

CV

Standard DRAC form

Number of pages: 26

First name and surnames: Daniel Calvete Manrique

Date: 21 July 2021

Signature: Calvete, D.

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You must sign in the margin of every page.

1. Personal details

Surnames and first name Calvete Manrique Daniel	ID / Passport number 44000252X	
Nationality Espanya	Date of birth 09-08-1970	Sex Male
Address Dept. Fisica. Modul B5-106. Campus Nord. 08034 Barcelona		

2. Current job status

Institution / Organization / company Universitat Politècnica de Catalunya	School Escola Tècnica Superior d'Enginyeria de Camins, Canals i Ports de Barcelona (ETSECCPB)
Department / section / unit Departament de Física	
Post held Associate professor	Start date 01-09-2008
Administrative status Open-ended employment contract	
Commitment Full-time	Specialization (UNESCO codes) 251007 Physical oceanography; 251010 Shore and near-shore processes

3. Education

Undergraduate degree / 1st cycle / 1st and 2nd cycle / 2nd cycle	School	Date of graduation
Ciències Físiques	UB	27-06-1995
Doctoral degree	School	Date of graduation
Ciències Físiques	Universitat Politècnica de Catalunya	29-07-1999

4. Scientific or professional activities prior to current status

Category	Institution	Period
Adjunct lecturer	Universitat Politècnica de Catalunya	16-10-1995 - 31-05-1999
Adjunct lecturer	UPC	16-10-1995 - 31-05-1999
Researcher	UPC	10-02-1996 - 31-01-1999
Postdoctoral research staff	Utrecht University	01-06-1999 - 31-05-2001
Postdoctoral research staff	UPC	01-07-2001 - 31-08-2002
Visitants amb Càrrec a Projectes	Universitat Politècnica de Catalunya	01-07-2001 - 31-08-2002
Adjunct lecturer	UPC	01-09-2002 - 31-08-2003
Adjunct lecturer	Universitat Politècnica de Catalunya	01-09-2002 - 31-08-2003
Research specialist	Universitat Politècnica de Catalunya	01-09-2003 - 31-08-2008
Investigador - Ramon y Cajal	UPC	01-09-2003 - 31-08-2008

5. Languages

Language	Listening comprehension	Reading comprehension	Written expression	Oral expression	Oral interaction
English	B1	B1	B1	B1	B1

A. Publications

A.1 Journal papers

Simarro, G.; Calvete, D.; Souto, P. **UCalib: Cameras Autocalibration on Coastal Video Monitoring Systems.** *Remote sensing*. 2021. Volume: 13. Number: 14. <<https://doi.org/10.3390/rs13142795>>

Simarro, G.; Calvete, D.; Plomaritis, T.; Moreno-Noguer, F.; Giannoukakou-Leontsini, I.; Montes, J.; Durán, R. **The influence of camera calibration on nearshore bathymetry estimation from UAV videos.** *Remote sensing*. 2021. Volume: 13. Number: 1. pp.: 150:1 ~ 150:20. <<https://doi.org/10.3390/rs13010150>>

Simarro, G.; Calvete, D.; Souto, P.; Guillén, J. **Camera calibration for coastal monitoring using available snapshot images.** *Remote sensing*. 2020. Volume: 12. Number: 11. pp.: 1 ~ 14. <<https://doi.org/10.3390/rs12111840>>

De Swart, R.L.; Ribas, F.; Calvete, D.; Kroon, Aart; Orfila, A. **Optimal estimations of directional wave conditions for nearshore field studies.** *Continental shelf research*. 2020. Volume: 196. pp.: 1 ~ 15. <<https://doi.org/10.1016/j.csr.2020.104071>>

Coco, G.; Calvete, D.; Ribas, F.; de Swart, H.; Falques, A. **Emerging crescentic patterns in modelled double sandbar systems under normally incident waves.** *Earth surface dynamics*. 2020. Volume: 8. Number: 2. pp.: 323 ~ 334. <<https://doi.org/10.5194/esurf-8-323-2020>>

Simarro, G.; Calvete, D.; Luque, P.; Orfila, A.; Ribas, F. **UBathy: a new approach for bathymetric inversion from video imagery.** *Remote sensing*. 2019. Volume: 11. Number: 23. pp.: 2722:1 ~ 2722:24. <<https://doi.org/10.3390/rs11232722>>

Falques, A.; Kakeh, N.; Calvete, D. **A new instability mechanism related to high-angle waves.** *Ocean dynamics*. 2018. pp.: 1 ~ 11. <<https://doi.org/10.1007/s10236-018-1186-0>>

Chen, W.; Dodd, N.; Tiessen, M.; Calvete, D. **An idealised study for the long term evolution of crescentic bars.** *Continental shelf research*. 2018. Volume: 152. pp.: 87 ~ 97. <<https://doi.org/10.1016/j.csr.2017.11.006>>

Nnafie, A.; de Swart, H.; Calvete, D.; Garnier, R. **Dynamics of shoreface-connected and inactive sand ridges on a shelf, Part 2: The role of sea level rise and associated changes in shelf geometry.** *Continental shelf research*. 2015. Volume: 104. pp.: 63 ~ 75. <<https://doi.org/10.1016/j.csr.2015.05.009>>

