

# Ricardo S. Ramalho (PhD, FGS)

Lecturer in Geo-Environmental Hazards

School of Earth and Environmental Sciences, Cardiff University

Main Building, Park Place

Cardiff, CF10 3AT, UK

Office: 3.15

Email: [ramalhor@cardiff.ac.uk](mailto:ramalhor@cardiff.ac.uk)

Tel: +351 966 052 588 or +44 77 835 29130

## Academic Profile

**ORCID:** 0000-0002-2338-5535

**Web of Science ResearcherID:** I-6031-2012

**SCOPUS ID:** 36011115200

**Google Scholar ID:** <https://scholar.google.com/citations?user=hWMM66oAAAAJ&hl=en&oi=sra>

**ResearchGate Profile:** [https://www.researchgate.net/profile/Ricardo\\_Ramalho2](https://www.researchgate.net/profile/Ricardo_Ramalho2)

**Institutional webpage:** <https://www.cardiff.ac.uk/people/view/2523935-Ramalho-Ricardo>

**SUMMARY:** I am geologist who studies ocean island volcanoes. My aim is to understand how ocean island volcanoes grow and decay, at different time and spatial scales, and how that evolution reflects the holistic interaction between plate tectonics, deep earth mechanisms, and surface processes. I essentially combine detailed field observations with isotopic geochronology – such as  $^{40}\text{Ar}/^{39}\text{Ar}$ , U-Th, and cosmogenic  $^3\text{He}$  – to reconstruct the 4D evolution of ocean island volcanoes and their landscapes, followed by numerical modelling to investigate the link between that evolution and its driving forces. My work also increasingly focuses on the hazard potential posed by island volcanoes, particularly how their gravitational collapse may trigger tsunamis that are theoretically capable of trans-oceanic devastation.

**KEY WORDS:** Ocean Island Volcanoes; Oceanic Hotspot Dynamics, Volcanism; Isostasy; Geomorphology; Volcano-stratigraphy; Geochronology; Volcanic & Tsunami Hazard; Coastal Dynamics & Hazards.

### HIGHER EDUCATION:

**PhD, Earth Sciences (2010)** – University of Bristol, UK.

Thesis title: *Building the Cape Verde Islands*.

Advisors: Profs. George Helffrich and Derek Vance.

**MSc, Dynamic Geology (2004)** – Faculdade de Ciências da Universidade de Lisboa, Portugal.

Thesis title: *Geological mapping of Madeira Island - stratigraphy and tectonics of the area east of Machico*.

Advisors: Profs. José Madeira and Paulo Fonseca.

**Licenciate degree, Geology (2001)** – Faculdade de Ciências da Universidade de Lisboa, Portugal.

### CURRENT APPOINTMENTS:

**Lecturer in Geo-Environmental Hazards** (Jun 2021 – present) at School of Earth and Environmental Hazards, Cardiff University

**Invited Lecturer** at Department of Geology and at Instituto Dom Luiz (IDL), Faculty of Sciences, University of Lisbon (Portugal).

IDL is one of the leading integrated Earth System Science institutes in Portugal, having achieved the classification of EXCELLENT in the 2018 R&D Unit Evaluation by FCT (the Portuguese Science Foundation).

## LEADERSHIP ROLES:

**Coordinator of IDL's Research Group 3 (RG3) "Solid Earth Dynamics, Hazards and Resources"** (Apr 2019 – Apr 2021). RG3 is a research group that focus its investigation on the composition, structure, dynamics, and evolution of the solid Earth, from the mantle up to the surface, and with implications for resources and hazards. RG3's research gives a particular emphasis on the processes that shape ocean island volcanoes, continents and orogenic belts, and continental margins. The group comprises 32 integrated members (i.e. with PhD), 16 PhD students, and 20 collaborators.

**Member of the Executive Board of IDL** (Apr 2019 – Apr 2021). As the coordinator of RG3, I had a seat the Executive Board of IDL, the body that decides and implements the main administrative and scientific directives of this institution.

## HONORARY/ADJUNCT POSITIONS:

**Invited Lecturer** at Department of Geology and at Instituto Dom Luiz (IDL), Faculty of Sciences, University of Lisbon (Portugal).

**Adjunct Associate Research Scientist**, Lamont-Doherty Earth Observatory of Columbia University (USA)

## EMPLOYMENT HISTORY:

01/2016 – 06/2021	<b>FCT Investigator (Senior Research Fellow)</b> Instituto Dom Luiz (IDL), Faculty of Sciences, University of Lisbon (Portugal)
01/2016 – 01/2022	<b>Senior Research Fellow (Honorary) and Invited Lecturer</b> School of Earth Sciences, University of Bristol (UK)
01/2013 – 01/2016	<b>Marie Curie International Outgoing Research Fellow</b> School of Earth Sciences, University of Bristol (UK) and Lamont-Doherty Earth Observatory, Columbia University (USA).
01/2011 – 01/2013	<b>Postdoctoral Research Assistant</b> Institute of Geophysics, University of Münster (Germany)
04/2010 – 12/2010	<b>Postdoctoral Research Assistant (Honorary)</b> School of Earth Sciences, University of Bristol (UK)
10/2005 – 04/2010	<b>FCT-funded PhD Student</b> School of Earth Sciences, University of Bristol (UK)
01/2005 – 09/2005	<b>Exploration Geologist</b> Iberian Resources Ltd, (Portugal)
11/2002 – 01/2005	<b>Postgraduate Research Assistant</b> Centre for Macaronesian Studies, University of Madeira & Laboratory for Experimental Tectonics and Tectonophysics, FCUL (Portugal)
10/2008 – 10/2002	<b>Part-time Research Assistant</b> Laboratory for Experimental Tectonics and Tectonophysics, FCUL (Portugal)

