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Oral Presentations

1. LFcin Refinery: A machine learning approach to improve antimicrobial peptides’ efficacy against nontuberculous mycobacteria Gabriel S. Oliveira, Maria Salomé Gomes, Sérgio F.

Sousa, Tânia Silva - IMAP 2024 11th International Meeting on Antimicrobial Peptides 2024/09/02-04 (London, United Kingdom) 1- Tackling biofilm formation using an in silico approach Tatiana F. Vieira - LAQV Webinar 2024/04/17 (Porto, Portugal) (online)

2. Exploring pH-dependent Dynamics Of Doxorubicin Delivery Using Functionalized Multi-walled Carbon Nanotubes: Insights From Molecular Dynamics Simulations Fábio G. Martins, Sérgio F. Sousa – Biophysics Festival - 4th Meeting of Young Biophysics 9-10.05.2024 (Covilhã, Portugal)
3. Development of a Computational Protocol for the Rational Design of Nanomedicines Aimed at Cardiovascular Diseases Fábio G. Martins, Sérgio F. Sousa – XXII National Congress of Biochemistry 24-26.10.2024 (Aveiro, Portugal)
4. Use of HPC Computing for Accelerating Drug Discovery Targeting the SARS-CoV-2 S-RDB/ACE2 Interaction Fábio G. Martins, Sérgio F. Sousa IBERGRID 2024 – 28-30.10.2024 (Porto, Portugal)
5. A Computational Strategy for the Design of Targeted Nanomedicines in Cardiovascular Diseases Fábio G. Martins, Sérgio F. Sousa – XXVIII Encontro Galego-Português de Química 13-15.11.2024 (Vigo, Spain)
6. Molecular Insights into HIV-1 Integration: A Computational Study of Intasome-Nucleosome Interactions Fábio G. Martins, Sérgio F. Sousa – LAQV WEBINAR 21.05.2025 (Online)
7. Development and Application of a Multi-Level Computational and In Vitro Approach for Identifying MAPK3 Inhibitors in Leishmania martiniquensis and Leishmania orientalis – Duangnapa Kiriwan, Tatiana F. Vieira, Nutnaree Kumsiri, Kiattawee Choowongkomon, Sergio F. Sousa - BIOPHYSICS FESTIVAL – 4 th Meeting of Young Biophysicists - 9-10.05.2024
8. Tripeptide-Based Inhibition of EGFR Tyrosine Kinase in Lung Cancer: Findings from Computational and Experimental Studies - Duangnapa Kiriwan, Supaphorn Seetaha, Nattanan Jiwacharoenchai, Lueacha Tabtimmai, Napat Songtawee, Kiattawee Choowongkomon, Sérgio F. Sousa - XXII SPB National Congress of Biochemistry - 24-26.10.2024
9. From plants to anti-snakebite mechanisms. Airam Roggero, Isabelly Annunciato, Fabio G. Martins, Igor Nicodemo, Marcos H.Toyama, Sergio F. Sousa. 6th Meeting on Medicinal Biotechnology 2024
10. Effects of Morin on Cell Membrane Fluidity: An Analysis of the Anti-inflammatory Efficacy of Flavonoids. Airam Roggero, Caroline Ramos da Cruz, Marcos H. Toyama, Sergio F. Sousa. - XXIX National Meeting of the Portuguese Chemical Society, Coimbra, Portugal, 2025.
11. Enzyme Modulation and Inflammation: A New Therapeutic Target. Airam Roggero, Marcos H. Toyama, Sergio F. Sousa - 7th Symposium on Medicinal Chemistry of University of Minho, Braga, Portugal, 2025.
12. Aspartame and Inflammation: An In Silico Evaluation of Interference in the Land’s Cycle and Cell Membrane Integrity. Isabelly Annunciato; Michelle Rafael; Igor Nicodemo; Airam Roggero; Caroline R. da Cruz; Mariana N. Belchor; Adeilso B. S. Junior; Gustavo A. Fernandes; Marcos A. de Oliveira; Sérgio F. Sousa; Marcos Hikari Toyama – XXVII Encontro Luso Galego de Química 22/11/2023 to 24/11/ 2023 (Porto, Portugal)
13. Use of HPC Resources to Find New Drugs Against Biofilm Formation Tatiana F. Vieira, Sérgio F. Sousa - IBERGRID 2024 2024/10/28-30 (Porto, Portugal)

14. Engineering aptamers for Biomedical Application using Biomolecular Simulations Sérgio F. Sousa - 26th Congress of the International Union of Biochemistry and Molecular Biology (IUBMB) 2024/09/25 (Melbourne, Australia)
15. Development of Computational Methods For Aptamer Engineering For Targeted-Drug Delivery Sérgio F. Sousa - XXVIII EFMC International Symposium on Medicinal Chemistry 2024/09/03 (Rome, Italy) (Flash talk/poster)
16. Application of QM/MM Methods in Enzyme Bioengineering Efforts: Understanding PET Degrading Activity of PETases Sérgio F. Sousa - XLVII International Congress of Theoretical Chemists of Latin Expression (Chitel2024) 2024/07/03 (Namur, Belgium)
17. Application of QM/MM Methods in the Study of the Enzyme Efficiency by PET Degrading Enzymes Sérgio F. Sousa - ESPA2024 Meeting (Electronic Structure Principles and Applications Conference) 2024/06/06 (Tarragona, Spain)
18. Probing the Role Played by Different Amino Acid Residues in the Catalytic Mechanism of Plastic PET Degrading Enzymes by QM/MM Methods Sérgio F. Sousa - International Society of Quantum Biology and Pharmacology (ISQBP) 2024 President's Meeting 2024/05/21 (Athens, Greece)
19. Towards One Health: Combining Biomolecular Simulations, Artificial Intelligence and Scientific Databases Sérgio F. Sousa - 1-day Course for the PhD Program in Integrated Health (One Health) at FMUP (Invited Lecture) 2024/11/15 – (Porto, Portugal)
20. Development of Multi-Level Biomolecular Simulation Protocols for Aptamer Engineering for Biomedical Applications Sérgio F. Sousa - 13th Iberian Grid Conference – IBERGRID 2024 (Plenary Lecture) 2024/10/30 – (Porto, Portugal)
21. Application of QM/MM Methods in Enzyme Bioengineering Efforts: Understanding PET Degrading Activity of PETases Sérgio F. Sousa - International Symposium on Future in Enzyme Modeling (FEM2024) (Invited lecture) 2024/10/25 – (Tianjin, China)
22. Combining Biomolecular Simulations with Medicinal Chemistry: Expanding Horizons Sérgio F. Sousa - Global Health Horizons: Empowering Pharmacists Through Research and Development Conference - World Pharmacists Day 2024 - Indira Gandhi National Tribal University (Plenary Lecture) 2024/09/24 – (Amarkantak, Madhya Pradesh, India) (online)
23. Combining Different In Silico Methods for Drug Design and Development: Challenges and Opportunities Sérgio F. Sousa - Virus-Host-AI Meeting (Invited Lecture) 2024/07/29 – (Figueira da Foz, Portugal)
24. Multiscale Modelling of DNA/RNA Aptamers for Molecular Recognition Sérgio F. Sousa - XLVIII International Congress of Theoretical Chemists of Latin Expression (Chitel2025) 2025/07/17 (Cartagena-das-Indias, Colombia)
25. Exploring the interaction between nitrosamines with PAF-AH enzyme: in silico prospection for new therapeutic strategies Isabelly Annunciato - International Conference on Integrative Bioinformatics and Computer Systems Biology (ICIBCSB - 23) - 05/10/2023 - (Milan, Italy)
26. Understanding the mechanism of action of multi-target anti-diabetic natural compounds using Virtual Screening Carlos S. H. Shiraishi; Fábio G. Martins, Sérgio F. Sousa, Miguel A. Prieto, Sandrina A. Heleno and Rui M. V. Abreu. Academy Branch of the Conference,4th Insure Hub Conference "Innovation, Sustainability and Regeneration, October 29-30, 2024, in Porto.

