap.org.ar

7. Roman F R*, Calderón A H, **Dellavale D**, Cascallares G, Franco D L, López-Wortzman M, Nadal M S, Gleiser P M, Capellino R A; Lindenbaum S, Risau S, Riva S, Amarillo Y (2017), Sleep quality of a sample of the adolescent population in Bariloche, Argentina, XXXII Congress of the Argentinian Society for Neuroscience, Mar del Plata, Argentina. URL:
http://www.saneurociencias.org.ar/congreso-san2017/

8. Velarde O, Mato G, **Dellavale D*** (2016), Mechanisms for pattern specificity of deep-brain stimulation in Parkinson's disease, 2nd Congress of the Federation of Latin-American and Caribbean Societies for Neuroscience (FALAN), Buenos Aires, Argentina. URL: https://falan-ibrolarc.org/book_FALAN.pdf

9. Velez J, Urdapilleta U, Velarde O, Mato G, **Dellavale D*** (2016), Cross frequency coupling analysis of local field potentials recorded from rat hippocampal and parahippocampal regions during behavioral tasks, 2nd Congress of the Federation of Latin-American and Caribbean Societies for Neuroscience (FALAN), Buenos Aires, Argentina. URL: http://falan-ibrolarc.org/drupal/es/content/welcome-2nd-falan-congress-2016-buenos-aires

10. Velarde O, **Dellavale D***, Mato G* (2015), Study of the basal ganglia network dynamics with applications to closed-loop deep brain stimulation paradigms. XXX Congress of the Argentinian Society for Neuroscience (Congress and course: State-of-the-art methods in Neuroscience Research), Mar del Plata, Argentina. URL: http://www.saneurociencias.org.ar/

11. Ferreiro I, Cappagli P, **Dellavale D*** (2015), Desarrollo de un tomógrafo de impedancia eléctrica con capacidad de procesamiento en tiempo real [*Design and implementation of a table-top system for real time electrical impedance tomography*], 100th National Meeting of Argentinian Physics Society (AFA), Villa de Merlo, San Luis, Argentina. URL: https://www.fisica.org.ar/

12. Rosselló J M*, **Dellavale D**, Bonetto F (2015), Efecto de la componente de alta frecuencia del campo acústico sobre la estabilidad posicional de una burbuja sonoluminiscente con excitación bi-armónica [*Positional stability of a sonoluminescent bubble under bi-harmonic driving*], 100th National Meeting of Argentinian Physics Society (AFA), Villa de Merlo, San Luis, Argentina. URL: https://www.fisica.org.ar/

13. **Dellavale D***, Rosselló J M, Bonetto F (2014), Confinamiento Dielectroforético de una Burbuja Sonoluminiscente (DC - SBSL) [*Dielectrophoretic confinement of a sonoluminescent bubble*], XIII Meeting on Recent Advances in Physics of Fluids and its Applications, November 2014, Tandil, Argentina. URL: http://www.exa.unicen.edu.ar/fluidos2014/

14. Rosselló J M*, **Dellavale D** and, Bonetto F (2013), Multi-bubble clusters in sonoluminescence for a cylindrical resonator and bi-harmonic driving, XIII Latin American Workshop on Nonlinear Phenomena (LAWNP), Córdoba, Argentina.

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16. Rosselló J M*, **Dellavale D**, Bonetto F (2013), Superficies tridimensionales de burbujas sonoluminiscentes en un resonador cilíndrico con excitación multi-frecuencia [*Tridimensional bubble surfaces in a cylindrical acoustic resonator under multi-frequency driving*], 98th National Meeting of Argentinian Physics Society (AFA), San Carlos de Bariloche, Argentina. URL: https://www.fisica.org.ar/

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*** = Corresponding author**