

ANA PAULA DA SILVA

Oceanographer, Ph.D.
Post-doctoral Research Associate | The University of Sydney (USYD)
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Academic Profiles: [ORCID](#), [Google Scholar](#), [Research Gate](#)

Nationality: Brazilian
Current Location: Sydney, New South Wales – Australia

Introduction Summary

Ana is a Postdoctoral Research Associate at the University of Sydney, where she studies the eco-morphodynamics of the Great Barrier Reef and projected changes in wave dynamics and coastal protection through 2100. Her research interests include wave climate change, sediment transport, long-term coastal evolution, coastal morphodynamics, beach erosion, and climate change adaptation and management. She has broad experience across diverse coastal environments and timescales — from tropical reefs to high-latitude shorelines — combining field data, GIS, and numerical modelling to investigate the processes driving coastal change. Her work spans multiple continents and addresses both natural dynamics and human-driven impacts on coastal systems. Ana holds a Ph.D. in Coastal Oceanography (Griffith University, Australia), where she investigated the dynamic and climatic conditions driving sediment bypassing around Fingal Head, NSW. She also earned a Master of Science in Oceanography/Coastal Dynamics and a Bachelor (Hons) in Oceanography from the Federal University of Santa Catarina (UFSC), Brazil. Before joining the University of Sydney, she was a Postdoctoral Fellow at the Université du Québec à Rimouski (UQAR, Canada) in 2022, focusing on morphodynamics and coastal erosion in the Canadian High Arctic.

Education

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|---------------------|---|
| 2019 to 2022 | Doctor of Philosophy (Maritime Engineer & Tech N.E.C)
<i>Griffith University</i>
Thesis Topic: Climate Control on Natural Headland Sand Bypassing
Supervisors: Prof. Rodger Tomlinson, Dr. Darrell Strauss, Dr. Guilherme Vieira da Silva |
| 2017-2018 | Master of Science (Oceanography)
<i>Federal University of Santa Catarina (UFSC), Brazil</i>
Thesis Topic: Late Holocene Wave Direction Footprint in South Atlantic
Supervisor: Prof. Antonio Henrique da Fontoura Klein |
| 2010-2016 | BSc (Hons) in Oceanography
<i>Federal University of Santa Catarina (UFSC), Brazil</i>
Thesis Topic: Characterization of the Mean Directional Wave Energy during Holocene through Morphodynamic Analysis of Foredune Ridges
Supervisor: Prof. Antonio Henrique da Fontoura Klein |

Skills and Competences

Technical skills: Morphodynamic analysis; Numerical modeling of coastal processes such sediment transport and morphological changes; Ability with several tools such as SMC-BR software modules, Geographic Information System - GIS (ArcGis), Global Mapper, AutoCad

and GNSS processing softwares; Ability with techniques in topographic and geodesic surveying; Graphical design (Adobe Illustrator).

Soft skills: Communication (Presentation, Public Speaking, Writing skills), Critical Thinking (Adaptability, Problem Solving, Willingness to learn), Leadership (Decision making, Management, Supervising), Teamwork (Collaboration, Intercultural competence, Networking), Work Ethic (Multitasking, Organization, Resilience).

Research Appointments

2023 – present: Post-Doctoral Research Associate Level A (Step 8, as of Feb. 2025)

Project: The Great Barrier Reef in 2100

The University of Sydney (USYD)

- Managing of ARC-DP project progress
- Development of an empirical model for eco-morphodynamic prediction of coral reefs wave attenuation
- Teaching and supervision

2022 – 2023: Post-Doctoral Fellow

Project: High Arctic Coastal Dynamics of Climate Change: Study Case of Jones Sound, Nunavut - Canada

Université du Québec à Rimouski (UQAR)

- Remote-sensing analysis in a GIS software
- Field Campaign

2021: Coastal Scientist/ Research Assistant

Project: Changes in sediment transport through headland bypassing and its implications for coastal erosion management – Modelling capability to reproduce the process

Griffith University - Coastal and Marine Research Centre (CMRC)

- Remote-sensing analysis in a GIS software
- 1D numerical modelling (ShorelineS)
- Result analysis and elaboration of report

2020: Coastal Scientist/ Research Assistant

Project: Anderson Inlet Evolution and Surf Beach Erosion - Technical Analysis to South Gippsland Conservation Society Inc.

Griffith University - Coastal and Marine Research Centre (CMRC)

- Remote-sensing analysis in a GIS software
- Result analysis and elaboration of report

2019: Coastal Scientist/ Research Assistant

Project: Gold Coast Seaway Delta Evolution - Technical Analysis to Gold Coast Waterways Authority (GCWA)

Griffith University - Coastal and Marine Research Centre (CMRC)

- Topo-bathymetric data analysis
- Remote-sensing analysis in a GIS software
- Result analysis and elaboration of report

2019: Coastal Scientist/ Research Assistant

Project: Sediment Transport Interaction with Fingal Head - Technical Analysis to Tweed Sand Bypassing (TSB), NSW Department of Planning, Industry & Environment and QLD Department of Environment and Science

Griffith University - Coastal and Marine Research Centre (CMRC)

- Topo-bathymetric surveying
- Remote-sensing analysis in a GIS software
- Result analysis and elaboration of report