27. Madeira C (presenter), Lohmann D, Kirner A, Gaspar J, Bornhäuser J, Martins C, D'Ambrosio M, António C, Maricato R, Araújo E, Rodrigues AM, Costa PM, Diniz MS (2025). Climate change in the Eastern Tropical Pacific: Adaptive responses of the commercial fish spotted rose snapper – Implications for Conservation. Global Coral Reef Monitoring Network Meeting – Eastern Tropical Pacific Node, 15-04-2025, online.
28. Madeira C (presenter), Missionário M, Cabral IM, Fernandes JF, António C, Rodrigues AM, D'Ambrosio M, Menconça V, Grosso AR, Costa PM, Madeira D (2024). Iberian goby populations from colder sites display low phenotypic variation despite high molecular plasticity in response to heat. SEB Society for Experimental Biology Congress, 2nd-5th July, Prague, Czech Republic.
29. Madeira C, Costa PM (2024) Marine molecular networks for a healthy ocean and a sustainable blue economy. Scientific Conference Series, Institute Maurice Lamontagne – Department of Fisheries and Oceans Canada, 16-05-2024, Mont-Joli, Québec, Canada. Invited by Dr. Kathleen McGregor.
30. Madeira C, António C, Rodrigues AM, Lohmann D, Martins C, Kirner A, Bornhäuser J, Gaspar J, D'Ambrosio M, Estcourt T, Schwerdt S, von Hammerstein H, Vince J, Calvo-Elizondo E, Esquivel E, Chacon-Guzman J, Diaz-Pulido G, Doo S, Clarke T, di Falco C, Bejarano S, Costa PM, Diniz MS (2024) Tropical fish on the move: climate change impacts in species physiology and potential biodiversity redistributions. University of Québec at Rimouski, 08-05-2024, Rimouski, Québec, Canada. Invited by Prof. Piero Calosi.
31. Madeira C, Costa PM, Madeira D, Vinagre C (2024) From molecules to ecosystems: thermal biology of marine fish, Reef Systems WG Workshop EU-Colombia, Leibniz Centre for Tropical Marine Research, 25-01-2024, Bremen, Germany. Invited by Dr. Sonia Bejarano.
32. Madeira C, Costa PM, Madeira D, Vinagre C (2024) Multilayer networks in benthic fish responses to environmental stressors in intertidal environments, AG Voolstra Lab Networking Seminar, Department of Biology, Universität Konstanz, 18-01-2024, Konstanz, Germany. Invited by Prof. Christian Voolstra.
33. Madeira C, Costa PM, Madeira D, Vinagre C (2024) Molecular networks in small benthic fish adaptation to labile environments, Institute of Evolution and Ecology Seminars, Faculty of Science, University of Tübingen, 17-01-2024, Tübingen, Germany. Invited by Prof. Nico Michiels.
34. Madeira C, Costa PM, Madeira D, Vinagre C (2024) Stress response mechanisms of small benthic fish in fluctuating environments, Institute of Marine Ecosystem and Fishery Science Seminars, Universität Hamburg, Faculty of Mathematics, Informatics and Natural Science, 15-01-2024, Hamburg, Germany. Invited by Prof. Flemming Dahlke.
35. Missionário M (presenter), Madeira D, Vinagre C, Costa PM, Madeira C (2022). Marine shallow waters as climate change hotspots – multi-omics approaches unravel fish response patterns across latitudes, seasons and climate scenarios. BioSeminars@UCIBIO. UCIBIO-NOVA & UCIBIO-Porto, 21-12-2022, Online.
36. Cabral IM (presenter), Costa PM, Grosso AR, Madeira C (2023) A transcriptomic approach to unravel molecular mechanisms contributing to heat acclimatization of a non-conventional model marine organism. InSilicoClub@UCIBIO, UCIBIO-NOVA & UCIBIO-Porto, 26-03-2023, Online.
37. E. Faustino, S.L. Mendes, J. Carvalho, C. Sousa-Santos; V.C. Sousa. Hybridization between currently allopatric species at the root of speciation? The case of Iberian chubs (Genus

Squalius) XX ENBE Annual Meeting of the Portuguese Association for Evolutionary Biology in BIOPOLIS – CIBIO, Research Centre in Biodiversity and Genetic Resources, Vila do Conde, Portugal. 19-20 December 2024.

38. A. Blanckaert, V.C. Sousa. Interactions between mechanisms of reproductive isolation, 3rd Joint Congress of Evolutionary Biology, Montreal, Canada. 30th July 2024.
39. S.L. Mendes, E. Faustino, C. Bernardo, S. Perea, I. Doadrio, C. Sousa-Santos, P.G. Feulner, V.C. Sousa. “Hybridization is prevalent but outcomes are distinct across Iberian chubs”. 3rd Joint Congress on Evolutionary Biology. Montreal, Canada. 30th July 2024
40. "The octocoral microbiome: exploring pathogens, probiotics and climate change impacts" at Biological Sciences Research Group, Instituto Superior Técnico, University of Lisbon, Portugal
41. Institute Seminar entitled "Designing probiotics to promote octocoral health under climate change" at Department of Bioengineering, Instituto Superior Técnico, University of Lisbon, Portugal
42. Martins,R; Fortunato, A B; Oliveira, A, Jesus, G; Mani, S; Meyers, E; Moghimi, S (2024). OPENMeshS: an online, open, unstructured mesh generator for OPENCoastS, 8th IAHR Congress Full papers, 177-182. DOI: 10.34638/3zcb-9082
43. Fortunato, A B; Freire, P; Ana, R; Viseu, T; Rodrigues, M (2024). Mapping inundation of estuarine margins driven by ocean and fluvial forcings, 8th IAHR Congress Full papers, 229-235. DOI: 10.34638/3zcb-9082
44. Rodrigues, M; Fortunato, A B; Martins, R J; Jesus, G; Brito, A C; Oliveira, A; Nahon, A; Costa, J L.; Alves, E; Korani, Z M; Azevedo, A (2024). CONNECT – Local coastal monitoring service for Portugal, 8th IAHR Congress Full papers, 237-246. DOI: 10.34638/3zcb-9082
45. SASSETTI MENDES, L.; MURALHA, A.; MELO, J.F.; VISEU, T. (2024). *Why Computational Fluid Dynamics is Mandatory in Physical Modelling Of Large Hydraulic Structures*: A Six-Step Methodology Of Integration. 8th IAHR Europe Congress. LNEC, Lisboa, 4 a 7 de Junho de 2024.
46. SASSETTI MENDES, L., ALVES, E. (2024). *Volume-Of-Fluid vs Euler-Euler - CFD Of Pisão Dam’s Stilling Basin*. 6th Foam@Iberia. Ferrol, Espanha. 3 a 4 de outubro de 2024.