Fernandez, M.; Calvete, D.; Falques, A.; de Swart, H. **Onshore sandbar migration in the surf zone: new insights into the wave-induced sediment transport mechanisms.** *Geophysical research letters*. 2015. Volume: 42. Number: 8. pp.: 2869 ~ 2877. <<https://doi.org/10.1002/2014GL063004>>

Ribas, F.; Falques, A.; de Swart, H.; Dodd, N.; Garnier, R.; Calvete, D. **Understanding coastal morphodynamic patterns from depth-averaged sediment concentration.** *Reviews of geophysics*. 2015. Volume: 53. pp.: 362 ~ 410. <<https://doi.org/10.1002/2014RG000457>>

Ribas, F.; ten Doeschate, A.; de Swart, H.; Ruessink, B.; Calvete, D. **Observations and modeling of surf zone transverse finger bars at the Gold Coast, Australia.** *Ocean dynamics*. 2014. Volume: 64. Number: 8. pp.: 1193 ~ 1207. <<https://doi.org/10.1007/s10236-014-0719-4>>

Nnafie, A.; de Swart, H.; Calvete, D.; Garnier, R. **Effects of sea level rise on the formation and drowning of shoreface-connected sand ridges, a model study.** *Continental shelf research*. 2014. Volume: 80. pp.: 32 ~ 48. <<https://doi.org/10.1016/j.csr.2014.02.017>>

Nnafie, A.; de Swart, H.; Calvete, D.; Garnier, R. **Modeling the response of shoreface-connected sand ridges to sand extraction on an inner shelf.** *Ocean dynamics*. 2014. Volume: 64. Number: 5. pp.: 723 ~ 740. <<https://doi.org/10.1007/s10236-014-0714-9>>

Idier, D.; Castelle, B.; Poumadère, M.; Balouin, Y.; Bohn Bertoldo, R.; Bouchette, F.; Boulahya, F.; Brivois, O.; Calvete, D.; Capo, S.; Certain, R.; Charles, E.; Chateauminois, E.; Delvallée, E.; Falques, A.; Fattal, P.; Garcin, M.; Garnier, R.; Héquette, A.; Larroude, P.; Lecacheux, S.; Le Cozannet, G.; Maanan, M.; Mallet, C.; Maspataud, A.; Oliveros, C.; Paillart, M.; Parisot, J.; Pedreros, R.; Robin, N.; Robin, M.; Romieu, E.; Ruz, M.; Thiebot, J.; Vinchon, C. **Vulnerability of sandy coasts to climate variability.** *Climate research*. 2013. Volume: 57. Number: 1. pp.: 19 ~ 44. <<https://doi.org/10.3354/cr01153>>

Garnier, R.; Falques, A.; Calvete, D.; Thiebot, J.; Ribas, F. **A mechanism for sandbar straightening by oblique wave incidence.** *Geophysical research letters*. 2013. Volume: 40. Number: 11. pp.: 2726 ~ 2730. <<https://doi.org/10.1002/grl.50464>>

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Ribas, F.; de Swart, H.E.; Calvete, D.; Falques, A. **Modeling waves, currents and sandbars on natural beaches: The effect of surface rollers.** *Journal of marine systems*. 2011. Volume: 88. Number: 1. pp.: 90 ~ 101. <<https://doi.org/10.1016/j.jmarsys.2011.02.016>>

Falques, A.; Calvete, D.; Ribas, F. **Shoreline instability due to very oblique wave incidence: some remarks on the physics.** *Journal of coastal research*. 2011. Volume: 27. Number: 2. pp.: 291 ~ 295. <<https://doi.org/10.2112/JCOASTRES-D-09-00095.1>>

Garnier, R.; Dodd, N.; Falques, A.; Calvete, D. **Mechanisms controlling crescentic bar amplitude.** *Journal of geophysical research*. 2010. Volume: 115. Number: F02007. pp.: 1 ~ 14. <<https://doi.org/10.1029/2009JF001407>>

Thiebot, J.; Idier, D.; Falques, A.; Calvete, D.; Certain, R.; Garnier, R. **Modeling sandbar morphodynamics by linear stability analysis: application to the Lido de Sete beach.** *Houille blanche-revue internationale de l'eau*. 2010. Number: 1. pp.: 97 ~ 103. <<https://doi.org/10.1051/lhb/2010011>>

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Vis-Star, N.; Calvete, D.; de Swart, H.E. **Effect of wave-bedform feedbacks on the formation of, and grain sorting over shoreface-connected sand ridges.** *Ocean dynamics*. 2009. Volume: 59. Number: 5. pp.: 731 ~ 749. <<https://doi.org/10.1007/s10236-009-0210-9>>

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Garnier, R.; Calvete, D.; Falques, A.; Caballería, M. **Generation and nonlinear evolution of shore-oblique/transverse sand bars.** *Journal of fluid mechanics*. 2006. Volume: 567. pp.: 327 ~ 360. <<https://doi.org/10.1017/S0022112006002126>>