2017-2018: Coastal Scientist/ Research Assistant

Project: Capacitation of Managers and Public Researchers working with Coastal Management at Coastal Oceanography Laboratory

Federal University of Santa Catarina

- Teaching Assistant
- Elaborating classes and workshops
- Delivering activities

Research Funding and Grants

Grants

Total to present: *Approximately AUD \$900,000*

2025	AUD 600,000	Geoscience Australia / DFAT, Marine Resources Initiative Funding for Coastal Monitoring Capacity Building at One Tree Island Research Station	Vila-Concejo, A., Baker, E., Silva, A.P. , Haworth, B.
2025	BRL 380,000 (~ AUD 107,000)	Predicting the Evolution of Topography and Bathymetry in High Optical Complexity Coastal Environments: Integrating Satellite Data with AI Models	Klein, A.H.F., Silva, A.P. , Fernandes, A.M.R., Machado, A.A., Toldo Junior, E.E., Vieira da Silva, G., Carvalho, J.L.B., Farina, L., Almeida, L.P.M., Gomes da Silva, P., Costa, W.L.L.
2024	AUD 77,940	Geoscience Australia / DFAT, Marine Resources Initiative Funding for Coastal Monitoring Capacity Building at One Tree Island Research Station	Vila-Concejo, A., Silva, A.P. , Baker, E., Haworth, B.
2024	AUD 2,500	University of Sydney EMCR Training Grant Scheme from the Research Development	Silva, A.P.

2023	AUD 86,592	Geoscience Australia / DFAT, Marine Resources Initiative Funding for Coastal Monitoring Capacity Building at One Tree Island Research Station	Vila-Concejo, A., Fellowes, TE., Silva, A.P. , Baker, E., Haworth, B.
2022	CAD 35,000 (~ AUD 40,000)	Excellence Scholarships for Foreign Students (PBEEE – FRQNT) – Postdoctoral Fellowship Quebec-Brazil. (<i>Granted, but not started due to work opportunity at USYD</i>)	Silva, A.P.

Scholarships

Total to present: Approximately AUD \$285,000

2019 – 2022	Griffith University International Postgraduate Research Scholarship (GUIPRS) and Griffith University Postgraduate Research Scholarship (GUPRS) – HDR/PhD Candidate Scholarship. <i>Approximate value in AUD = \$150,000 over 3.5 years</i>
2017 – 2018	Brazilian Ministry of Environment through the project “Capacitation of Managers and Public Researchers working with Coastal Management” – M.Sc. Scholarship. <i>Approximate value in AUD = \$8,000 over 18 months</i>
2015 – 2016	Brazilian Government Program to Scientific Initiation (Programa Institucional de Bolsa de Iniciacao Cientifica PIBIC – CNPq through the project “Transposição de Sedimentos entre Promontórios da Costa Norte da Ilha de Santa Catarina (SC), como Subsídio para Entendimento de Processos Praias Erosivos e Depositionais”. <i>Approximate value in AUD = \$3,000 over 2 years</i>
2013 – 2014	Brazilian Federal Government Program “Science Without Borders”. Scholarship for Language (English) and Academic Studies at the University of California San Diego/Scripps Institution of Oceanography. <i>Approximate value in AUD = \$120,000 over 15 months</i>
2010 – 2012	Brazilian Government Program to Scientific Initiation (Programa Institucional de Bolsa de Iniciacao Cientifica PIBIC – CNPq through the project “Biodiversidade das lagoas costeiras do Estado de Santa Catarina: avaliação atual, aplicação ao gerenciamento costeiro e ao monitoramento ambiental frente às mudanças ambientais globais”. <i>Approximate value in AUD = \$3,600 over 2.5 years</i>

Honors and Awards

2022 *The Emeritus Professor Bruce Thom AM Student Research*

Award to an enrolled student whose academic study promises to positively contribute to coastal management.

2020 *People’s Choice Award*

Award for best presentation of the session “Sediment Transport and Coastal Processes” at the 1st Young Coastal Scientists and Engineers Conference in Australia.

2019 Women in Coastal Geoscience and Engineering Award

Award for best conference paper to a lead-female author at the Australasian Coasts and Ports 2019 Conference.

Research Publications

Peer-Reviewed Publications

18 peer-reviewed publications since 2019, including 9 as first author (5 journal articles, 4 conference papers with international identification); Google Scholar: h-index 8, h10-index 4, 175 citations. Underlined are publications from supervised students.