Proceeding in international conferences

1. Arias, D., Gadelho, J. and Guedes Soares, C., 2024. Numerical simulations evaluating the influence of different geometric features in the pneumatic efficiency of OWC devices. In Innovations in Renewable Energies Offshore (pp. 249-256). CRC Press. DOI: 10.1201/9781003558859-28
2. Li, H.S., Wang, S. and Guedes Soares, C., 2024. Uncertainty assessment of the scale effects on a submerged cylinder. In Advances in Maritime Technology and Engineering (pp. 139-148). CRC Press. DOI: 10.1201/9781003508779-15

3. Fortes, C.J.E.M.; Pinheiro, L.V.; Zózimo, A.C.; Lima, L.; Serrazina, V. (2024). "HIDRALERTA: Emergency Response Module for Coastal Wave Overtopping and Flooding at Praia da Vitória bay", in proceedings of the 8th IAHR Congress, LNEC, Lisbon, 4-7 June, 2p.
4. Garzon, J.L.; Ferreira, Ó.; Zózimo, A.C.; Fortes, C.J.E.M.; Pinheiro, L.V., (2024). "Development of an efficient early warning system for wave-induced flooding", 38th ICCE, Rome, 8-14 September, 2p, comunicação feita, a aguardar publicação das atas (versão digital obtida através da Conftool do congresso).
5. Zózimo, A.C.; Pinheiro, L.V.; Chenneveau, L.; Manz, A.; Garzon, J.L.; Fortes, C. (2024). "Deep learning framework to use complex models in operational forecast systems", 38th ICCE, Rome, 8-14 September, 2p, comunicação feita, a aguardar publicação das atas (versão digital obtida através da Conftool do congresso).

Posters (internation meetings)

1. Galamba, N. Cyclic Peptides as Protein Aggregation Inhibitors for Globular and Intrinsically Disordered Disease-Related Proteins, The Leuven Protein Aggregation Meeting (2nd edition), September 11-13, 2024, Leuven, Belgium – poster
2. Jéssica Rodrigues; Carlos Costa; Carolina Mota Natal; Ana Margarida Gonçalves Carvalho Dias; Roque, ACA; Moura Barbosa, Arménio J.. Autor correspondente: Moura Barbosa, Arménio J.. "Molecular Modeling in Biotechnology: Design and Discovery of small molecule adsorbents". Trabalho apresentado em EuroQSAR 2024, 2024.
3. Jéssica Rodrigues; Carlos Costa; Carolina Mota Natal; Ana Margarida Dias; Roque, ACA; Moura Barbosa, Arménio J.. Autor correspondente: Moura Barbosa, Arménio J.. "In silico Affinity Ligands: Design and Discovery of small molecule adsorbents". Trabalho apresentado em Bpi Europe 2024, 2024.
4. Moura Barbosa, Arménio J.; Soares, Cátia Lopes; Esteves, Carina; Nurrito, Ariana; Lychko, Iana; Ana Margarida Dias; Pina, Ana Sofia; Roque, Ana Cecília Afonso. "From code to structure: molecular modeling in biomaterials assembly". Trabalho apresentado em SUPRAlife Second School – “Bioinspired Supramolecular Self-Assemblies, 2024.
5. Using QSAR models to refine antimicrobial peptides against Mycobacterium abscessus Gabriel S. Oliveira, Maria Salomé Gomes, Sérgio F. Sousa, Tânia Silva - ESCMID Global 2025 2025/04/11-15 (Wien, Austria)
6. Metodologia in silico para identificação de novos compostos para inibição da formação de biofilme em P. aeruginosa Tatiana F. Vieira, Manuel Simões, Nuno M. F. S. A. Cerqueira, Sérgio F. Sousa – Ciência 2024: Encontro com a Ciência e Tecnologia em Portugal, Porto 2024/07/3-5 (Porto, Portugal)
7. Molecular Dynamics Simulations of Lysinated Multiwalled Carbon Nanotubes for Enhanced Delivery of Doxorubicin in Cancer Therapy Fábio G. Martins; Sérgio F. Sousa – 6th Meeting on Medicinal Biotechnology 17.05.2024 (Porto, Portugal)
8. Optimizing Doxorubicin Delivery in Cancer Treatment with Lysinated Multiwalled Carbon Nanotubes: A Molecular Dynamics Study Fábio G. Martins, Sérgio F. Sousa – Encontro Ciência 2024 03.07.2024 (Porto, Portugal)

9. Modeling HIV-1 Intasome-Nucleosome Interactions: A Molecular Perspective Fábio G. Martins, Sérgio F. Sousa – 7th Meeting on Medicinal Biotechnology 30.05.2025 (Porto, Portugal)
10. Multi-level Computational and In Vitro Approach for Identifying MAPK3 Inhibitors in Leishmania martiniquensis and Leishmania orientalis (E-poster) - Duangnapa Kiriwan, Tatiana F. Vieira, Nutnaree Kumsiri, Kiattawee Choowongkomon, Sergio F. Sousa – Portuguese Science Summit 2024 – 03-05.07.2024
11. Computational Identification of Dual Protein Targets for Anti-leishmanial Drug Development - Duangnapa Kiriwan, Sergio F. Sousa – 7th Meeting on Medicinal Biotechnology - 30.05.2025 (Porto, Portugal)
12. Creation of a 3D-Molecular Database of Voltage-Gate Sodium Channels - João Boazinha, João Carneiro, Nuno M.F.S.A Cerqueira, Sérgio F. Sousa - 6th Meeting on Medicinal Biotechnology 2024/05/17 (Porto, Portugal)
13. Development of a 3D-Molecular Database of Voltage-Gate Sodium Channels (E-Poster) - João Boazinha, João Carneiro, Nuno M.F.S.A Cerqueira, Sérgio F. Sousa - Encontro Ciência 2024 2024/07/03 to 2024/07/05 (Porto, Portugal)
14. Influence of Nonsteroidal Anti-inflammatory Drugs on Membrane Repair. Airam Roggero, Igor Nicodemo, Fabio G. Martins, Marcos H. Toyama, Sergio F. Sousa.. Encontro Ciência 2024. Porto, Portugal 2024.
15. Impact of NSAIDs on the Enzymatic Alteration of the Lands Cycle and Their Long-Term Hepatic Effects - Aiam Roggero, Fabio G. Martins, Marcos H. Toyama, Sergio F. Sousa..3ª edição do Congresso de Ciências. Faculdade de Ciências da Universidade do Porto, Porto, Portugal 2024.
16. From Sustainability Until Green Engineering A Puzzle to Classes - Airam Roggero; Pedro H. S. Fernandes; Marcos H.Toyama; Sergio F. Sousa.. XXII National Congress of Biochemistry. University of Aveiro, Aveiro, Portugal 2024.
17. Exploring The Sites of Interaction Of Non-Steroidal Antiinflammatory Drugs With Enzymes In The Landis Cycle. Biophysics Festival - Airam Roggero, Isabelly Annunciato, Igor Nicodemo, Fabio G. Martins, Marcos Hikari Toyama, Sergio F. Sousa. – 4th Meeting of Young Biophysicists. Faculty of Sciences of University of Beira Interior, Covilhã, Portugal
18. NSAIDs from antiinflammatory to PAF AH potential inhibitor, far beyond inhibition of COX to potential anti- tumor agent - Roggero , I. Annunciato, I. Nicodemo, C.R. Costa, G.A. Fernandes, A.B. Junior, M. Rafae, M.A. de Oliveira, S.F. Sousa, M.H. Toyama..48th FEBS Congress, Milan, Italy, 2024.
19. Gallic Acid as a Supportive Agent in the Immunotherapy of Cancer. Airam Roggero, Caroline Ramos da Cruz, Igor Nicodemo, Pedro Loyola, Marcos H. Toyama, Sergio F. Sousa. - 7th Meeting on Medicinal Biotechnology & 3rd Iberian Congress on Medicinal Biotechnology. Escola Superior de Saúde, Porto, Portugal, 2025.
20. Lands cycle is a new therapeutic target for antitumor drugs. Airam Roggero, Igor Nicodemo, Pedro Loyola, Carol R. Cruz, Marcos H. Toyama, Sergio F. Sousa - Encontro Ciência 2025. Lisboa, Portugal, 2025.
21. Activating Factor Regulation: A Computational Prospection for Therapeutic Insights - . Annunciato, I. ; Toyama, Marcos Hikari ; Santos Junior, A. B. ; Roggero, A. ; Cruz. C, R, C. ; Sousa, S. F. ; Oliveira, M. A. ; Rafael, M. ; Nicodemo, I. ; Fernandes, Gustavo Antônio . Exploring Nitrosamines' Impact on Patelet. - Brazilian Society of Biochemistry and