Leeuwen, S.; Dodd, N.; Calvete, D.; Falques, A. **Physics of nearshore bed pattern formation under regular or random waves.** *Journal of geophysical research*. 2006. Volume: 111. Number: F01023. pp.: 1 ~ 16. <<https://doi.org/10.1029/2005JF000360>>

Calvete, D.; Dodd, N.; Falques, A.; Leeuwen, V. **Morphological development of rip channel systems: normal and near-normal wave incidence.** *Journal of geophysical research*. 2005. Volume: 110. Number: C10006. pp.: 1 ~ 18. <<https://doi.org/10.1029/2004JC002803>>

Falques, A.; Calvete, D. **Large-scale dynamics of sandy coastlines: diffusivity and instability.** *Journal of geophysical research*. 2005. Volume: 110. Number: C03007. pp.: 1 ~ 15. <<https://doi.org/10.1029/2004JC002587>>

Walgreen, M.; de Swart, H.E.; Calvete, D. **A model for grain-size sorting over tidal sand ridges.** *Ocean dynamics*. 2004. Volume: 54. Number: 3-4. pp.: 374 ~ 384. <<https://doi.org/10.1007/s10236-003-0066-3>>

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Calvete, D.; de Swart, H.E. **A nonlinear model study on the long-term behaviour of shore face-connected sand ridges.** *Journal of geophysical research*. 2003. Volume: 108. Number: C5, 3169. pp.: 1 ~ 15. <<https://doi.org/10.1029/2001JC001091>>

Walgreen, M.; de Swart, H.E.; Calvete, D. **Effect of grain size sorting on the formation of shoreface-connected sand ridges.** *Journal of geophysical research*. 2003. Volume: 108. Number: C3 3063. pp.: 1 ~ 16. <<https://doi.org/10.1029/2002JC001435>>

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Calvete, D.; de Swart, H.E.; Falques, A. **Effect of depth-dependent wave stirring on the final amplitude of shoreface-connected sand ridges.** *Continental shelf research*. 2002. Volume: 22. Number: 18-19. pp.: 2763 ~ 2776. <[https://doi.org/10.1016/S0278-4343\(02\)00125-5](https://doi.org/10.1016/S0278-4343(02)00125-5)>

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Calvete, D.; Falques, A.; de Swart, H.E.; Walgreen, M. **Modelling the formation of shoreface-connected sand ridges on storm-dominated inner shelves.** *Journal of fluid mechanics*. 2001. Volume: 441. pp.: 169 ~ 193. <<https://doi.org/10.1017/S0022112001004815>>

Calvete, D.; Walgreen, M.; de Swart, H.E.; Falques, A. **A model for sand ridges on the shelf: effect of tidal and steady currents.** *Journal of geophysical research*. 2001. Volume: 106. Number: C5. pp.: 9311 ~ 9325. <<https://doi.org/10.1029/2001JC900001>>

Calvete, D. **On the long-term modelling of shoreface-connected sand ridges.** *Geophysical research abstracts*. 2001. Volume: 3.

A.2 Conference papers

De Swart, R.L.; Ribas, F.; Calvete, D.; Simarro, G.; Guillén, J. **Alongshore sandbar and shoreline rhythmicity at an open, Mediterranean beach.** *Coastal Dynamics 2021: session program*. 2021. pp.: 1 ~ 2. <<https://www.coastaldynamics2021.nl/programme>>

De Swart, R.L.; Ribas, F.; Calvete, D.; Simarro, G.; Guillén, J. **Characteristics and dynamics of crescentic bar events at an open, Mediterranean beach.** *EGU General Assembly 2020: session programme*. 2020. pp.: 1 ~ 1. <<https://meetingorganizer.copernicus.org/EGU2020/sessionprogramme>>

Simarro, G.; Calvete, D.; Luque, P.; Orfila, A.; Ribas, F. **A new approach for bathymetric video-inversion: field study.** *RCEM 2019: the 11th Symposium on River, Coastal and Estuarine Morphodynamics: Book of abstracts*. 2019. pp.: 71 ~ 71. ISBN/ISSN: 978-0-473-50422-9. <<https://storage.googleapis.com/wzukusers/user-30969499/documents/a361e67581b74ac6abff4ad83da6d3e5/RCEM%202019%20Abstracts%20Book%20Online.pdf>>

Calvete, D.; Simarro, G.; Luque, P.; Orfila, A.; Ribas, F. **A new approach for bathymetric video-inversion: synthetic case.** *RCEM 2019: the 11th Symposium on River, Coastal and Estuarine Morphodynamics: Book of abstracts*. 2019. pp.: 50 ~ 50. ISBN/ISSN: 978-0-473-50422-9. <<https://storage.googleapis.com/wzukusers/user-30969499/documents/a361e67581b74ac6abff4ad83da6d3e5/RCEM%202019%20Abstracts%20Book%20Online.pdf>>