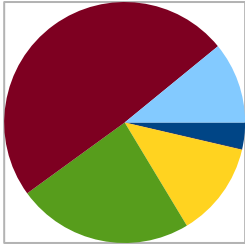
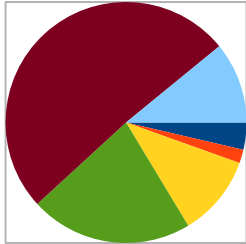
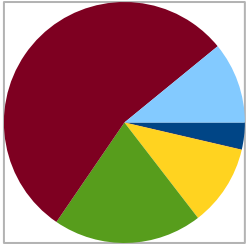
## Teaching Profile

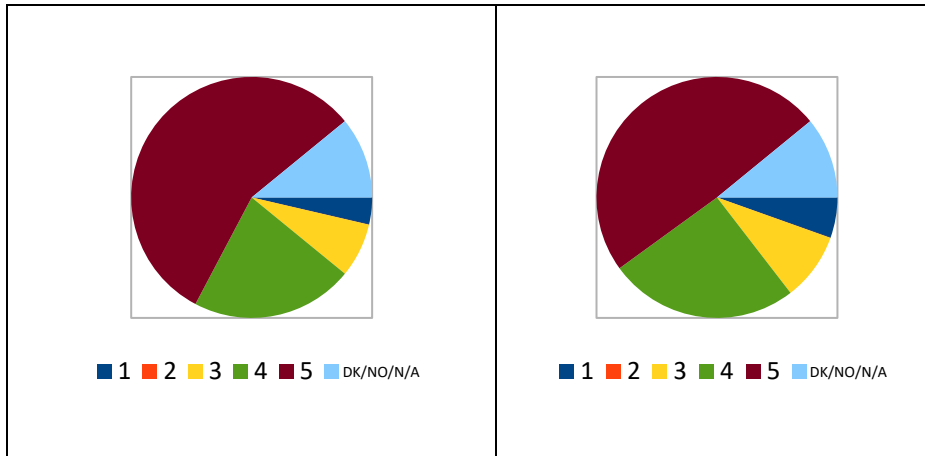
**OVERVIEW:** I am currently a Lecturer in Geo-Environmental Hazards at the School of Earth and Environmental Sciences of Cardiff University, and an Invited Lecturer at Department of Geology, Faculty of Sciences of the University of Lisbon (Portugal). During my career I have taught 3 Postgraduate and 2 undergraduate units/modules of units as a coordinator/responsible for the module, plus 11 other undergraduate units as an assistant professor (field courses, theoretico-practicals and practicals), as well as numerous individual lectures to undergraduate, MSc and PhD training programmes. I consistently have very good or excellent student feedback for my performance as a lecturer or assistant professor. I have also trained several other professionals during my time in industry.

### UNITS TAUGHT AS COORDINATOR/RESPONSIBLE FOR A MODULE:

- [5] **Unit EAT402 Environmental Hazards in a Changing World** (Oct 2021 – Present) at School of Earth and Environmental Sciences of Cardiff University. This is a 30-hour module for the new **MSc Environmental Hazards** programme.
- [4] **Unit EAT406 Risk Assessment** (Oct 2021 – Present) at **School of Earth and Environmental Sciences of Cardiff University**. This is a 30-hour module for the new **MSc Environmental Hazards** programme.
- [3] **Unit EAT408 Environmental Hazards Case Studies** (Oct 2021 – Present) at **School of Earth and Environmental Sciences of Cardiff University**. This is a 30-hour module for the new **MSc Environmental Hazards** programme.
- [2] **Unit 53249 Geological Hazard, module Volcanic Hazard** (Oct 2018 – September 2021) at **Departamento de Geologia, Faculdade de Ciências, Universidade de Lisboa** (Portugal). This 33-hour module is integrated as part of the 4<sup>th</sup> year undergraduate Geology degree Unit “Geological Hazard” (Coordinator Prof. João Cabral) and includes about 60 students. Work included the preparation and delivery of 6\*1h lectures + 9\*3h practicals, plus exam writing and marking.