Molecular Biology (SBBq), 2024, Águas de Lindóia. 53rd Annual Meeting of the Brazilian Society of Biochemistry and Molecular Biology (SBBq), 2024.

22. NSAIDs from anti-inflammatory to PAF AH potential inhibitor, far beyond inhibition of COX to potential anti- tumor agent. Roggero, A., Annunciato, I., Nicodemo, I., Costa, C.R.C., Junior, A.B.S., Rafael, M., Oliveira, M.A., Souza, S.F., Toyama M.H.1, Toyama, M.H.. Brazilian Society of Biochemistry and Molecular Biology (SBBq), 2024, Águas de Lindóia. 53rd Annual Meeting of the Brazilian Society of Biochemistry and Molecular Biology (SBBq), 2024.
23. Development of Combined Multi-scaled In Silico Tools For Aptamer Design Sérgio F. Sousa - 15th European Biophysics Congress (EBSA2025) 2025/07/03 (Rome, Italy)
24. Computational Chemistry Driven Development of DNA/RNA Aptamers Sérgio F. Sousa - 49th FEBS Congress (FEBS2025) 2025/07/06 (Istanbul, Turkey)
25. Innovative method to identify plants with antidiabetic ingredients using high performance computing Carlos S. H. Shiraishi; Fábio A. Martins ; Sérgio F. Sousa ; Miguel Prieto Sandrina Heleno and Rui Abreu. International Conference on Sutainable Foods - Achieving the Sustainable Development Goals (ICSF), School of Technology and Management (ESTiG) of the Polytechnic Institute of Bragança on July 24th and 25th of 2024.
26. Triagem Virtual de Potenciais Inibidores Naturais Antidiabético do Cotransportador de Glicose de Sódio Tipo 2 (SGLT2) Carlos S. H. Shiraishi; Fábio A. Martins ; Sérgio F. Sousa ; Miguel Prieto Sandrina Heleno and Rui Abreu. IPO Porto Summit held on May 9-11, 2024 at the Portuguese Oncology Institute of Porto.
27. Identification of dual-target antidiabetic mushrooms natural compounds using virtual screening Carlos S. H. Shiraishi; Fábio A. Martins ; Sérgio F. Sousa ; Miguel Prieto Sandrina Heleno and Rui Abreu. 2nd Conference of the Doctoral Program in Metabolism – Clinical and Experimental, within the topic of “METAINFLAMMATION: A HOT TOPIC IN METABOLIC DYSFUNCTION”, held at the Faculty of Medicine of the University of Porto, Portugal on the 25th of October 2024.
28. An In silico prospection for new therapeutic strategies: the impact of nitrosamines in PAF regulation Isabelly Annunciato; Igor Nicodemo; Michelle Rafael; Airam Roggero; Caroline C. Ramos; Mariana N. Belchor; Adeilso B. S. Júnior; Gustavo A. Fernandes; Marcos A. Oliveira; Sérgio F. Sousa; Marcos H. Toyama – 3D-Bioinfo-PT Annual Meeting – Faculdade de Ciências e Tecnologia da Universidade de Coimbra – 18.12.2023
29. C5 Genetic Variants Affect the Stability of the C5-Eculizumab Complex Vanda P. Peixoto, Cristina Prudêncio, Mónica Vieira, Sérgio F. Sousa – 7th Meeting on Medicinal Biotechnology & 3rd Iberian Congress on Medicinal Biotechnology 30.05.2025 (Porto, Portugal)
30. KDM4C epigenetic therapy for triple-negative breast cancer Sofia M. Sousa; Fernanda Proença; Marta Costa; Sérgio F. Sousa - Encontro Ciência 2024 - Science and Technology Summit 2024/07/3-5 (Porto, Portugal)
31. Design of new epigenetic inhibitors for the treatment of triple negative breast cancer Sofia M. Sousa; Fernanda Proença; Marta Costa; Sérgio F. Sousa - 6th Meeting of Medicinal Biotechnology 2024/05/17 (Porto, Portugal)
32. Therapeutic epigenetic KDM4C remodeling for the treatment of triple negative breast cancer Sofia M. Sousa; Fernanda Proença; Marta Costa; Sérgio F. Sousa - 30th Porto Cancer Meeting 2024/05/9-10 (Porto, Portugal)

33. Ferri, A., Moutinho Cabral, I., Sabia, C., Iseppi, R., Costa, P.M., Simonini, R. (2024) "Unveiling the biotechnological potential of marine polychaete Halla parthenopeia: Insights into hallachrome antimicrobial properties and toxin identification". 57th European Marine Biology Symposium.
34. Madeira, C., António, C., Rodrigues, A.M., Lohmann, D., Martins, C.A., Kirner, A., Bornhäuser J., et al. (2024) "Marine molecular networks underpinning stress tolerance to warming and acidification in the spotted rose snapper Lutjanus guttatus from the Eastern Tropical Pacific". Society for Experimental Biology Congress.
35. Madeira C, António C, Rodrigues AM, Lohmann D, Martins C, Kirner A, Bornhäuser J, Estcourt T, Schwerdt S, von Hammerstein H, Vince J, Calvo E, Esquivel E, Chacon-Guzman J, Diaz-Pulido G, Doo S, Diniz MS, Costa PM, Bejarano S (2024) Marine molecular networks underpinning stress tolerance to warming and acidification in the spotted rose snapper Lutjanus guttatus from the Eastern Tropical Pacific. Society for Experimental Biology (SEB) Congress, 2nd-5th July, Prague, Czech Republic.