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De Swart, R.L.; Ribas, F.; Calvete, D.; Orfila, A.; Kroon, Aart **Obtaining directional wave characteristics in front of nearshore field sites.** *Geophysical Research Abstracts, vol. 21: EGU General Assembly 2019*. European Geosciences Union (EGU). 2019. pp.: 1 ~ 1. ISBN/ISSN: 1607-7962. <<https://www.geophysical-research-abstracts.net/egu2019.html>>

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A.4 Books

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A.5 Book chapters

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A.8 Other scientific and technical documents

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A.9 Theses

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A.10 Teaching materials or lecture notes

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A.11 Other written output

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B. Conferences, courses and other events

B.1 Presentation of conference papers

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Calvete, D. **Bed-flow instabilities of coastal currents**. *8th International Biennial Conference on Physics of Estuaries and Coastal Seas*. 08/09/1996.

B.2 Imparting courses

Hydro- and morphodynamics of coastal seas and estuaries. *Hydro- and morphodynamics of coastal seas and estuaries*. Motril, Espanya. 2007.

BBOS/NCK Hydro- and Morphodynamic processes in coastal seas. *BBOS/NCK Hydro- and Morphodynamic processes in coastal seas*. Renesse, Netherlands. 2003.

Numerical models for coastal processes. *Numerical models for coastal processes*. Granada, Espanya. 2003.

B.6 Organization of courses and seminars

Organització/Direcció: Sediment Transport. 2002. Zahara de los atunes.

B.8 Membership of conference organising committees

Member. International advisory board: The 7th Symposium on River, Coastal and Estuarine Morphodynamics. Pekin, China. 09/06/2010 - 09/06/2010.

B.9 Attendance at course or seminar

Funcionament de les Aules Híbrides amb equipament Polycom i Minrray a l'EETAC. Barcelona, Espanya. 2021.

Edició de vídeo amb OpenShot - 3a edició. Barcelona, Espanya. 2020.

IV Jornada docent del departament de Física. Barcelona, Espanya. 2020.

Incorporar la Perspectiva de Gènere en la Docència universitària - Edició ON LINE - Àmbits d'Enginyeria Civil i Nàutica (ETSECCPB, FNB). Barcelona, Espanya. 2020.

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Hydro- and Morphodynamic processes in coastal seas. Renesse. 1998.

EC/MAST Advanced Study Course "Hydro and morphodynamic processes in coastal seas". Renesse. 1998.

Coastal Morphodynamics. Utrecht. 1997.

C. Projects and intellectual and industrial property

C.1 Participation in R&D calls

Researcher. Mediterranean sheltered beach morphodynamics in the face of climate change: modelling approach. Scientific coordinator: Ribas, F.; Falques, A.. 01/01/2019 - 30/09/2022. Duration: 03 year/s 09 month/s . Funding: 101.640,00 €. Scope: National. Institution in which the research was undertaken: FÍSICA. Funding body: AGENCIA ESTATAL DE INVESTIGACION.

Researcher. Coastal morphodynamics: Interaction of Patterns at Different Scales. Scientific coordinator: Falques, A.. 01/01/2016 - 31/12/2019. Duration: 04 year/s . Funding: 167.101,00 €. Scope: National. Institution in which the research was undertaken: FÍSICA. Funding body: MIN DE ECONOMIA Y COMPETITIVIDAD.

Researcher. Formas de fondo y su dinámica actual en el margen continental Mediterraneo español. Scientific coordinator: Guillén, J.. 01/01/2013 - 31/12/2015. Duration: 03 year/s . Funding: 147.420,00 €. Scope: National. Institution in which the research was undertaken: Institut de Ciències del Mar. Funding body: Ministerio de Economía y Competitividad.

Researcher. Nearshore morphodynamic patterns: modelling, observations and applications. Scientific coordinator: Falques, A.. 01/01/2013 - 31/12/2015. Duration: 03 year/s . Funding: 85.410,00 €. Scope: National. Institution in which the research was undertaken: FÍSICA. Funding body: MIN DE ECONOMIA Y COMPETITIVIDAD.

Researcher. DINAMICA SEDIMENTARIA ACTUAL EN LA TRANSICION PLATAFORMA-TALUD DEL MARGEN CONTINENTAL DEL EBRO. Scientific coordinator: Puig Alenyà, P.. 10/01/2010 - 10/01/2013. Duration: 03 year/s . Funding: 196.000,00 €. Scope: National. Institution in which the research was undertaken: Institut de Ciències del Mar de Barcelona (C.S.I.C.). Funding body: Ministerio de Ciencia e Innovación.

Researcher. MODELIZACIÓN Y MONITARIZACIÓN INTEGRADAS EN MORFODINAMICA DE PLAYAS NATURALES Y REGENERADAS. Scientific coordinator: Falques, A.. 01/01/2010 - 30/06/2013. Duration: 03 year/s 06 month/s . Funding: 121.540,25 €. Scope: National. Institution in which the research was undertaken: FÍSICA. Funding body: Ministerio de Ciencia e Innovación (MICINN).