### Student Feedback from “Unit Evaluation Questionnaires 2019/2020” (1= strongly disagree...5= strongly agree)

The lecturer was clear and good at explaining things (1...5,6= DK/NO/N/A)	The lecturer captivated the students' interest for the unit (1...5,6= DK/NO/N/A)	The lecturer answered with clarity to the questions posed by the students (1...5,6= DK/NO/N/A)
 <p data-bbox="284 1816 612 1843">■ 1 ■ 2 ■ 3 ■ 4 ■ 5 ■ DK/NO/N/A</p>	 <p data-bbox="738 1816 1083 1843">■ 1 ■ 2 ■ 3 ■ 4 ■ 5 ■ DK/NO/N/A</p>	 <p data-bbox="1171 1816 1500 1843">■ 1 ■ 2 ■ 3 ■ 4 ■ 5 ■ DK/NO/N/A</p>
The lecturer was punctual and assiduous to teaching activities (1...5,6= DK/NO/N/A)	Overall, I was satisfied with this unit (1...5,6= DK/NO/N/A)	



(55 answers)

[1] **Unit EASC30044 Economic Geology** (Feb 2019 – Jul 2020) at **School of Earth Sciences, University of Bristol (UK)**. This 30-hour unit is part of the 3<sup>rd</sup> Year Undergraduate Geology/Environmental Geoscience degrees and includes about 30 students. Work included the preparation and delivery of 15\*1h lectures + 5\*3h practicals, plus exam writing and marking.

**Student feedback from Bristol University’s Unit Evaluation Questionnaires (UEQs) 2018/2019 and 2019/2020:**

Overall **student feedback score of 4.7 out of 5** (1=worst, 5=best), i.e. **94% of student satisfaction** concerning the teaching of this unit and the performance of the lecturer.

Some comments from students, as written in the UEQs 2018/2019 and 2019/2020:

*"One of the most helpful enthusiastic lecturers I've ever had"*

*"Ricardo was very helpful in lectures & practicals; lectures were very informational"*

*"Ricardo is a good lecturer and provides a lot of support"*

*"Ricardo is a great lecturer and puts in more effort to help and explain than any other lecturer"*

**SUPPORT TO OTHER TAUGHT UNITS AS CO-COORDINATOR:**

[1] **Unit EASC20006 Structural Geology** (Jan – Jul 2020) at **School of Earth Sciences, University of Bristol (UK)**. Development of an experimental tectonics setup (capable of simulating deformation under both compression and extensional regimes) for the teaching of this unit, in addition to student support and exam marking.

**UNITS TAUGHT AS AN ASSISTANT PROFESSOR (FIELD COURSES, PRACTICALS AND THEORETICO-PRACTICALS):**

[11] **EA1300 World of Dynamic Environments** (2021 – Present) at **School of Earth and Environmental Sciences of Cardiff University**. These classes are part of a 40-hour unit for 1<sup>st</sup> Year Undergraduate Geology/Geography students.

[10] **EA3306 Advanced Environmental Geology** (2021 – Present) at **School of Earth and Environmental Sciences of Cardiff University**. These classes are part of a 30-hour unit for 3<sup>rd</sup> Year Undergraduate Geology students.

[9] **Unit EASC30075 Mineral Resources** (Feb 2021) at **School of Earth Sciences, University of Bristol (UK)**. Teaching of a 1-hour lecture on Mineral Exploration techniques and two 2-hours practicals dedicated to the execution of a geological cross-

section on the basis of drill core reports and surface geology. These classes are part of a 30-hour unit for 3<sup>rd</sup> Year Undergraduate Geology/Environmental Geoscience students.