Posters (national meetings)

Thesis / Dissertation

PhD Thesis

Finished

Innovative approach to fight tuberculosis and malaria targeting the extraordinary PLP synthase macromolecular complex Student: André Pina (Supervisor Principal: Nuno Cerqueira; Co-Supervisor: Sérgio Sousa) Doutoramento: Programa Doutoral em Biomedicina (PhD) Universidade do Porto Faculdade de Medicina, Portugal Janeiro de 2024

1. Development of biocidal formulations for effective biofouling control Student: Susana Maria da Fonseca Fernandes (Supervisor Principal: Manuel Simões; Outros Supervisores: Sérgio Sousa e Fernanda Borges) Doutoramento: Programa Doutoral em Engenharia Química e Biológica (PhD) Universidade do Porto Faculdade de Engenharia, Portugal Fevereiro de 2024
2. Paroxysmal Nocturnal Hemoglobinuria: Unraveling Epidemiological Patterns, Molecular Mechanisms, And Biotechnological Advances Student: Vanda Patrícia Pinto Peixoto (Supervisor Principal: Mónica Vieira, ESS; Co-supervisor: Sérgio F. Sousa) Doutoramento: PhD Program in Advanced Biotechnology (PhD) Universidade de Vigo, Spain Junho 2024
3. New Drugs Against Biofilm Formation and Development: a Computational and Experimental Approach Student: Cláudia Tatiana Vieira (Supervisor Principal: Sérgio F.

Sousa; Outros Supervisores: Manuel Simões e Sérgio F. Sousa) Doutoramento: Programa Doutoral em Biomedicina (PhD) Universidade do Porto Faculdade de Medicina, Portugal Julho de 2024

Ongoing

1. Sofia Mendes, Biology PhD programme, Host: CE3C-Ciências (12.2019-07.2025) Co-supervisors: Dr. Carla Sousa-Santos (ISPA), Dr. Philine Feulner (EAWAG). Thesis: The role of hybridization in speciation and adaptation: insights from Iberian freshwater fish species. Funding: FCT scholarship SFRH/BD/145153/2019 to SM.
2. João Carvalho, BIODIV PhD programme, Host: CE3C-Ciências (03.2018-02.2024) Co-supervisors: Prof. Roger Butlin (Sheffield U.), Dr. Rui Faria (CIBIO, U. Porto). Thesis: Genomics of ecotype formation: interplay between demographic processes and natural selection. Funding: FCT scholarship PD/BD/128350/2017 to JC.
3. Hydrodynamic Analysis of Oscillating Water Column Wave Energy Converters using OPENFOAM, Jorge Filipe Marques Gadelho, Instituto Superior Técnico, 14/03/2025
4. Matilde MArques, "Insights into the octocoral microbiome in health and disease: from climate change impacts to probiotic prospects" at Instituto Superior Técnico, University of Lisbon, Portugal
5. Study by simulation and reconstruction of a brain-dedicated positron emission tomograph based on resistive plate chambers Ana Luísa Lopes UC
6. Quarkonium production studies at LHC energies: towards the understanding of bound-state formation by the strong force Mariana Araújo IST
7. Tomografia de Muões com RPCs na Mina do Lousal Pedro Teixeira UÉvora
8. Study of the Spin/CP properties of the Higgs coupling to W-bosons with ATLAS at the LHC Ricardo Barrué IST
9. Using online behaviour to track global outbreaks and pandemics Sara Mesquita UNL-NOVA
10. Searching for dark matter with the ATLAS detector using unconventional signatures Maura Teixeira UMinho
11. Modeling the radiobiological effects of gold nanoparticles in proton therapy of glioblastomas Joana Antunes FCUL
12. Evaluating the Effectiveness of Mini-Beam Radiation in Cancer Therapy Miguel Molina-Hernández IST
13. Bragg Peak monitoring through prompt-gamma: detection and instrumentation José Patuleia Venâncio IST
14. Search for new physics in exclusive processes at the Large Hadron Collider Matteo Pisano IST
15. A next-generation gamma-ray observatory powered by Machine Learning techniques Borja González IST
16. Pentaquark spectroscopy for the LHC Raúl Torres IST
17. Phase-II Tracking in ATLAS and search for ttHH production using Run-2 and Run-3 LHC Data Luis Coelho UC
18. The substructure of in-medium jets João Martins da Silva IST
19. Radiation Damage of Optical Components in Scintillator Detectors: from the ATLAS/LHC Tile Calorimeter to Future Experiments Beatriz Pinheiro Pereira IST

20. Radiation Damage of the TileCal Optics components at the High Luminosity LHC phase Rudnei Machado IST
21. Raios Cósmicos: desenvolvimento de módulos de divulgação através de design participativo Luís Afonso UP
22. Accelerating the ATLAS Trigger system with Graphical Processing Units Nuno Fernandes IST
23. Study of lepton universality in top quarks pairs events Giacomo Da Molin IST
24. Measurement of Collider Neutrinos with the SND@LHC Experiment Guilherme Soares IST
25. Disentangling and Quantifying Jet-Quenching With Generative Deep Learning João Arruda Gonçalves IST
26. Probing CP couplings in ttX production at the Run3 of the LHC Esteban Chalbaud UC
27. Measurements of Short Range Correlations on Exotic Nuclei at R3B using TRPCs Manuel Xarepe FCUL
28. The effects of proton therapy on protein self-organization: potential benefits for neurodegenerative disorders Carina Coelho FCUL
29. Development of microdosimetric detectors for radiobiology in hadron therapy facilities Cristiana Rodrigues FCUL
30. Reaching for PeVatrons with the future Southern Wide-field Gamma-ray Observatory Lucio Gibilisco IST
31. Developing Multi-Beam FLASH with Proton Beams Joana Leitão IST
32. Adaptive dose reconstruction with online in-vivo range verification in particle therapy Mariana Brás IST
33. Transporte de carga por iões negativos em gases nobres com dopantes eletronegativos Afonso Paixão Marques UC
34. Timing Detectors and Measurements of Higgs Boson Properties Johan Wulff IST
35. AutoBSM: Validating Beyond the Standard Model Physics with Machine Learning Fernando Souza UMinho
36. Multi-messenger physics with the Pierre Auger Observatory and SWGO Pedro Costa IST
37. The Partonic Structure of Hadrons Eduardo Ferreira UniGraz
38. Enhanced Searches with the Pierre Auger Observatory in the Era of Multi-messenger Astrophysics Alexandra Fernandes UMinho
39. Formal and phenomenological studies in the high energy limit of QCD Dario Vaccaro IST
40. Characterization of liquid argon detectors for next generation neutrino physics Wallison Campanelli FCUL
41. Search for New Physics in gauge boson scattering with the CMS experiment at the Large Hadron Collider Giovanni Marozzo IST
42. Studying the origin of the elements with radioactive ions at ISOLDE/CERN Francisco Barba FCUL
43. Study of hadronic interactions through the muon component of inclined extensive air showers with the Pierre Auger Miguel Martins IGFAE/USC
44. Jetography in Heavy Ion Collisions André Cordeiro IST
45. Atomic inputs for probing the r-process in kilonovae Ricardo Silva FCUL
46. Differential tracking on disinformation websites and its impact on search engine results Íris Damião IST