Researcher. Linear stability analysis in coastal morphodynamics: essential or useless?. Scientific coordinator: Falques, A.. 01/10/2009 - 01/10/2010. Duration: 01 year/s 01 day/s . Funding: 4.000,00 €. Scope: National. Institution in which the research was undertaken: Universitat Politècnica de Catalunya. Funding body: Ministerio de Ciencia e Innovación.

Researcher. Dinàmica de fluids; formació d'estructures i aplicacions geofísiques. Scientific coordinator: Marques, F.. 01/01/2009 - 31/12/2013. Duration: 04 year/s 11 month/s 30 day/s . Funding: 0,00 €. Scope: Regional. Institution in which the research was undertaken: UPC. Funding body: Agència de Gestió d'Ajuts Universitaris i de Recerca (Agaur).

Researcher. Morfodinámica de playas: predicciones en las grandes escalas espacio-temporales. Scientific coordinator: Falques, A.. 01/10/2006 - 30/09/2009. Duration: 03 year/s . Funding: 73.810,00 €. Scope: National. Institution in which the research was undertaken: Department of Applied Physics. Funding body: MINISTERIO DE EDUCACIÓN Y CIENCIA.

Researcher. Ajut grup de recerca consolidat: Dinàmica de fluids; formació d'estructures i aplicacions geofísiques. Scientific coordinator: Marques, F.. 19/10/2005 - 18/10/2008. Duration: 03 year/s . Funding: 52.600,00 €. Scope: National. Institution in which the research was undertaken: Department of Applied Physics. Funding body: AGAUR. Agència de Gestió d'Ajuts Universitaris i de Recerca.

Researcher. Morfodinámica de playas urbanizadas: integración de datos experimentales y modelos teóricos (PUDEM). Scientific coordinator: Falques, A.. 15/12/2003 - 14/12/2006. Duration: 03 year/s . Funding:

39.215,00 €. Scope: National. Institution in which the research was undertaken: Department of Applied Physics. Funding body: Ministerio de Ciencia y Tecnología.

Researcher. HUMOR. Human interaction with large scale coastal morphological evolution. Scientific coordinator: Falques, A.. 01/02/2001 - 31/01/2004. Duration: 02 year/s 12 month/s 04 day/s . Funding: 193.000,00 €. Scope: European. Institution in which the research was undertaken: Department of Applied Physics. Funding body: U.E..

Researcher. Modelling van geulen, platen en drempels in getijbekkens. Scientific coordinator: de Swart, H.E.. 05/07/2000 - 06/07/2001. Duration: 01 year/s 01 day/s . Funding: 0,00 €. Scope: European. Institution in which the research was undertaken: Department of Applied Physics. Funding body: Stichting Nationale Computer Failiteren (NCF).

Researcher. Interacción de ondas largas y corriente longitudinal en la morfodinamica de la zona de rompientes. Scientific coordinator: Falques, A.. 31/12/1999 - 31/12/2002. Duration: 03 year/s 01 day/s . Funding: 21.203,71 €. Scope: National. Institution in which the research was undertaken: Department of Applied Physics. Funding body: DGES (ANTIGA DGICYT).

Researcher. Modelling van geulen, platen en drempels in getijbekkens. Scientific coordinator: de Swart, H.E.. 17/03/1999 - 16/03/2000. Duration: 01 year/s . Funding: 0,00 €. Scope: European. Institution in which the research was undertaken: Department of Applied Physics. Funding body: Stichting Nationale Computer Failiteren (NCF).

Researcher. TRASEDVE. Transporte de sedimento a varias escalas en el mediterraneo. Implicaciones para la evolucion costera. Scientific coordinator: Jimenez, J.A.. 31/08/1998 - 31/08/2001. Duration: 03 year/s 01 day/s . Funding: 6.250,52 €. Scope: National. Institution in which the research was undertaken: Department of Hydraulic, Maritime and Environmental Engineering. Funding body: CICYT.

Researcher. Prediction of aggregated-scale coastal evolution (PACE). Scientific coordinator: De Vriend, H.. 01/02/1996 - 31/01/1999. Duration: 03 year/s . Funding: 110.600,00 €. Scope: European. Institution in which the research was undertaken: Department of Applied Physics. Funding body: U.E. (MAST3) contrato no. PL950021.

Researcher. Prediction of aggregated-scale coastal evolution (PACE). Scientific coordinator: Jimenez, J.A.; De Vriend, H.. 01/01/1996 - 31/12/1999. Duration: 04 year/s . Funding: 0,00 €. Scope: European. Institution in which the research was undertaken: Department of Applied Physics. Funding body: Unión Europea (DG-XII, MAST-III Programme).

C.3 Participation in teaching innovation projects

Collaborator: Prova Pilot per a l'Adaptació a l'Espai Europeu d'Educació Superior de la titulació Enginyeria Tècnica de Telecomunicació, especialitats en Sistemes de Telecomunicació i en Telemàtica impartides a l'Escola Politècnica Superior de Castelldefels Universitat Politècnica de Catalunya. Head researcher: Valero-Garcia, M 01/07/2004 - 01/07/2005. Duration: 01 year/s . Funding body: Generalitat de Catalunya, DURSI.