- [8] **Unit EASC20029 Introduction to Field Mapping** (2015) at **School of Earth Sciences, University of Bristol** (UK). Joint supervision/teaching of a 10-day field trip to Coniston (Lake District), for 2<sup>nd</sup> year undergraduate Geology students (coordinator: Dr. Frances Cooper). The field trip is intended to teach students several mapping techniques, leading to the production of a geological map of the assigned area.
- [7] **Unit EASC30022 Independent Field Project** (2008, 2010) at **School of Earth Sciences, University of Bristol** (UK). Joint supervision/teaching of a 1-month-long field trip to map the island of Syros (Greece), for 3<sup>rd</sup> year undergraduate Geology students (coordinator: Prof. John Schumacker). Syros exhibits a structurally complex medium-to-high grade metamorphic terrain and the assistant professor is required to teach structural analysis on ductile and fragile regimes, metamorphic petrology, mapping techniques, etc.
- [6] **Unit EASC30029 Environmental Geoscience Fieldwork** (2008, 2009) at **School of Earth Sciences, University of Bristol** (UK). Joint supervision/teaching of a week-long field trip to study and monitor Nisyros (Greece) volcanic caldera, for final year undergraduate Environmental Geoscience students (coordinator: Prof. Michael Kendall). During the field trip several geophysical methods are deployed, including temperature monitoring; broadband seismometer; seismic, gravimetric, magnetic, self-potential, resistivity and GPS survey. Auxiliary geological mapping.
- [5] **Unit EASC30062 Physical Volcanology** (2008, 2009) at **School of Earth Sciences, University of Bristol** (UK). Teaching of 2-hour practical classes to 3<sup>rd</sup> year undergraduate students on physical volcanology subjects like eruptive styles and products, eruptive columns dynamics, magma rheology, fluid dynamics, volcanostratigraphy, etc (coordinator: Profs. Steve Sparks & Alison Rust).
- [4] **Unit EASC20006 Structural Geology** (2008) at **School of Earth Sciences, University of Bristol** (UK). Teaching of 2-hour practical classes to 2<sup>nd</sup> year undergraduate students on structural geology, including structural analysis using stereonet projections, analysis of outcrop patterns, interpretation of geologic structures from map data, geometrical analysis of folds and faults, etc (coordinator: prof. Donny Hutton).
- [3] **Unit EASC0011 Research Methods** (2009) at **School of Earth Sciences, University of Bristol** (UK). Teaching of 2-hour practical classes to 4<sup>th</sup> year undergraduate students on a variety of research methods including multiple working hypothesis, numerical modelling, analysis of variables, critical judgement, etc (coordinator: Prof. George Helffrich).
- [2] **Unit EASC20042 Applied Geophysics** (2008) at **School of Earth Sciences, University of Bristol** (UK). Teaching of 2-hour practical classes to 2<sup>nd</sup> year undergraduate students on applied geophysics subjects like seismology, gravimetry, magnetics, etc (coordinator: Prof. Michael Kendall). The course includes a 1-day practical class where students are organized into groups and get to deploy a variety of geophysical equipment, followed by data analysis.
- [1] **Unit EASC20017 Geology Field Skills** (2006) at **School of Earth Sciences, University of Bristol** (UK). Joint supervision/teaching of a week-long field trip to the island of Arran (Scotland), for 1<sup>st</sup> year undergraduate students (coordinator: Dr. Howard Falcon-Lang). The field trip is intended to teach students a variety of basic geological techniques like mapping, making of cross sections, structural analysis, rock and mineral identification, palaeo-environment and geomorphological interpretations, etc.

## INVITED LECTURES AS PART OF OTHER TEACHING UNITS AND TRAINING PROGRAMMES:

- [6] **The emergence and evolution of ocean island volcanoes** (July 2017); preparation and delivery of a 1-hour lecture as part of the **2<sup>nd</sup> ENA Workshop/ FCT/IDL Earth Systems Doctoral Training Programme's Summer School** on *Earth-system processes in the Atlantic*, 2-7 July 2017, Terceira Island, Azores.
- [5] **The evolution of ocean island volcanoes on a slow-moving plate: the case of Madeira Island, NE Atlantic** (July 2018); preparation and delivery of a 1-hour lecture as part of the **3<sup>rd</sup> FCT/IDL Earth Systems Doctoral Training Programme's Summer School** on *Earth System interactions: processes and impacts*, 8-14 July 2018, Madeira Island.
- [4] **The evolution of a prominent island shield volcano** (July 2018); preparation and delivery of 1-day field trip as part of the **3<sup>rd</sup> FCT/IDL Earth Systems Doctoral Training Programme's Summer School** on *Earth System interactions: processes and impacts*, 8-14 July 2018, Madeira Island.
- [3] **Oceanic Islands** (May 2016); preparation and delivery of a 1-hour lecture as part of the **FCT/IDL Earth Systems Doctoral Training Programme** series of lectures (Coordinator Prof. Susana Custódio). **Faculdade de Ciências da Universidade de Lisboa (Portugal)**.
- [2] **Vulcanismo: aspectos fundamentais da erupção de 2014/2015 do vulcão do Fogo - Cabo Verde** (May 2017); preparation and delivery of a 1-hour lecture as part of the 1<sup>st</sup> year undergraduate Geology degree Unit "Geologia" (Coordinator Prof. Carla Kullberg). **Faculdade de Ciências da Universidade de Lisboa (Portugal)**.
- [1] **Mineral Exploration Methods** (Feb 2016); preparation and delivery of a 1-hour lecture as part of the unit **EASC30044 Economic Geology** (Coordinator Prof. Frances Cooper). **School of Earth Sciences, University of Bristol (UK)**.

## PRODUCTION OF PEDAGOGICAL AND TEACHING MATERIALS OUTSIDE TAUGHT UNITS:

- [2] Development and production of several analogue experimental tectonics models, capable of both simulations in compression and extension (rifting), for the teaching of structural geology and tectonics and for demonstrations during open/outreach days at School of Earth Sciences, University of Bristol (UK). (2006-2010; 2019). One of these models featured in the **Royal Society Summer Science Exhibition 2009**; 2 other models are being used for the teaching of Structural Geology at Bristol and Leeds.
- [1] Development and production of several analogue experimental geology models for the training of Secondary School Earth Science teachers, under the supervision of Prof. Paulo Fonseca, and under a partnership with IEFPP – Instituto de Emprego e Formação Profissional (Portugal). (2003-2005).