1. **SILVA, A.P.**; VIEIRA DA SILVA, G.; GOMES DA SILVA, P.; STRAUSS, D., TOMLINSON, R. (2025). Extreme storm events drive beach connectivity through headland bypassing. **Science of the Total Environment**, 971, 179076, p.1-15. <https://doi.org/10.1016/j.scitotenv.2025.179076>
2. GAZI, M.Y.; FELLOWES, T.E.; DEO, R.; **SILVA, A.P.**; PERRIS, L.; VILA-CONCEJO, A (2025). A quantitative approach to profile classification for beaches in estuaries and bays. **Estuarine, Coastal and Shelf Science**, 322, 109373, p.1-14. <https://doi.org/10.1016/j.ecss.2025.109373>
3. **SILVA, A.P.**; COCO, G.; WHITTON, K.; NGUYEN, T.T.; FELLOWES, T.E.; PERRIS, L.; SALLES, T.; BYRNE, M.; MENDEZ, F.; CAGIGAL, L.; VILA-CONCEJO, A. (2024) Modeling the future of coral reefs: An eco-morphodynamic approach. In: **Proceedings** of 38th Conference on Coastal Engineering, Rome, Italy, 2024, <https://doi.org/10.9753/icce.v38.management.33>
4. GAZI, M.Y.; FELLOWES, T.E.; SALLES, T.; **SILVA, A.P.**; VILLACIEROS-ROBINEAU, N.; DEO, R.; VILA-CONCEJO, A. (2024). Spatial patterns of wave signatures in beaches in estuaries and bays (BEBS) of different tidal ranges. In: **Proceedings** of 38th Conference on Coastal Engineering, Rome, Italy, 2024, <https://doi.org/10.9753/icce.v38.management.43>
5. WHITTON, K.; **SILVA, A.P.**; BYRNE, M.; HAMYLTON, S.; SALLES, T.; FELLOWES, T.; VILA-CONCEJO, A. (2024). Parametrisation of coral stressors impacting reef eco-morphodynamics. In: **Proceedings** of 38th Conference on Coastal Engineering, Rome, Italy, 2024, <https://doi.org/10.9753/icce.v38.management.199>
6. PERRIS, L.; VILA-CONCEJO, A.; SALLES, T.; WEBSTER, J.M.; THOMPSON, A.M.; **SILVA, A.P.** (2024). First current measurements from coral forereef spurs and grooves on the Great Barrier Reef. In: **Proceedings** of 38th Conference on Coastal Engineering, Rome, Italy, 2024, <https://doi.org/10.9753/icce.v38.management.179>
7. **SILVA, A.P.**; VIEIRA DA SILVA, G.; STRAUSS, D. and TOMLINSON, R. (2023). Storm Systems Influencing Sediment Compartment Connectivity through Headland Bypassing. In: **Proceedings** of the Coastal Sediments 2023, New Orleans – USA, 11-15 April 2023. https://doi.org/10.1142/9789811275135_0157.

8. THOMAS, M.; VIEIRA DA SILVA, G.; STRAUSS, D.; **SILVA, A.P.**; ALVAREZ, F.; TOMLINSON, R. (2023). Long-Term Morphodynamic Response of a Sand Island to Updrift Coastal Protection Works – A Case Study at Minjerribah (South Stradbroke Island). In: **Proceedings** of the Coastal Sediments 2023, New Orleans – USA, 11-15 April 2023. https://doi.org/10.1142/9789811275135_0120.
9. **SILVA, A.P.**; GOMES DA SILVA, P.; VIEIRA DA SILVA, G.; PEREZ, J.; CAGIGAL, L.; MURRAY, T.; STRAUSS, D. and TOMLINSON, R. (2022). Wave Generation Zones off the East Australian Coast. In: (Conference Paper) **Proceedings** of the Australasian Coasts and Ports 2021, Christchurch – New Zealand, 30 November to 03 December 2021, pp.1-7.
10. VIEIRA DA SILVA, G.; STRAUSS, D.; MURRAY, T.; TOMLINSON, R.; **SILVA, A.P.**; FAIVRE, G.; ELLIOT-PERKINS, Z; WHARTON, C.; PRENZLER, P. and HEMER, M. (2022). Impacts of Climate Change on Sediment Transport Rates Around Burleigh Heads. In: (Conference Paper) **Proceedings** of the Australasian Coasts and Ports 2021, Christchurch – New Zealand, 30 November to 03 December 2021, pp.1-7.
11. MURRAY, T.; STRAUSS, D.; VIEIRA DA SILVA, G.; TOMLINSON, R.; **SILVA, A.P.**; FAIVRE, G.; ELLIOT-PERKINS, Z; WHARTON, C. and PRENZLER, P. (2022). Morphodynamic variability assessment on a high-energy beach to develop trigger levels for coastal management intervention. In: (Conference Paper) **Proceedings** of the Australasian Coasts and Ports 2021, Christchurch – New Zealand, 30 November to 03 December 2021, pp.1-7.
12. **SILVA, A.P.**; VIEIRA DA SILVA, G.; MURRAY, T.; STRAUSS, D.; TOMLINSON, R. (2021). Updrift morphological impacts of a coastal protection strategy. How far and for how long? **Marine Geology**, 441, 106625, pp.1-6. <https://doi.org/10.1016/j.margeo.2021.106625>
13. **SILVA, A.P.**; VIEIRA DA SILVA, G.; STRAUSS, D.; MURRAY, T.; WOORTMANN, L.G.; TABER, J.; CARTWRIGHT, N.; TOMLINSON, R. (2021). Headland bypassing timescales: Processes and driving forces. **Science of the Total Environment**, 793, 148591, pp. 1-16. <https://doi.org/10.1016/j.scitotenv.2021.148591>
14. **SILVA, A.P.**; KLEIN, A.H.F.; FETTER FILHO, A.F.H.; HEIN, C.J.; MENDEZ, F.J.; BROGGIO, M.; DALINGHAUS, C. (2020). Climate-Induced Variability in South Atlantic Wave Direction over Past Three Millennia. **Nature Scientific Reports**, 10, pp.1-2, <https://doi.org/10.1038/s41598-020-75265-5>
15. **SILVA, A.P.**; WOORTMANN, L.G.; VIEIRA DA SILVA, G.; MURRAY, T.; STRAUSS, D.; TOMLINSON, R. (2020). A 90-year Morphodynamic Analysis in Southern Queensland (Australia). In: Malvárez, G. and Navas, F. (eds.), Proceedings from the International Coastal Symposium (ICS) 2020 (Seville, Spain). **Journal of Coastal Research**, Special Issue No. 95, pp. 1–5. Coconut Creek (Florida), ISSN 0749-0208.
16. VIEIRA DA SILVA, G.; HAMILTON, D.; MURRAY, T.; STRAUSS, D.; FAIVRE, G.; **SILVA, A.P.**; TOMLINSON, R. (2020). Impacts of a Multi-Purpose Artificial Reef on Hydrodynamics, Waves and Long-Term Beach Morphology. In: Malvárez, G. and Navas, F. (eds.), Proceedings from the International Coastal Symposium (ICS) 2020 (Seville, Spain). **Journal of Coastal Research**, Special Issue No. 95, pp. 1–5. Coconut Creek (Florida), ISSN 0749-0208.
17. STRAUSS, D.; VIEIRA DA SILVA, G.; **SILVA, A.P.**; MURRAY, T.; FAIVRE, G.; WHARTON, C. (2020). Process-based Modelling of a Nearshore Nourishment. In:

Malvárez, G. and Navas, F. (eds.), Proceedings from the International Coastal Symposium (ICS) 2020 (Seville, Spain). **Journal of Coastal Research**, Special Issue No. 95, pp. 1–5. Coconut Creek (Florida), ISSN 0749-0208.

18. **SILVA, A.P.**; VIEIRA DA SILVA, G.; MURRAY, T.; WISHAW, D.; STRAUSS, D.; TOMLINSON, R. (2019). Inlet migration and flood-tidal delta morphodynamic evolution: Case study of Noosa – QLD, Australia. In: (Conference Paper) **Proceedings** of the Australasian Coasts and Ports 2019 Conference, Hobart – Tasmania, Australia, 10-13 September 2019, pp.1-7.

Peer-Reviewed Publications – Under Review

1. SALLES, T.; NGUYEN, T.T.; VILA-CONCEJO, A.; HUSSON, L.; LEONARD, J.; **SILVA, A.P.** Warm-water carbonates distribution and production since the Mesozoic epoch (*Under Review in PNAS*).
2. WHITTON, K.; **SILVA, A.P.**; BYRNE, M.; HAMYLTON, S.; SALLES, T.; FELLOWES, T.E.; VILA-CONCEJO, A. Coral reef Trajectories: Defining Health States and the Shift Toward Coping States. (*Under review in Journal of Geophysical Research - Biogeosciences*).
3. PERRIS, L.; LINDHART, M.; SALLES, T.; **SILVA, A.P.**; FELLOWES, T.E.; VILA-CONCEJO, A. Hydrodynamic Controls on Spur and Groove Morphology: Flow Variability and Reef Structure. (*Under review in Geomorphology*).
4. MEODED-STERN, L.; **SILVA, A.P.**; FOO, S.; WALLER, A.; BYRNE, M.; VILA-CONCEJO, A. Reef geomorphology, hydrodynamic energy and coral morphology influence recovery after bleaching. (*Under review in Marine Environmental Research*).
5. VILA-CONCEJO, A.; PERRIS, L.; **SILVA, A.P.**; WHITTON, K.; MEODED-STERN, L.; STEILBERG-LIU, W-Y.; HOLMES, R.; BREUER, H.; BYRNE, M.; FELLOWES, T.E.; SALLES, T.; MORRIS, B.; BRUCE, E. Grooves in forereefs act as transport channels to deliver coral rubble during tropical cyclones (*Under review in Coastal Futures*).

Book Chapters

1. KLEIN, A.H.F.; VIEIRA DA SILVA, G.; TABORDA, R.; **SILVA, A.P.**; SHORT, A. D. (2020). Headland Bypassing and Overpassing: Form, Processes and Applications. In: JACKSON, D. and SHORT, A.D. 2020. **Sandy Beach Morphodynamics**. Elsevier.

Technical Reports

1. **SILVA, A.P.**; TOMLINSON, D. (2020) Anderson Inlet Evolution and Surf Beach Erosion. **Griffith Centre for Coastal Management Technical Report** for the South Gippsland Conservation Society Inc. – Inverloch Coastal Resilience Project. December 2020. 68p.
2. **SILVA, A.P.**; TOMLINSON, R. (2019) Seaway Delta Evolution. **Griffith Centre for Coastal Management Preliminary Report N.263** for the Gold Coast Waterways Authority (GCWA). 16p.

3. **SILVA, A.P.**; VIEIRA DA SILVA, G.; MURRAY, T.; STRAUSS, D. (2019) Sediment transport interaction with Fingal Head. **Griffith Centre for Coastal Management Technical Report N.257** for the Tweed Sand Bypassing (TSB), NSW Department and QLD Department of Environment and Science. 64p.