C.5 Software

Calvete, D. **MORFO45.** Programming language: FORTRAN90. Platform: PC/Estacions de treball. 2000.

Calvete, D.; Falques, A.; de Swart, H.E.; Iranzo, V. **MORFO30**. Programming language: Fortran. Platform: PC/Estacions de treball/VAX. 1996.

Calvete, D.; Falques, A.; Iranzo, V. **MORFO20**. Programming language: Fortran. Platform: PC/Estacions de treball/VAX. 1996.

D. Committees and societies

E. Contributions to publications and theses

E.4 Supervision or tutoring of theses and membership of assessment panels

Vocal. Work author: **Fernández Marcellán, Martín**. *Análisis de Imagen aplicada a la gestión de aeropuertos*. **Bachelor's thesis**. 28/06/2021. Mark: Excellent. Supervisor/s: Moltó, J.; Tarres, F.. Universitat Politècnica de Catalunya.

Vocal. Work author: **Fernández Marcellán, Martín**. *Análisis de Imagen aplicada a la gestión de aeropuertos*. **Bachelor's thesis**. 28/06/2021. Mark: Excellent. Supervisor/s: Tarres, F.; Moltó, J.. Universitat Politècnica de Catalunya.

Vocal. Work author: **Reinao Diarte, Victor**. *Design and implementation of optical waveguides for augmented reality*. **Bachelor's thesis**. 19/04/2021. Mark: Excellent. Supervisor/s: Casas, J.O.. Universitat Politècnica de Catalunya.

Vocal. Work author: **Gelabert Payeras, Nicolau**. *Estudi de la viabilitat de l'ús de vehicles aeris no tripulats en un espai natural protegit*. **Bachelor's thesis**. 25/03/2021. Mark: Pass. Supervisor/s: Castan, J.. Universitat Politècnica de Catalunya.

Vocal. Work author: **Marquez Peña, Renato Steve**. *Implementation of a Wireless Sensor Network for Internet of Things (IoT) using 6LoWPAN wireless communication with low-power ARM microcontroller nodes*. **Bachelor's thesis**. 15/02/2021. Mark: Very Good. Supervisor/s: Polo, J.. Universitat Politècnica de Catalunya.

Vocal. Work author: **Negre Dou, Miguel**. *Long-term morphodynamic evolution of the Llobregat Delta under climate change conditions*. **Bachelor's thesis**. 27/11/2020. Mark: Excellent. Supervisor/s: Ribas, F.; Falques, A.. Universitat Politècnica de Catalunya.

Tutor. Work author: **Calmet, H**. *Large-scale CFD and micro-particles simulations in a large human airways under sniff condition and drug delivery application..* **Doctoral thesis**. 10/11/2020. Mark: Excellent Cum Laude. Supervisor/s: Houzeaux, G.. Universitat Politècnica de Catalunya. <<http://hdl.handle.net/10803/670232>> .

Vocal. Work author: **Bahí Buhigas, Roger**. *Periodically forced extensional pipe flow*. **Bachelor's thesis**. 15/07/2020. Mark: Excellent. Supervisor/s: Marques, F.; Meseguer, A.. Universitat Politècnica de Catalunya.

Vocal. Work author: **Portos Amill, Laura**. *Effect of sea level variations in the long-term dynamics of the Zandmotor meganourishment*. **Bachelor's thesis**. 15/07/2020. Mark: Excellent. Supervisor/s: Falques, A.; Ribas, F.. Universitat Politècnica de Catalunya.

President. Work author: **Garre, G. Diode laser bar brightness increase by spatial and frequency intracavity filtering.. Pla de recerca.** 06/07/2020. Mark: OTHERS. Supervisor/s: Montiel, Joan Jesús; Staliunas, K.; Cojocar, C.. Universitat Politècnica de Catalunya.

President. Work author: **Rodriguez, L. Nonlinear optics at nanoscale: frequency conversion at interfaces.. Pla de recerca.** 28/06/2019. Mark: OTHERS. Supervisor/s: Cojocar, C.; Trull, J.. Universitat Politècnica de Catalunya.

Secretari. Work author: **Cikojevic, V. Microscopic study of liquid quantum mixtures of Bose-Einstein condensates.. Pla de recerca.** 28/06/2019. Mark: OTHERS. Supervisor/s: Boronat, J.; Vranjes Markic, Leandra. Universitat Politècnica de Catalunya.

Secretari. Work author: **Municoy, M. Development of a free energy perturbation method for Monte Carlo simulations.. Pla de recerca.** 28/06/2019. Mark: OTHERS. Supervisor/s: Guardia, E.; Guallar, V.. Universitat Politècnica de Catalunya.

Secretari. Work author: **Wang, B. Preturbulent localization mechanisms in Taylor-Couette Flow.. Pla de recerca.** 28/06/2019. Mark: OTHERS. Supervisor/s: Mellibovsky, F.; Meseguer, A.. Universitat Politècnica de Catalunya.