## SUPERVISIONS:

### POSTDOCTORAL RESEARCHERS

#### [6] Dr. Sara Rodrigues

Project title: *Unlocking the megatsunami deadlock: using the near-source impacts to constrain tsunami generation by volcanic flank collapses (numerical modelling)*

Main supervisor: Dr. Ricardo Ramalho (40%); co-supervisors: Dr. Rachid Omira (60%)

Funding: FCT-funded Project PTDC/CTA-GEO/28588/2017 – UNTLed (PI: Ricardo Ramalho)

Host Institution: Instituto Dom Luiz/FCUL, Portugal

Dates: 2021–2022

**[5] Dr Manuel Teixeira**

Project title: *Unlocking the megatsunami deadlock: using the near-source impacts to constrain tsunami generation by volcanic flank collapses (numerical modelling)*

Main supervisor: Dr. Ricardo Ramalho (60%); co-supervisors: Dr. Ru Quartau (40%)

Funding: FCT-funded Project PTDC/CTA-GEO/28588/2017 – UNTleD (PI: Ricardo Ramalho)

Host Institution: Instituto Dom Luiz/FCUL, Portugal

Dates: 2021–2022

**[4] Dr. Elodie Lebas**

Project title: *Unlocking the megatsunami deadlock: using the near-source impacts to constrain tsunami generation by volcanic flank collapses (geological evidence)*

Main supervisor: Dr. Ricardo Ramalho (100%)

Funding: FCT-funded Project PTDC/CTA-GEO/28588/2017 – UNTleD (PI: Ricardo Ramalho)

Host Institution: Instituto Dom Luiz/FCUL, Portugal

Dates: Jun – Sep 2020

**[3] Dr. Elodie Lebas**

Project title: *The tsunamigenic gravitational flank collapse of Fogo volcano, Cape Verde Islands*

Main supervisor: Dr. Sebastian Krastel (70%); co-supervisor: Dr. Ricardo Ramalho (30%)

Funding: DFG-funded RV Meteor Cruise (PI: Sebastian Krastel)

Host Institution: University of Kiel (Germany)

Dates: 2019–2020

**[2] Dr. Stéphanie Dumont**

Project title: *Magma transfer to the surface at intraplate stratovolcanoes: from a geophysical characterization to a monitoring perspective*

Main supervisor: Dr. Rui Fernandes (40%); co-supervisors: Dr. Ricardo Ramalho (30%) & Dr. João Fonseca (30%)

Funding: FCT-funded Fellowship SFRH/BPD/117714/2016

Host Institution: Universidade da Beira Interior, Portugal

Dates: 2017–2022

**[1] Dr. Ana C. Rebelo**

Project title: *Living on the edge: rhodolith formation on reefless volcanic island shelves*

Main supervisor: Dr. Rui Quartau (40%); co-supervisors: Dr. Ricardo Ramalho (40%) & Prof. Markes Johnson (20%)

Funding: FCT-funded Fellowship SFRH/BPD/117810/2016

Host Institution: Instituto Hidrográfico, Portugal

Dates: 2017–2022

## PHD STUDENTS

### [1] Miss Mariana Andrade

PhD in Geology

Project title: *Volcanic hazard at hydraulically-charged Ocean Island Volcanoes – the case of Flores Island (Azores)*

Main supervisor: Dr. Ricardo Ramalho (50%); co-supervisors: Dr. Armand Hernandez (CSIC/ICTJA, 25%) & Dr. Adriano Pimentel (IVAR/University of Azores, 25%)

Funding: FCT-funded PhD Studentship SFRH/BD/138261/2018

University: Faculdade de Ciências da Universidade de Lisboa, Portugal & Geociencias Barcelona (GEO3BCN - CSIC), SPAIN

Dates: 2018–2022

## MSC STUDENTS

### [4] Mr Alberto Bartesaghi

MSci in Geology

Project title: *Investigating the advancement and retreat of coastal lava deltas at oceanic islands using an onshore/offshore approach.*

Main supervisor: Dr. Ricardo Ramalho (100%)

University: School of Earth and Environmental Sciences, Cardiff University, UK

Date: 2021-2022

### [3] Mr Owen Rees

MSci in Geology

Project title: *Quantifying the impact of coastal erosion on a lava delta from Pico, Azores.*

Main supervisor: Dr. Ricardo Ramalho (100%)

University: School of Earth and Environmental Sciences, Cardiff University, UK

Date: 2021-2022

### [2] Miss Heidi Brice

MSci in Geology

Project title: *Landslide hazard at ocean island volcanoes: the case of Tope de Coroa (Santo Antão, Cape Verde Islands)*

Main supervisor: Dr. Ricardo Ramalho (80%); co-supervisors: Dr Jeremy Phillips (20%)

University: School of Earth Sciences, University of Bristol, UK

Date: 2020-2021

### [3] Miss Ana Teves

MSc in Geography

Project title: *Historical lava flows from Fogo Volcano: high-resolution mapping and geomorphological analysis*

Main supervisor: Dr. Gonçalo Vieira (50%); co-supervisors: Dr. Ricardo Ramalho (50%)



University: Instituto de Geografia e Ordenamento do Território, Universidade de Lisboa, Portugal

Dates: 2017–2018

**[2] Mr Carlos Melo**

MSc in Geology

Project title: *Origins and evolution of coastal talus-platforms (fajãs) with lagoon systems*