Recent Conference Abstracts – Lead Author

1. **SILVA, A.P.**; et al. (2024). Modelling the future of coral reefs: An eco-morphodynamic approach. In: Proceedings of the 38th International Conference on Coastal Engineering ICCE, Rome - Italy, 8-14 September 2024.
2. **SILVA, A.P.**; FELLOWES, T.E.; PERRIS, L.; WHITTON, K.; BYRNE, M.; SALLES, T.; CAGIGAL, L.; MENDEZ, F.; COCO, G.; VILA-CONCEJO, A. (2023). The Eco-Morphodynamics of the Great Barrier Reef: Past, Present and Future. In: **Proceedings** of the 4th Australasian Young Coastal Scientists & Engineers Conference, Sydney - Australia, 6-8 September 2023.
3. **SILVA, A.P.**; VIEIRA DA SILVA, G.; STRAUSS, D. and TOMLISON, R. (2023). Storm Systems Influencing Sediment Compartment Connectivity through Headland Bypassing. In: **Proceedings** of the Coastal Sediments 2023, New Orleans – USA, 11-15 April 2023. https://doi.org/10.1142/9789811275135_0157
4. **SILVA, A.P.**; BONNEAU, C.J.; STANCU, C.; NOAH, T.; QAUNAQ, J.; BHATIA, M.; DIDIER, D. (2022). Glacier Retreat Leading to New Coastal Landforms in the Canadian High Arctic. In: Proceedings of the ArcticNET Annual Scientific Meeting 2022, Toronto – Canada, 04-08 December 2022.
5. **SILVA, A.P.**; BONNEAU, C.J.; DIDIER, D.; ZOUAGHI, F.; NOAH, T.; BAUDRY, J.; BHATIA, M. (2022). Community-Based Investigation of Coastal Morphodynamics and Hazards in the Canadian High Arctic. In: Proceedings of the American Geophysical Union Fall Meeting 2022, Chicago – USA, 12-16 December 2022.
6. **SILVA, A.P.**; GOMES DA SILVA, P.; VIEIRA DA SILVA, G.; PEREZ, J.; CAGIGAL, L.; MURRAY, T.; STRAUSS, D. and TOMLISON, R. (2021) Wave Generation Zones off the East Australian Coast. In: **Proceedings** of the Australasian Coasts and Ports 2021, Christchurch – New Zealand, 30 November to 03 December 2021.
7. **SILVA, A.P.**; VIEIRA DA SILVA, G.; STRAUSS, D.; MURRAY, T.; TOMLISON, R. (2021) Climate-Induced Headland Bypassing: Unravelling the Periodicity of Sand Pulses into Letitia Spit (NSW). In: **Proceedings** of the 29th New South Wales Coastal Conference 2021, Kingscliff – New South Wales, Australia, 17-19 November 2021.
8. **SILVA, A.P.**; WOORTMANN, L.G.; VIEIRA DA SILVA, G.; MURRAY, T.; STRAUSS, D.; TOMLINSON, R. (2020) Shoreline responses to 100 years of coastal interventions: Case study of Letitia Spit – NSW, Australia. In: **Proceedings** of the Virtual International Conference on Coastal Engineering (ICCE), online, 06-09 October 2020.
9. **SILVA, A.P.**; WOORTMANN, L.G.; VIEIRA DA SILVA, G.; MURRAY, T.; STRAUSS, D.; TOMLINSON, R. (2020) Large-scale drivers of a headland bypassing system. In: **Proceedings** of the 1st Australian Young Coastal Scientists & Engineers Conference, online, 23-25 June 2020.
10. **SILVA, A.P.**; KLEIN, A.H.F.; FETTER FILHO, A.F.H.; HEIN, C.; MENDEZ, F.; BROGGIO, M.; DALINGHAUS, C. (2020) Beach-foredune ridges as proxies for climate-induced wave direction changes in South Atlantic during Late Holocene. In: **Proceedings** of the European Geoscience Union General Assembly 2020, Vienna – Austria, 03-08 May 2020.
11. **SILVA, A.P.**; WOORTMANN, L.G.; VIEIRA DA SILVA, G.; MURRAY, T.; STRAUSS, D.; TOMLINSON, R. (2020). A 90-year Morphodynamic Analysis in Southern Queensland

- (Australia). In: **Proceedings** of the International Coastal Symposium (ICS) 2020, Seville – Spain, 20-23 April 2020.
12. **SILVA, A.P.**; VIEIRA DA SILVA, G.; MURRAY, T.; WISHAW, D.; STRAUSS, D.; TOMLINSON, R. (2019) Inlet migration and flood-tidal delta morphodynamic evolution: Case study of Noosa – QLD, Australia. In: **Proceedings** of the Australasian Coasts and Ports 2019 Conference, Hobart – Tasmania, Australia, 10-13 September 2019.
 13. **SILVA, A.P.**; VIEIRA DA SILVA, G.; MURRAY, T.; STRAUSS, D.; TOMLINSON, R. (2019) Where is Jumpinpin going? In: **Proceedings** of the Queensland Coastal Conference 2019, Gold Coast – QLD, Australia, 21-22 August 2019.
 14. **SILVA, A.P.**; KLEIN, A.H.F. (2018) Differences between Shoreline Orientation and Mean Directional Wave Energy: Implications on the Parabolic Bay Shape Model. In: **Proceedings** of the II Simposio Brasileiro sobre Praias Arenosas and XI Encontro Nacional de Gerenciamento Costeiro, 2018, Florianópolis, SC-Brazil.
 15. **SILVA, A.P.**; FREITAS, T.R. (2017) Vulnerability Zones to Coastal Erosion in Armação do Pantano do Sul (Florianópolis, SC). In: **Proceedings** of the 17° Congresso Latino-Americano de Ciências do Mar, 2017, Balneário Camboriú, SC-Brazil.
 16. **SILVA, A.P.**; DALINGHAUS, C.; KLEIN, A.H.F. (2017) The Mean Directional Wave Energy Flux during Late Holocene through Foredune Ridges Analysis. In: **Proceedings** of the XVI Congresso da Associação Brasileira de Estudos do Quaternário, 2017, Bertioga, SP - Brazil.