Secretari. Work author: **Janeras, M. Lattice materials for additive manufacturing and design of mechanical metamaterials.. Pla de recerca.** 28/06/2019. Mark: OTHERS. Supervisor/s: Batiste, O.; Chiumenti, M.. Universitat Politècnica de Catalunya.

Secretari. Work author: **Calmet, H. Large-scale CFD simulations and micro-particle deposition in a large human airways under sniff condition.. Pla de recerca.** 28/06/2019. Mark: OTHERS. Supervisor/s: Houzeaux, G.. Universitat Politècnica de Catalunya.

Supervisor . Work author: **Afshar Bakooshki, Sanaz. Coastal video monitoring and Castelldefels shoreline evolution in the mid and short terms.. Pla de recerca.** 04/06/2019. Mark: OTHERS. Supervisor/s: Simarro Grande, Gonzalo; Calvete, D.. Universitat Politècnica de Catalunya.

Supervisor . Work author: **Luque Lozano, Pau. Assessment and validation of bathymetric inversion techniques using synthetic waves. Bachelor's thesis.** 18/02/2019. Mark: Excellent. Supervisor/s: Simarro Grande, Gonzalo; Ribas, F.; Calvete, D.. Universitat Politècnica de Catalunya.

Secretari. Work author: **Arriaga, J. Dynamics of large-scale shoreline perturbations. Doctoral thesis.** 30/07/2018. Mark: Excellent. Supervisor/s: Falques, A.; Ribas, F.. Universitat Politècnica de Catalunya. <<http://hdl.handle.net/10803/620734>> .

Supervisor . Work author: **Tugores Rorbek, Francisco. Modelling shoreface-connected sand ridges observed at the inner shelf of the Ebro delta. Treball de fi de grau.** 04/07/2018. Mark: Excellent. Supervisor/s: Calvete, D.; Ribas, F.. Universitat Politècnica de Catalunya.

Supervisor . Work author: **De Swart, Rinse. Development and interactions of surfzone morphological patterns: Observations and modeling.. Pla de recerca.** 23/02/2018. Mark: OTHERS. Supervisor/s: Ribas, F.; Calvete, D.. Universitat Politècnica de Catalunya.

Supervisor . Work author: **Fernandez, M. On Cross-shore Beach Profile Morphodynamics. Doctoral thesis.** 17/12/2015. Mark: Excellent Cum Laude. Supervisor/s: Calvete, D.; Falques, A.. Universitat Politècnica de Catalunya. <<http://hdl.handle.net/10803/347967>> .

Supervisor . Work author: **Takeh, N. *Modelling the interactions of nearshore morphological patterns and shoreline dynamics.*** Pla de recerca. 18/06/2015. Mark: OTHERS. Supervisor/s: Calvete, D.. Universitat Politècnica de Catalunya.

Examination panel member . Work author: **Nnafie, A. *Formation and long-term evolution of shoreface-connected sand ridges: Modeling the effects of sand extraction and sea level rise.*** Doctoral thesis. 03/12/2014. Mark: Pass. Supervisor/s: de Swart, H.. Utrecht University. <<http://dspace.library.uu.nl/handle/1874/302978>> .

Supervisor . Work author: **Alvarez Van-strahlen, Javier Enrique. *Aplicación de técnicas de video para la determinación de la batimetría de la playa de Castelldefels (Barcelona).*** TREBALL DE FI DE GRAU. 15/07/2014. Mark: Very Good. Supervisor/s: Simarro Grande, Gonzalo; Calvete, D.. Universitat Politècnica de Catalunya.

Supervisor . Work author: **Fernandez, M. *On cross-shore beach profile morphodynamics.*** PLA DE RECERCA. 12/02/2014. Mark: OTHERS. Supervisor/s: Falques, A.; Calvete, D.. Universitat Politècnica de Catalunya.

Secretari. Work author: **Van den Berg, N. *Modelling the dynamics of large scale shoreline sand waves.*** Doctoral thesis. 11/05/2012. Mark: Pass Cum Laude. Supervisor/s: Ribas, F.; Falques, A.. Universitat Politècnica de Catalunya. <<http://www.tdx.cat/handle/10803/96173>> .

Supervisor . Work author: **Fernández Mora, Maria De Los Angeles. *Effects of cross-shore transport on nearshore morphodynamics.*** PROPOSTA DE TESI. 15/03/2012. Mark: OTHERS. Supervisor/s: Calvete, D.; Falques, A.. Universitat Politècnica de Catalunya.

Supervisor . Work author: **Pablo Sánchez Hernández. *Formació de corrents de retorn a la platja de Castelldefels, Barcelona.*** Final thesis. 16/07/2010. Mark: Very Good. Supervisor/s: Calvete, D.; Ribas, F.. Universitat Politècnica de Catalunya.