Main supervisor: Dr. João Luis Gaspar (20%); co-supervisors: Dr. Ricardo Ramalho (80%)

University: Faculdade de Ciências e Tecnologia, Universidade dos Açores, Portugal

Dates: 2014–2016

This work led to the paper *Melo et al. (2018) Genesis and morphological evolution of coastal talus-platforms (fajãs) with lagoons: the case study of the newly-formed Fajã dos Milagres (Corvo Island, Azores). Geomorphology 310, 138–152.*

**[1] Miss Katrien Spieker**

MSc in Geophysics

Project title: *Receiver functions of Azores and Morocco*

Main supervisor: Prof. Christine Thomas (70%); co-supervisors: Dr. Ricardo Ramalho (30%)

University: University of Münster, Germany

Dates: 2011–2012

This work led to the paper *Spieker et al. (2018) Fine-scale crustal structure of the Azores Islands from teleseismic receiver functions. Geophysics Journal International 213, 824–835.*

**UNDERGRADUATE STUDENT PROJECTS**

**[1] Miss Esther Blome**

BSc Geophysics, final year project

Project title: *Gravity over the Azores*

Main supervisor: Dr. Jörg Schmazl (80%); co-supervisors: Prof. Christine Thomas (10%) & Dr. Ricardo Ramalho (10%)

University: University of Münster, Germany

Date: 2011

**OTHER STUDENT SUPERVISION:**

[3] Co-supervision (informal) of PhD student Alessandro Ricchi (U. of Bologna, 2016–2019) on the work leading to the paper *Ricchi et al. (2018) Marine terrace development on reefless volcanic islands: New insights from high-resolution marine geophysical data offshore Santa Maria Island (Azores Archipelago). Marine Geology 406, 42–56.*

[2] Co-supervision (informal) of PhD student Ana Rebelo (U. of Azores, 2012–2016) on the work leading to the paper *Rebelo et al. (2015) Rocking around a volcanic island shelf: neogene rhodolith beds from Malbusca, Santa Maria Island (Azores, NE Atlantic). Facies, 62:22.*

- [1] Co-supervision (informal) of PhD student Ricardo Meireles (U. of Azores, 2011–2013) on the work leading to the paper *Meireles et al. (2013) Depositional processes on oceanic island shelves - evidence from storm-generated Neogene deposits from the mid-North Atlantic. Sedimentology 60, 1769–1785.*

**OTHER PROFESSIONAL SUPERVISION:**

- [2] Supervision and training of 4 geologists (including MSc students from Universidade de Évora) in exploration geology during their internship at Iberian Resources Ltd.

Date: 2005

- [1] Supervision and training of 6 technicians in exploration geology techniques at Iberian Resources Ltd.

Date: 2005

## Scientific Profile

**OVERVIEW:** I am currently a Lecturer and Researcher at the School of Earth and Environmental Sciences, Cardiff University, with honorary/adjunct research positions at Instituto Dom Luiz and Department of Geology, FCUL (University of Lisbon) and Lamont-Doherty Earth Observatory of Columbia University (USA). My scientific career spanned 4 countries (Portugal, UK, Germany and USA). I was the recipient of the Springer Thesis Award 2011 and I have authored over 58 scientific publications (>85% of which were published in the first quartile), achieving a *h-index* of 20 since I was awarded my PhD in 2010, and yielding an average of 85 citations per year and 19.5 citations per article. As PI, Co-PI, or Co-I, I have secured (or helped securing) over €2M in highly competitive national and international funding calls, including a FP7 Marie Curie International Outgoing Fellowship, 3 FCT grants as PI or Co-PI, and 2 FCT Fellowships.

### BIBLIOMETRIC PARAMETERS:

#### ISI Web of Science (Publons)

<i>h-index: 20</i>	<i>Total citations: 1112</i>	<i>Publications: 57</i>
<i>Average citations per year: 85.5</i>	<i>Average citations per article: 19.5</i>	<i>Average citations per first-authored article: 40.1</i>

#### Scopus

<i>h-index: 19</i>	<i>Total citations: 1127</i>	<i>Publications: 58</i>
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#### Google Scholar

<i>h-index: 22</i>	<i>Total citations: 1564</i>	<i>Publications: 98</i>
<i>I10-index: 38</i>		

### Life-time publications summary (count) according to the following categories:

<b>Books</b>	<b>1</b>
<b>Book Chapters</b>	<b>5</b>
<b>Papers submitted or under review</b>	<b>3</b>
<b>Papers in international refereed journals:</b>	<b>57</b> (including 1 Nature Geoscience, 1 Science Advances, 3 Earth-Science Reviews, 1 Biological Reviews, 1 Quat. Science Reviews, 4 EPSL, 1 GSA Bull, 1 JGS, 1 G-cubed, 7 Marine Geology, 3 JVGR, 5 P3...)
<b>Geological maps</b>	<b>4</b>
<b>Technical Reports</b>	<b>3</b>
Papers in other refereed journals or conference proceedings:	4
<b>Abstracts in international and national conferences</b>	<b>65</b>

## PUBLICATIONS:

(Impact Factor refers to Journal Citation Reports - ISI Web of Knowledge 2020)

### BOOKS

[1] **Ramalho, R.S.** (2011) Building the Cape Verde Islands. Springer. 1st Edition. 262 p.