47. Heavy baryon excitations with functional calculatiosn: Confirming CERN discoveries and predicting new states André Torcato IST
48. Probing the nature of the neutrino with large scale dark matter detectors Kai Jenkins UC
49. Search for New Physics Phenomena at the ATLAS/LHC experiment with Anomaly Detection techniques based on Machine Learning Annalisa Berti UMinho
50. Space Radiation in Low Earth Orbit and Space Weather on board the Space Rider Cristiana Francisco UC
51. Optimization of the sensitivity of the LZ and XLZD detectors for Xe-136 0□□□□□ decay and low mass WIMP searches Sandro Saltão UC
52. The Social Bayesian Brain: The roles of identity complexity and informational environment in belief updating Angela Rijo ISCTE
53. Neutrinoless double-beta decay search with SNO+: Enhancing sensitivity through improved event reconstruction using Machine Learning Beymar Surco UC
54. Study of the influence of natural elevated background radiation on the growth of mint in the region of Covilhã Lígia Lopes UBI
55. Charting QCD jet evolution in extreme conditions Nuno Olavo IST
56. Advanced Methods for Solar Energetic Particle Events Characterization in the Inner Solar System António Pessanha Gomes IST
57. Search for anomalous couplings in the HWW vertex with the ATLAS detector at the LHC Marina Kholodenko IST
58. Probing the primordial quark gluon plasma with heavy flavour Henrique Legoinha IST
59. Are radiocesium and natural radioisotopes (238U and progeny, 232Th and progeny, 40K, 7Be) good tracers to understand the erosion processes and dispersion of contaminants in Serra da Estrela? Radioprotection concern? Caroline Licour UBI
60. Cancer weapons against neurodegeneration Francisca Afonso FCUL
61. PicoMonitoring: sub-ns FLASH beam monitoring with Si devices Rui Fernandez IST
62. Thermal and Optomechanical Design Improvement of Hera Mission LIDAR for Near-Earth Object Observation Pedro Conceição UBI
63. Structural Health Monitoring System (SHM) for Reusable Spacecrafts Geraldo Rodrigues IST
64. Space Debris algorithms on satellite constellation pictures for debris characterisation and orbit determination Joel Filho UC
65. PhysiVerse - Leveraging Virtual Reality for Enhanced Physics Education José Graça FCUL
66. Jet physics in the precision era of heavy-ion collision Marco Leitão IST
67. Characterization of the energy spectrum of extensive air showers with the Pierre Auger Observatory data. Milton Freitas IST
68. Measurements of Higgs boson properties and search for BSM physics Raphaël Guitton IST
69. Cosmic-ray isotopic composition measurements with the Alpha Magnetic Spectrometer on the International Space Station João Carlos Antunes IST
70. Development of a timing RPC-based neutron detector Giorgio Canezin UC
71. SpaceRAD &#821.1.; An Integrated Framework for the Radiation Environment in Space, on Mars and on the Moon and its Implications for Human Space Flight Bruna Lima IST
72. Development of a cubesat constelation payload detector demonstrator with polarimetric capabilities José Sousa UC
73. Satellite avionics for navigation and space awareness applications Beltrán Arribas UBI

Master Thesis

Finished

1. Vasco Neto – MSc, “Probing the Anti-Sickling Power of Distinct Drugs in Sickle Cell Disease”, scientific advisor, Biochemistry and Biomedicine MSc, FCUL
2. Inês Gomes – MSc, “Probing the Stability of Biomolecules in Deep Eutectic Solvents”, scientific advisor, Biochemistry and Biomedicine MSc, FCUL
3. Catarina Nascimento – MSc, “Molecular Mechanisms of Amyloid Aggregation in Neurodegenerative Diseases”, scientific advisor, Biochemistry and Biomedicine MSc, FCUL
4. 11/2024, Computational Modeling of Biopharmaceuticals Purification Systems, Jéssica Rodrigues, Master in Computational Biology and Bioinformatics, FCT UNL.
5. Designing Optimal 3D Enzyme Computational Models for Efficient Plastic Degradation Student: Mariana Gomes Fernandes (Supervisor Principal: João Carneiro; Co-Supervisor: Sérgio F. Sousa e Diogo Pratas) Mestrado: Bioinformatics and Computational Biology Faculdade de Ciências da Universidade do Porto, Portugal Dezembro de 2024
6. Machine Learning Enhanced Optimization of Plastic-Degrading Enzymes for Sustainable Ocean Cleanup Student: Ana Clara Cerqueira (Supervisor Principal: João Carneiro; Co-Supervisor: Sérgio F. Sousa e Diogo Pratas) Mestrado: Bioinformatics and Computational Biology Faculdade de Ciências da Universidade do Porto, Portugal Dezembro de 2024
7. Discovery of New Molecules for the Treatment of Machado-Joseph Disease Student: Filipe Rocha Mestrado: Medicinal Chemistry (Supervisor Principal: Sérgio F. Sousa; Co-Supervisor: Fernanda Proença) Universidade do Minho, Portugal Dezembro de 2024
8. Designing In-Silico Aptamers for Potential Use in Marine Bioremediation Student: Rafael Vieira Mestrado: Bioinformatics and Computational Biology (Supervisor Principal: Sérgio F. Sousa; Co-Supervisor: João Carneiro e Diogo Pratas) Faculdade de Ciências da Universidade do Porto, Portugal Novembro 2024
9. Desenvolvimento de nanomateriais hidrofílicos de carbono com propriedades biomiméticas de enzimas antioxidantes Student: Andreia Daniela Rosa Veloso (Supervisor Principal: Maria C. Oliveira; Co-Supervisors: Nuno Cerqueira e Romeu Videira) Doutoramento: Doutoramento em Ciências Químicas e Biológicas (PhD) Universidade de Trás-os-Montes e Alto Douro, Portugal Novembro de 2024
10. Evaluation of acute hepatic toxicity and inflammation induced by nitrosamines in Mus musculus and Danio rerio Student: Isabelly Annunciato (Supervisor Principal: Marcos Hikari Toyama; Co-Supervisor: Sérgio Sousa) Mestrado: Biodiversity in Coastal Environments Institute of Biosciences, Paulista State University, Brazil Agosto de 2024
11. Lohmann D (2023-2024, main supervisor). Multi-omics approach to unravel phenotypic responses of tropical fish from the Eastern Tropical Pacific to ocean warming and acidification scenarios. MSc in Computational Biology and Bioinformatics thesis. NOVA School of Science and Technology, NOVA University of Lisbon, Portugal. 91 pp. Supervisor team Dr. Carolina Madeira and Pedro M. Costa. Funded by project EASMO BiodivClim/0001/2019. Defended 17-12-2024. http://hdl.handle.net/10362/182661
12. Lopes J (2023-2024, co-supervisor). Multilayer molecular networks shaping goby fish physiological responses to marine heatwaves in intertidal habitats. MSc in Computational

Biology and Bioinformatics. NOVA School of Science and Technology, NOVA University of Lisbon, Portugal. 116 pp. Supervisor team Pedro M. Costa and Dr. Carolina Madeira. Funded by project ExtremeOceans PTDC/BIA-BMA/1494/2020. Defended 05-12-2024. http://hdl.handle.net/10362/181947