Teaching and Supervising

Teaching

Undergraduate and Postgraduate Lecturer (The University of Sydney)

- GEOS2115: [Oceans, Coasts and Climate Change](#) (2024)
Undergraduate/Second Year
Lectures: Ocean Circulation and Relation to Global Climate; Waves and Tides; Beaches and Barriers; Estuaries; Deltas; Sediment Transport and Coastal Management. Practical Lectures on Coastal Morphodynamics with analysis of shoreline changes, beach profile erosion and wave characteristics.
- MARS3888: [Marine Science Interdisciplinary Project](#) (2023 – 2025)
Undergraduate/Third Year
Lecture: Eco-morphodynamics of Coral Reefs and Modelling the Great Barrier Reef in 2100. Assisting practicals on eco-morphodynamic research of coral reefs integrated with data science students.
- MARS5009: [Topics in Australian Marine Science](#) SIMS/TAMS (2023 – 2025)
Postgraduate Level
Lecture: Sediment transport and coastal management.

Invited Lecturer

- Invited Lecturer at the University of Sydney ([MARS5007: Coral Reefs and Climate Change](#)) for postgraduate students about “Modelling the future of the Great Barrier Reef: An Eco-Morphodynamic Approach” on 14 May 2025.

- Invited Lecturer at the Federal University of Santa Catarina (Florianopolis, Brazil) for postgraduate students about “Writing Papers as a Graduate Student”, virtual presentation on 28th October 2021.
- Invited Lecturer at the Federal University of Rio Grande do Sul (Brazil) for the postgraduate course of Hydrometeorological Storm Events with the talk “Headland Bypassing”, virtual presentation on 18th October 2021.
- Invited Lecturer at the Federal University of Santa Catarina (Florianopolis, Brazil) for the postgraduate course of Hydrometeorological Storm Events with the talk “Headland Bypassing”, virtual presentation on 16th July 2021.
- Invited Lecturer at the Envirotech Education course “Certificate III in Marine Conservation and Restoration” with the talk “Sandy Beaches”, Australia – 26th August 2020.

Supervising

PhD Students

2024 - 2027 Deborah Fonseca - External Co-Supervisor (Lead Supervisor A/Prof. Graziela Miot da Silva, Flinders University). *Project: Seagrass impacts on wave-current attenuation and coastal protection.*

2023 - 2026 Kate Whitton - Co-Supervisor (Lead Supervisor Prof. Ana Vila Concejo, Co-Supervisor Prof. Maria Byrne). *Project: Parameterizing benthic community changes under various environmental stressors in a changing climate.*

2023 - 2025 Lachlan Perris - Co-Supervisor (Lead Supervisor Prof. Ana Vila Concejo, Co-Supervisors A/Prof. Tristan Salles, Dr. Thomas Fellowes). *Project: Hydrodynamics of Spurs and Grooves.*

2023 - 2025 Md. Yousef Gazi - Co-Supervisor (Lead Supervisor Prof. Ana Vila Concejo, Co-Supervisor Dr. Thomas Fellowes). *Project: Shape and dynamics of beaches in estuaries and bays.*

Master Students

2025 - 2026 Anika Kowald-Linsley - Co-Supervisor (Lead Supervisor Prof. Ana Vila Concejo). *Project: Rubble island dynamics post severe tropical cyclone event.*

2025/02 Alex Nielsen - Lead Supervisor (Co-Supervisor Prof. Ana Vila Concejo). *Project: Benthic community changes and recovery potential over a decade of compound stressors in Low Isles.*

2025/02 Ruby Singh - Lead Supervisor (Co-Supervisor Prof. Ana Vila Concejo, A/Prof. Eleanor Bruce). *Project: Assessing surf-ecological hotspots and emerging threats along Western Australia.*

2025/01 Gabija Posiunaite - Lead Supervisor (Co-Supervisors Prof. Ana Vila Concejo and A/Prof. Tristan Salles). *Project: Vulnerable zones under storm wave threat over the Great Barrier Reef. [COMPLETED, Mark: 90]*

2025/01 Spencer Goldberg - Co-Supervisor (Lead Supervisor Prof. Ana Vila Concejo). *Project: Reef slope changes after the passage of distinct tropical cyclones. [COMPLETED, Mark: 68]*

Honours Students

2025 - 2026 Abbey-Rose Coules - Co-Supervisor (Lead Supervisor Prof. Ana Vila Concejo). *Project: Fine sediment dynamics around a rubble island post severe tropical cyclone event.*

2025 - 2025 Wan Yi Steilberg-Liu - Co-Supervisor (Lead Supervisor Prof. Ana Vila Concejo). *Project: Rubble tracts dynamics and sediment delivery around a rubble island pre and post severe tropical cyclone event.*

2024 - 2025 Liav Meoded Stern - Co-Supervisor (Lead Supervisor Prof. Ana Vila Concejo, Co-Supervisor Dr. Shawna Foo). *Project: The influence of hydrodynamics and geomorphology of a coral reef lagoon on recovery of bleached corals. [COMPLETED, Mark: 92 with high distinction and university medal]*

2024 - 2024 Saanvi Deobhankar - Lead Supervisor (Co-Supervisor Prof. Ana Vila Concejo). *Project: Mechanical erosion of different coral morphologies across the Great Barrier Reef. [COMPLETED, Mark: 89 with high distinction]*

Service

Mentoring and Advising

2023 – 2024 Mentor of one female student from Indonesia through the Women in Coastal Geoscience and Engineering Mentorship Program.