<https://www.springer.com/gp/book/9783642191022>

**Citations: WoS: 51**

This work yielded over 2,470 downloads since it was published in 2011.

### BOOK CHAPTERS

[5] Ávila, S., **Ramalho, R.S.**, Habbermann, J., Titschack, J. (2018) The marine fossil record at Santa Maria Island (Azores), in Küppers, U. & Beyer, C. (Eds.) Volcanoes of the Azores. Springer-Verlag, Berlin, special volume.

<https://doi.org/10.1007/978-3-642-32226-6>

[4] Johnson, M., Ledesma-Vasquez, J., **Ramalho, R.S.**, Marques da Silva, C., Rebelo, A., Santos, A., Baarli, G., Mayoral, E., Cachão, M. (2017) Taphonomic Range of Modern and Fossil Rhodolith Beds: Macaronesian Realm (North Atlantic Ocean), in Riosmena-Rodriguez, R., Kendrick, G., & Aguirre, J. (Eds.), Rhodolith/maerl Beds: A Global Perspective. Springer-Verlag, Berlin, special volume.

<https://doi.org/10.1007/978-3-319-29315-8>

[3] Jefferson, A., Ferrier, K., Perron, T.J., **Ramalho, R.S.** (2014) Controls on the hydrological landscape evolution of shield volcanoes and volcanic ocean islands, in Harpp, K.S., Mittelstaedt, E., d'Ozouville, N. & Graham, D.W. (Eds.), The Galápagos: A Natural Laboratory for the Earth Sciences, Geophysical Monograph 204, 1st edition, John Wiley & Sons, pp. 185–213.

<https://doi.org/10.1002/9781118852538.ch10>

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- [1] **Ramalho, R.S.**, Madeira, J., Fonseca, P., Brum da Silveira, A., Prada, S., Rodrigues, C. (2005). Tectonics of Ponta de São Lourenço, Madeira Island. *Cadernos do Laboratório Xeológico de Laxe* 30, 223–234.  
<http://www.iux.es/?page=15&arts=66&id=13>.  
**Impact Factor: 2.50 (ResearchGate Impact Factor)**

## GEOLOGICAL MAPS & PUBLISHED DATASETS:

- [4] Vieira, G., Mora, C., Pina, P., **Ramalho, R.S.**, Fernandes, R. (2020). Digital surface model and orthomosaic of the Chã das Caldeiras lava fields (Fogo Island, Cape Verde, December 2016) (Version 1.0.0) [Data set]. Zenodo. DOI: 10.5281/zenodo.4035038
- [3] Brum da Silveira, A., Madeira, J., **Ramalho, R.S.**, Fonseca, P.E., Prada, S. (2010) Carta Geológica da Região Autónoma da Madeira, Folha A da Ilha da Madeira 1:50 000 (Geological map of Madeira Island at 1:50 000 scale, sheet A). Joint edition by GRM/SRA (Government of the Autonomous Region of Madeira), University of Madeira, and LATTEX/IDL – University of Lisbon.

- [2] Brum da Silveira, A., Madeira, J., **Ramalho, R.S.**, Fonseca, P.E., Prada, S. (2010) Carta Geológica da Região Autónoma da Madeira, Folha B da Ilha da Madeira 1:50 000 (Geological map of Madeira Island at 1:50 000 scale, sheet B). Joint edition by GRM/SRA, University of Madeira, and LATTEX/IDL – University of Lisbon.
- [1] Madeira, J.; Mata, J.; Mourão, C.; Brum da Silveira, A.; Martins, S.; **Ramalho, R.S.**; Hoffmann, D. (2010) Geological map of Brava Island (Cape Verde), at 1/25 000 scale. Published as Electronic Supplementary Material of Madeira et al., J. Volcanol. Geotherm. Res. 196, 219–235.

## TECHNICAL REPORTS

- [3] Third report associated to the implementation of “Rota dos Fósseis” (Trail of the fossils) of Santa Maria Island, submitted to Secretaria Regional do Turismo, Governo da Região Autónoma dos Açores, November 2014
- [2] Second report associated to the implementation of “Rota dos Fósseis” (Trail of the fossils) of Santa Maria Island, submitted to Secretaria Regional do Turismo, Governo da Região Autónoma dos Açores, November 2014
- [1] Brum da Silveira, A., Madeira, J., **Ramalho, R.S.**, Fonseca, P.E., Prada, S. (2010) Notícia Explicativa da Carta Geológica da Região Autónoma da Madeira, Folha B da Ilha da Madeira 1:50 000 (Geological map of Madeira Island at 1:50 000 scale, sheet B). Joint edition by GRM/SRA, University of Madeira, and LATTEX/IDL – University of Lisbon. 47 pp. ([http://www.academia.edu/3623453/NOTICIA\\_EXPLICATIVA\\_DA\\_CARTA\\_GEOLOGICA\\_DA\\_ILHA\\_DA\\_MADEIRA\\_na\\_escala\\_1\\_50.000\\_Folhas\\_A\\_e\\_B](http://www.academia.edu/3623453/NOTICIA_EXPLICATIVA_DA_CARTA_GEOLOGICA_DA_ILHA_DA_MADEIRA_na_escala_1_50.000_Folhas_A_e_B)).