13. Catarina Bernardo, MSc in Evolutionary and Developmental Biology, Ciências (09.2023-02.2024) Thesis: Signatures of adaptation at the mitochondrial level in endemic freshwater fish species from contrasting environments.
14. Optimization of an Oscillating Water Column (OWC) pneumatic efficiency testing different geometries using CFD, Diana Arias, Instituto Superior Técnico, 2024
15. Reconstrução de Eventos de Neutrinos Solares com Técnicas de Aprendizagem de Máquina Usando Dados da Experiência SNO+ Joan Kladnik Orientador: Nuno Barros 2024-12-06 UMinho
16. Estudo da dispersão de partículas alfa em filmes finos Ana Campos Orientador: Luis Peralta 2024-01-05 FCUL
17. Launching the Radiation Hard Electron Monitor aboard the ESA JUICE mission Francisca Santos Orientador: Patrícia Gonçalves 2024-07-01 IST
18. search for dark matter (spin 1) João Lopes Carreira Orientador: António Onofre 2024-12-31 FCUL
19. Cálculo de espetro de emissão de Auger para simulações de radioterapia sensibilizada com nanopartículas de ouro Fábio do Carmo Orientador: Jorge Sampaio 2024-01-29 FCUL
20. Next-generation Neutrino Physics: Development of the DUNE laser-based Calibrations Joana Vences Orientador: José Maneira 2024-12-27 FCUL
21. Construção de um protótipo para o estudo da exalação de radão por materiais de construção Nuno Taborda Orientador: Luis Peralta 2024-01-11 FCUL
22. Particle-Particle and Jet-Jet Angular Correlations at the Parton Level http://hdl.handle.net/10451/65219 Guilherme Calé Orientador: Grigorios Chachamis 2024-06-30 FCUL
23. Integration of the HiRezBrainPET with a clinical PET/CT system – Image performance evaluation of a prototype for next-generation brain tomography Miguel Lopes Orientador: Patrícia Gonçalves 2024-07-01 IST
24. Interlock electronics for the high Granularity Timing Detector od the ATLAS Maria Miguel Orientador: Ricardo Gonçalo 2024-02-28 UC
25. Implementation of quark mass effects in QCD three-jet production observables produced by hadronic decays of the Z-boson at FCC-ee collider https://hdl.handle.net/10400.5/95506 Joana Reis Orientador: João Nuno Pires 2024-07-25 FCUL
26. Pre-equilibrium of the Quark-Gluon Plasma Guilherme Crispim Orientador: Liliana Apolinário 2024-07-02 IST
27. The deuteron as a six-quark state in QCD André Nunes Orientador: Ana Arriaga 2024-01-12 FCUL
28. Searching for beyond Standard Model particles decaying to muon pairs in SND@LHC Henrique Santos Orientador: Nuno Leonardo 2024-11-28 IST
29. Design and benchmark of an innovative concept to measure light charged particles in the R3B/FAIR using RPCs Diogo Miguel Orientador: Daniel Galaviz 2024-12-19 FCUL
30. Planing for muon tomography campaigns in urban settings Francisco Manuel Ferreira Orientador: Sofia Andringa 2024-12-03 IST

31. 3D imaging from underground with muon tomography Isabel Alexandre Orientador: Sofia Andringa 2024-12-03 IST
32. Event Selection and Angular Reconstruction for W Boson Events at Future e+e− Colliders André Silva Orientador: Ricardo Gonçalo 2024-09-27 UC
33. Thermal Analysis and Effects on Resolution of CZT Detectors exposed to LEO Conditions on board the International Space Station https://hdl.handle.net/10316/117946 Alexandra Roque Orientador: Rui Curado Silva 2024-09-30 UC
34. Proton range verification for irradiation of anthropomorphic phantoms implemented in Geant4 Monte Carlo simulations Francisco Miguéis Orientador: Paulo Crespo 2024-09-23 UC
35. New Physics searches at the LHC using Anomaly Detection Inês Moreira Orientador: Rute Pedro 2024-11-28 IST
36. Quantum computing applications to quantum chromodynamics: Jet evolution in a quantum computer Gabriela Oliveira Orientador: Nuno Castro 2024-07-25 UMinho
37. Anomaly detection as a quality control tool in an industrial context Miguel Peixoto Orientador: Nuno Castro 2024-12-11 UMinho
38. Biophysical modelling and simulation of BFE/Au multifunctional nanoplatforms for proton therapy Bianca Alves Orientador: Jorge Sampaio 2024-12-19 FCUL
39. Robust Anomaly Detection in Independent Searches for New Physics with the ATLAS/LHC Experiment Inês Pinto Orientador: Rute Pedro 2024-11-28 IST
40. Improving the vacuum baseline for in-medium jet physics studies Diogo Costa Orientador: Liliana Apolinário 2024-11-27 IST
41. Development of digital techniques for data processing and instrument control Gil Ramos Madeira Orientador: Nuno Barros 2024-09-30 UC
42. Procura de acoplamentos anómalos do bosão de Higgs com o detetor ATLAS Marta Silva Orientador: Inês Ochoa 2024-12-03 IST
43. Assembly and beam commissioning of the high rate TOF/SCI detector SAFARI Beatriz Amorim Orientador: Daniel Galaviz 2024-10-25 FCUL
44. O Radão e a Radioatividade: presente no quotidiano e ausente no currículo escolar Carolina Rosa Orientador: Sandra Soares 2024-07-15 UBI
45. Study of the hadronic interaction in the fixed-target experiment AMBER (CERN) Ema Fadiga Orientador: Carlos Azevedo 2024-12-02 UA
46. In-medium Gluon Radiation in General Kinematics Afonso Guerreiro Orientador: Guilherme Milhano 2024-12-03 IST
47. Multichannel study of cosmic ray variability over different temporal scales http://fisgeo.unipg.it/pacetti/3-LM-Margherita-Fioroni.pdf Margherita Fioroni Orientador: Nicola Tomassetti 2024-04-18 UniPerugia
48. Using embeddings to infer diagnostics from medical prescriptions https://fenix.tecnico.ulisboa.pt/cursos/mecd/dissertacao/1972678479056342 Tiago Miranda Orientador: Joana Gonçalves-Sá 2024-11-18 IST
49. Higgs boson properties and tau lepton identification at the 3 TeV Muon Collider http://cds.cern.ch/record/2913377 Lorenzo Valla Orientador: Michele Gallinaro 2024-09-30 LIPL
50. Investigation of the Operation Modes of Optoelectronic Oscillators based on Resonant Tunnelling Diodes https://repositorio.ulisboa.pt/handle/10400.5/97384 Tiago Ferro Orientador: José Figueiredo 2024-07-01 FCUL

51. Modelling the Evolution of the Galactic Disk Scale Height Traced by Open Clusters https://repositorio.ulisboa.pt/handle/10451/64671 Sandro Moreira Orientador: André Moitinho 2024-04-01 FCUL
52. E(xtraterrestris). Coli : adapting genome-scale metabolic models to non-standard thermodynamical constraints http://hdl.handle.net/10451/64476 Lucas Monteiro Orientador: André Moitinho 2024-03-01 FCUL
53. Galactic and Extragalactic Insights: A Visualisation Approach to Gaia Data Exploitation http://hdl.handle.net/10400.5/97170 Maria Eduarda Pimentel Orientador: André Moitinho 2024-04-01 FCUL
54. Assessment of wave overtopping at Praia da Vitória, Terceira, Azores, with SWASH model, by DINUSH SHAYAMAN PRIYANKER BADDAVIDANA, Master's in Coastal Hazards, Risks, Climate Change Impacts and Adaptation, UAlg, Delft. Submitted for defence.