Reviewer Activities

Scientific Journals from 2020 onwards:

Coastal Futures, Journal of Geophysical Research Earth Surface, Journal of Geophysical Research Oceans, Science of the Total Environment, Coastal Engineering, Geophysical Research Letters, Nature Communications Earth and Environment, Scientific Reports, Marine Geodesy, Journal of Coastal Research, Journal of South American Earth Sciences.

Conference Papers:

- Australiasian Coasts and Ports 2021 Conference, Christchurch – New Zealand, 30 November to 03 December 2021.
- Australiasian Coasts and Ports 2019 Conference, Hobart – Tasmania, Australia, 10-13 September 2019.

Books and Technical Reports/Manuals:

- DALINGHAUS, C. (Org.); ALMEIDA, L. R. (Org.); Gonzáles, M. (Org.); Klein, A.H.F. (Org.). (2018) Sistema de modelagem costeira do Brasil: estudos de caso. 1. ed. Florianópolis: Editora da UFSC, 2018. v. 1. 411p.

Academic Events Organizing

- *(Co-chair)* Marine Studies Institute Annual Seminar on “Coral Emergency: Perspectives on Reef Ecosystems under Climate Change” – online and live transmission, 26th September 2023. Youtube video [here](#).
- *(Local Hub Organizer)* 2nd Australasian Young Coastal Scientists & Engineers Conference 2021 – Online and in Hubs, 23-25 June 2021
- *(Session Co-chair)* Virtual International Conference on Coastal Engineering (ICCE), online, 06-09 October 2020: *Nearshore Hydrodynamics* (Co-chair: Yoshimitsu Tajima (Ph.D.) – University of Tokyo).
- *(Session Co-chair)* Australasian Coasts and Ports 2019 Conference, Hobart – Tasmania, Australia, 10-13 September 2019: *Sediment Transport, Sediment Processes and Morphology* (Co-chair: Piers Larcombe (Ph.D.) – University of Western Australia).
- *(Short-course Organizer)* DALINGHAUS, C.; SILVA, A.P.; CAMPANHOLA, R.; KLEIN, A. H. F. 1^o Curso de Capacitação do SMC – Florianópolis, Santa Catarina - Brasil, 2017.
- *(Short-course Organizer)* DALINGHAUS, C.; SILVA, A.P.; CAMPANHOLA, R.; KLEIN, A. H. F. 2^o Curso de Capacitação do SMC – Natal, Rio Grande do Norte - Brasil, 2017.
- *(International Conference Support Committee)* 17^o Congresso Latino-Americano de Ciencias do Mar, Balneario Camboriu – Santa Catarina, Brasil, 13-17 November 2017, approximately 3000 attendees.
- *(National Conference Coordination/Chair)* 22^o Semana Nacional de Oceanografia, Florianópolis – Santa Catarina, Brasil, 21-27 October 2012, approximately 700 attendees.

Invited Panelist and Seminars

- Invited Speaker to the School of Environment, The University of Auckland, New Zealand to talk about Headland Bypassing – 23rd February 2024.
- Invited Panellist at the 4th Australasian Young Coastal Scientists and Engineers Conference (AUSYCSEC) at the panel discussion “How to make your science have impact”, Sydney, Australia – 7th September 2023.
- Invited Panellist at AOCEANO-Brasil live panel about coastal engineering strategies that follow the concepts of Building with Nature and Nature-Based Solutions, Brazil (Webinar) – 11th November 2021.
- Invited Speaker at 6^o Seminário da Divisão de Modelagem Numérica do Sistema Terrestre – DIMNT (INPE/MCTIC) with the talk “Variações da direção de ondas no Atlântico Sul influenciadas pelas mudanças climáticas nos últimos 3 mil anos”, Brazil (Webinar) – 16th December 2020.
- Invited Speaker at Engineers Australia – COPEP Webinar “Next Generation Research in Coastal Science and Engineering” with the talk “Large-Scale Drivers of a Headland Bypassing System at Fingal Head (NSW)”, Australia – 22th October 2020.

Science Communication and Media Outreach

School Talks



Guest Lecturer for Skype a Scientist:

- Lecture about “Women in STEM” to high school students from BBIS Berlin Brandenburg International School GmbH (Germany) in a virtual presentation on 9th February 2024.
- Lecture about “Climate Change” to high school students from Bronx High School for Writing & Communication Arts (New York, USA) in a virtual presentation on 1st November 2021.
- Lecture about “The Beach” to kindergarten (5-6 years old) from Billabong High International School, Andheri (Mumbai, India) in a virtual presentation on 25th October 2021.
- Lecture about “Weathering and Erosion” - particularly beach erosion - to Grade 6 and 7 students from Billabong High International School Andheri (Mumbai, India) in a virtual presentation on 14th October 2021.