F. Personal acknowledgements

F.6 Stretches of research, teaching and management

z1. Universitat Politècnica de Catalunya. Number of segments recognized: 1. Date of acknowledgement: 01/01/2016.

z1. Universitat Politècnica de Catalunya. Number of segments recognized: 1. Date of acknowledgement: 01/01/2012.

z1. Universitat Politècnica de Catalunya. Number of segments recognized: 1. Date of acknowledgement: 01/01/2009.

z2. Number of segments recognized: 1. Date of acknowledgement: 01/01/2016.

z2. Number of segments recognized: 1. Date of acknowledgement: 01/01/2010.

z2. Number of segments recognized: 1. Date of acknowledgement: 01/01/2009.

z3. AQU - Agència de la Qualitat Universitària de Catalunya. Number of segments recognized: 1. Date of acknowledgement: 01/01/2016.

z3. AQU - Agència de la Qualitat Universitària de Catalunya. Number of segments recognized: 1. Date of acknowledgement: 01/01/2012.

z3. AQU - Agència de la Qualitat Universitària de Catalunya. Number of segments recognized: 1. Date of acknowledgement: 01/01/2009.

z4. AQU - Agència de la Qualitat Universitària de Catalunya. Number of segments recognized: 1. Date of acknowledgement: 01/01/2016.

z4. AQU - Agència de la Qualitat Universitària de Catalunya. Number of segments recognized: 1. Date of acknowledgement: 01/01/2010.

z4. AQU - Agència de la Qualitat Universitària de Catalunya. Number of segments recognized: 1. Date of acknowledgement: 01/01/2009.

F.7 Accreditations

ACREDITACIÓ DE RECERCA. Awarding body: AQU - Agència de la Qualitat Universitària de Catalunya. 01/01/2008.

INFORME ACTIVITAT DOCENT, Període avaluació: 1995-2004. Awarding body: Universitat Politècnica de Catalunya. 09/10/2009.

F.8 Other merits

Revisión de artículos en revistas científicas: " Journal of Fluid Mechanics " Continental Shelf Research " Journal of Geophysical Research Docencia de postgrado en cursos de verano: " BBOS/NCK Hydro- and Morphodynamic processes in coastal seas, 2003, Renesse, Países Bajos " International Summerschool Hydro- and Morphodynamic processes in coastal seas and estuaries, 2007, Motril, Granada Docencia de doctorado y master (UPC): " Dinámica de Fluidos Geofísicos " Estructuras Espacio-temporales en Morfodinámica de Costas " Programación y métodos numéricos " Aplicaciones geofísicas y morfodinámicas de la mecánica de fluidos Acreditaciones " Agregado (AQU) " Programa I3 (ANEP) " Evaluación positiva 4º año Programa Ramón y Caj. Description: Revisión de artículos en revistas científicas: " Journal of Fluid Mechanics " Continental Shelf Research " Journal of Geophysical Research Docencia de postgrado en cursos de verano: " BBOS/NCK Hydro- and Morphodynamic processes in coastal seas, 2003, Renesse, Países Bajos " International Summerschool Hydro- and Morphodynamic processes in coastal seas and estuaries, 2007, Motril, Granada Docencia de doctorado y master (UPC): " Dinámica de Fluidos Geofísicos " Estructuras Espacio-temporales en Morfodinámica de Costas " Programación y métodos numéricos " Aplicaciones geofísicas y morfodinámicas de la mecánica de fluidos Acreditaciones " Agregado (AQU) " Programa I3 (ANEP) " Evaluación positiva 4º año Programa Ramón y Caj. 03/12/2008.

G. Stays and other activities

G.1 Stays in R&D centers

Post-doctoral . Institute for Marine and Atmospheric Research, Utrech University. Purpose: Research.
Comparable tasks: Investigació de bancos de arena en la plataforma continental. 01/06/1999 - 01/06/2001.

Doctoral student. Institute for Marine and Atmospheric Research Utrecht (IMAU). Purpose: Doctoral thesis.
Comparable tasks: Investigació sobre bancs de sorra connectats a la costa a la plataforma continental.
01/08/1996 - 31/12/1996.

H. Teaching activities

I. Scientific career summary and contribution relevant

I.1 Scientific career summary

My research focuses on the study of coastal geomorphology with the aim of understand the underlying physical processes in the complex dynamics of morphological changes. To do this, I have studied the formation and evolution of wide variety of coastal morphological patterns through numerical modeling. The patterns that I have studied cover a broad range of scales and include the cusps in the coastline, crescentic bars and sandbars on the continental shelf. I have specialized studying the mechanisms and processes involved in the formation of these patterns, their maintenance and eventual destruction. Nowadays, I am focusing my studies on the interactions between different patterns. The results of this research not only increases the scientific understanding of the processes in the coastal region but it may also be useful to improve engineering tools and contribute to coastal management. In this sense some of my research has been directed to theoretical studies on the effect of human interventions (regeneration, dredging) can cause on the coastal environment As part of the research work I have participated in the development of different numerical codes. Some of the codes are developed myself and others result of collaborations with other researchers. The code development and, in general, the scientific studies have been carried out in collaboration with several research groups of international prestige. Throughout my career, I have taken part on 14 research funded projects, I am author of 60 peer-review papers on JCR indexed journals (over 80 scientific publications) and of more than 100 presentations in congresses and symposiums.

I.2 Contribution relevant