Ongoing

1. Duque A (2024 to present, main supervisor). Computational tools to assess adaptation and resilience to thermal stress in intertidal fish: a functional genomics approach. MSc in Computational Biology and Bioinformatics. NOVA School of Science and Technology, Portugal. Supervisor team Dr. Carolina Madeira and Prof. Pedro M. Costa. Funded by project ExtremeOceans PTDC/BIA-BMA/1494/2020. (status – ongoing).
2. Estêvão Faustino, MSc in Evolutionary and Developmental Biology, Ciências (09.2023-03.2025) Thesis: Unravelling hybridization dynamics of Iberian chubs through demographic modelling.
3. searck for dark matter with top quarks Gonçalo Freitas Orientador: António Onofre FCUL
4. Study of neutrino interactions in the LZ Dark Matter detector Natalija Novak Orientador: Alexandre Lindote UniGraz
5. Life prospection on Mars - Studing the Martian Subsurface Radiation Environment Igor Miguel Gago Orientador: Patrícia Gonçalves IST
6. The soft-hard antenna spectrum in presence of a QGP Tomás Cabrito Orientador: Guilherme Milhano IST
7. Gamma-ray Polarization in BL Lac Objects with AMEGO André Neves Orientador: Rui Curado Silva FCTUC
8. Simulations and benchmark of a fast neutron detector for nuclear astrophysics Carolina Felgueiras Orientador: Daniel Galaviz FCUL
9. Isotope Studies with the Alpha Magnetic Spectrometer (AMS) Guilherme Gaspar Orientador: Fernando Barão IST
10. Configuration of the Interlock-FPGA for the HGTD Detector Rui Vieira Orientador: Helena Santos IST
11. Configuration of the Monitoring FPGA for the HGTD Interlock Alexandre Parreira Orientador: Helena Santos IST
12. Heavy Quarks Formation time Inês Alexandre Serra Orientador: Liliana Apolinário IST
13. THOR Project Scientific Payload Environmental Tests Validation Mário Cainé Orientador: Rui Curado Silva UC
14. Polarimetry with THOR-SR Mission CdTe Gamma-Ray Tracker Development Models Mariana Letra Orientador: Rui Curado Silva UC

15. Associated production of Dark Matter with heavy fermions at the RUN3 of the LHC https://hdl.handle.net/1822/92171 Rui Miguel Silva Orientador: António Onofre UMinho
16. Space Rider maiden flight orbital particles identification using machine learning techniques Joana da Orada Orientador: Rui Curado Silva UC
17. Acceleration of the ATLAS Calorimeter Calibration Algorithms using GPUs Bruno Semião Orientador: Patricia Conde IST
18. Search for central exclusive production of tau+ tau- pairs in proton-proton collisions at the LHC Madalena Ferreira Orientador: Jonathan Hollar UA
19. 116Sn(p,g)117Sb reaction cross-section determination at energies relevant for the astrophysical p-process using gamma- and X-rays emission yields Ricardo Pires Orientador: Daniel Galaviz FCUL
20. Charmonium production in hadron collisions at the COMPASS experiment Bárbara Pereira Orientador: Catarina Quintans FCUL
21. Antiproton production in proton on helium collisions at the AMBER Experiment Guilherme Almeida Orientador: Catarina Quintans FCUL
22. AMEGO science potential and impact on aviation safety of TGF analysis Filipa Bessa Almeida Orientador: Rui Curado Silva UC
23. Towards the neutrinoless double-beta decay study with SNO+: radioactive background characterisation with SNO+ scintillator data Manuel Abreu Orientador: Valentina Lozza IST
24. Characterization of anomalous air shower events in SWGO Inês Martins Orientador: Ruben Conceição IST
25. THOR OBC Scientific Operations Pedro Carmo Orientador: Rui Curado Silva UC
26. Imagiologia por raios gama espontâneos para verificação de alcance de feixes de hélio Gegimma José Orientador: Paulo Crespo UC
27. Future collider calorimeter optimisation with machine learning Bruno Rodrigues Orientador: Inês Ochoa FCUL
28. Celestial Objects Position Compton Reconstrunction with THOR Duarte Rodrigues Orientador: Rui Curado Silva UC
29. Graphical Neural Learning applied to jets produced in heavy-ion collisions Pedro Esperanço Orientador: Helena Santos IST
30. Deteção de Flashes de Raios-gama Terrestres para a Segurança Aérea Bruna Filipa Frade Jorge Orientador: Rui Curado Silva UC
31. TBC Carolina Miranda Orientador: Gonçalo Ribeiro IST
32. Análise dos registos de TGFs no espaço e a sua implicação no processo de emissão nas nuvens comulonimbus Henrique Gaspar Orientador: Rui Curado Silva UC
33. Desenvolvimento de algoritmos de trigger com GPUs Gabriela Sereniski Orientador: José Rufino IPB
34. Identification of UHE neutrino events in vertical air showers David Dias Orientador: Ruben Conceição IST
35. Using Machine Learning algorithms to discriminate 0□□□□□□ decay and background events in xenon time projection chambers João António Rodrigues Orientador: Alexandre Lindote UC
36. Pile-up event identification and rejection in SNO+: enhancing the signal to noise ratio Tomás Baltazar Orientador: Valentina Lozza IST
37. Electronics for the High Granularity Timing Detector of the ATLAS Experiment Carlos Brito Orientador: Ricardo Gonçalo UC

38. Impacto de atmosferas ricas em radão no crescimento e desenvolvimento da Mentha spicata Mariana Vicente Orientador: Sandra Soares UBI
39. Aplicação de AI no steering de um Sistema de Secagem Industrial Leonor Martins Orientador: Francisco Neves UC
40. Calorimetry studies at the Future Circular Collider Ariana Queda Orientador: Ricardo Gonçalo UC
41. Design optimization for a flat-panel PET scanner with DoI capability Marta Simões Orientador: Patrícia Gonçalves IST
42. Conceito de um detector baseado em nRPCs para neutrões epitérmicos e rápidos Jesús Villoria Orientador: Luís Margato UC
43. Avaliação da taxa de exalação de radão de materiais de construção Thais Alves Orientador: Sandra Soares UBI
44. Optimization of the local reconstruction in a high granular calorimeter using a heterogenous computing model Daniela Cardoso Orientador: Pedro Ferreira da Silva IST
45. Search for new physics with forward protons at the LHC Pedro Batista Orientador: Jonathan Hollar FCUL
46. Measurement of muon flux at the LHC Alexandre Mendonça Orientador: Nuno Leonardo IST

Patents

Datasets

1. SeaTox toxin database [Version 12.2024.001]. Zenodo. doi:10.5281/zenodo.14355541).

Courses

1. Course for Biochemistry BSc Degree: Introduction to Biomolecular Simulation, at FCT UNL. The course aims to introduce students to the field of biomolecular simulation. HPC computing time for students.

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