Others:

Talk about climate change impacts on coasts around the world and coastal research equipment demonstration for international students from the Philippines visiting The University of Sydney’s School of Geosciences on 27 June 2024.

Talk about coastal research and (small) wave tank demonstration for the Marrickville High-School Environmental Science students visiting The University of Sydney’s School of Geosciences on 10 April 2024.

Talk about eco-morphodynamic modelling for visiting students from the University of Tokyo at The University of Sydney’s School of Geosciences on 19 March 2024.

Newsletters:



MURRAY, T.; **SILVA, A.P.**; STRAUSS, D.; VIEIRA DA SILVA, G.; TOMLINSON, R. One of Australia’s most famous beaches is disappearing, and storms aren’t to blame. So what’s the problem? In: **The Conversation**, online, 25 November 2020.

Interviews:

- 7 News National (Live TV) on 07 March 2025 about the Tropical Cyclone Alfred impacts on the Southeast Queensland coast.
- Australian Financial Review ([Comment](#)) on 09 March 2025 about the long-term impacts of Tropical Cyclone Alfred to coastal cities.
- SBS Portuguese ([Radio/Podcast](#)) on 06 March 2025 about the impact of Tropical Cyclone Alfred on coral reefs and One Tree Island.
- ABC Gold Coast (Radio) on 10 August 2021 about sand bypassing Fingal Head (NSW) and the relevance for the Gold Coast beaches.

- ABC North Coast NSW (Radio) on 16 July 2021 about sand bypassing Fingal Head (NSW) and the relevance for surrounding coastlines.

Volunteering Services and Associations

2020 to present – Member of the Women in Coastal Geoscience and Engineering

A network of women working in coastal geoscience and engineering across academia, industry and government. The aim is to inspire, support, and celebrate women at all stages of their careers, as well as to provide mentoring and to advocate for equal representation and opportunities.

Currently I act as the WICGE Communication Committee chair, and I volunteer as mentor at the WICGE International Mentorship Program.

2021 to present - Scientist volunteer to the “Skype a Scientist”

A project that focuses on connecting the general public with scientific disciplines, making science education available and engaging for everyone.

Complementary Formation and Training

Health and Safety Training

HLTAID015 Provide Advanced Resuscitation, valid until July 2026

HLTAID011 Provide First aid or equivalent, valid until July 2028

HLTAID009 Provide CPR, valid until July 2026

2023 Lead Supervisor Training

The University of Sydney (approximately 12h)

2015-2016 Surveyor Technician Course

Federal Institute of Santa Catarina

September/2013 - December/2014 Exchange Program

University of California San Diego – Scripps Institution of Oceanography (UCSD-SIO)

Two quarters of Full-English Program, one quarter of university preparation, two quarters at Scripps Institution of Oceanography (GPA 4.0 out of 4.0)

Short-Courses:

2022 Python Fundamentals – 60h (*currently*)
Data Science Academy

2017 - 2017 Short-Term Course in PART 1 – Basic Knowledge of Hydrographic Surveys - 4h
17° Congresso Latino-Americano de Ciências do Mar, 17° COLACMAR, Brazil

2017 - 2017 Short-Term Course in PART 2 - Basic Knowledge of Hydrographic Surveys - 4h
17° Congresso Latino-Americano de Ciências do Mar, 17° COLACMAR, Brazil

2017 - 2017 Short-Term Course in Matlab - 8h.
Base Coworking Florianópolis, BASE COWORKING, Brazil

- 2013 - 2013** Short-Term Course in Matlab - 10h
Oceanography Student Union, UFSC, CAO, Brazil
- 2012 - 2012** Short-Term Course in Climate Changes, Natural Desasters and Prediction.
Universidade Federal de Santa Catarina, UFSC, Florianopolis, Brazil
- 2011 - 2011** Short-Term Course in Coastal Erosion - 6h.
Asociacion Latinoamericana de Investigadores de Ciencias del Mar, ALICMAR, Brazil
- 2011 - 2011** Scuba Diver NAUI - 32h.
Cultura Subaquática Escola de Mergulho, CULTURA, Brazil
- 2010 – 2010** Short-Term Course in Ocean Dynamics and Carbon Storage - 6h
Universidade de São Paulo, USP, Sao Paulo, Brazil
- 2010 - 2010** Short-Term Course in Biogeochemistry Cycles - 8h
Universidade Federal do Rio Grande, FURG, Rio Grande,
Brazil
- 2010 - 2010** Short-Term Course in GIS (ArcGIS) - 30h
Universidade do Estado de Santa Catarina, UDESC, Florianopolis, Brazil

Referees

Prof. Ana Vila Concejo

Deputy Head of School of Geosciences
The University of Sydney - Australia
Relation: Postdoctoral Supervisor
Contact: ana.vilaconcejo@sydney.edu.au

Emeritus Professor Rodger Tomlinson

Director of the Griffith Centre for Coastal Management for 20 years
Griffith University - Australia
Relation: Ph.D. Supervisor
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Dr. Guilherme Vieira da Silva

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Prof. Antonio Henrique da Fontoura Klein

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