## INVITED KEYNOTE TALKS AT NATIONAL AND INTERNATIONAL MEETINGS

- [5] **Ramalho R.S.\*** (2019) Mid-Ocean Ridge Islands and Seamounts: current perspectives and future challenges. 1<sup>st</sup> workshop of the InterRidge Working Group on Mid-Ocean Ridge Islands and Seamounts, 19-21 September, Lisbon, Portugal. **INVITED KEYNOTE TALK.** (Oral presentation).
- [4] **Ramalho, R.S.\*** (2012). A evolução de ilhas oceânicas em ambiente de placa estacionária e as suas implicações na compreensão na dinâmica de pontos quentes. 46<sup>th</sup> Brazilian Congress on Geology/1<sup>st</sup> Geological Congress of the Portuguese-speaking Countries, 30 September - 5 October, Santos, Brazil. **INVITED KEYNOTE TALK.** (Oral presentation).
- [3] **Ramalho, R.S.\*** (2012). The evolution of ocean island volcanoes in a stationary plate environment and its implications concerning hotspot dynamics. EGU General Assembly, 22-27 April, Vienna, Austria. **INVITED KEYNOTE TALK.** (Oral presentation).
- [2] **Ramalho, R.S.\*** (2011). Processes of coastal evolution in oceanic islands: a complex interplay between volcanism, erosion, sedimentation and biogenic production. 8th International Workshop of Paleontology in Atlantic Islands, 14-23 July, Santa Maria, Azores, Portugal. **INVITED KEYNOTE TALK.** (Oral presentation).

- [1] **Ramalho, R.S.\*** (2009). Island freeboard reconstructions using the geological record. 6<sup>th</sup> International Workshop of Paleontology in Atlantic Islands, 19-28 June, Santa Maria, Azores, Portugal. **INVITED KEYNOTE TALK**. (Oral presentation).

## CONFERENCE ABSTRACTS AND SHORT PAPERS

(\* presenter)

- [60] Andrade, M.\*, **Ramalho, R.S.**, Pimentel, A., Hernandez, A., Kutterolf, S., Benavente, M., Suez, A., Giralt, S. (2020) Constraints on the Holocene volcanic history of Flores Island (Azores): insights from lacustrine and on land records. Volcanic and Magmatic Studies Group (Geol. Soc. London) Annual Meeting.
- [59] Andrade, M.\*, **Ramalho, R.S.**, Pimentel, A., Hernandez, A., Kutterolf, S., Benavente, M., Suez, A., Giralt, S. (2020) A rapid transition from strombolian to phreatomagmatic eruption – The case of Flores Island (Azores). IAVCEI "Citizens on Volcanoes" conference, Heraklion, Greece – postponed to 2021 due to COVID19.
- [58] Klein, E.\*, Lebas, E., **Ramalho, R.S.**, Barret, R., Kutterolf, S., Krastel, S. (2020) Evidence for the multi-phase nature of the Monte Amarelo flank collapse based on reflection seismic data offshore Fogo, Cape Verde. Deutschen Geophysikalischen Gesellschaft 2020, 23-26 March, München, Germany. (Oral presentation).
- [57] Caldeira, R.\*, Mata, J., Madeira, J., **Ramalho, R.S.** (2020) Insights from ultramafic nodules on the plumbing system of the Fogo Island 2014-2015 Eruption (Cape Verde). EGU General Assembly, 3–8 April, Vienna, Austria. (Oral presentation).
- [56] Lebas, E.\*, Klein, E., Barret, R., **Ramalho, R.S.**, Kutterolf, S., Krastel, S. (2020) Internal architecture of the two-fold nature Monte Amarelo volcanic flank-collapse deposit offshore Fogo Island in the southern Cape Verdean Archipelago. EGU General Assembly, 3–8 April, Vienna, Austria. (Oral presentation).
- [55] Melo, C.\*, Madeira, J., **Ramalho, R.S.**, Rebelo, A., Rasser, M., Gonzalez, E., Uchman, A., Madeira, P., Rólan, E., Silva, L., Cachão, M., da Silva, C., Ávila, S. (2020) Last Interglacial fossiliferous sequences from Santiago Island (Cabo Verde Archipelago): the palaeoecology of Nossa Senhora da Luz bay, a rare example of a protected bay in volcanic oceanic islands. EGU General Assembly, 3–8 April, Vienna, Austria. (Oral presentation).
- [54] Rebelo, A.C.\*, Rasser M.W., Johnson M.E., **Ramalho R.S.**, Quartau, R., Ávila, S.P. (2019) Formation, transport and deposition of rhodoliths on reefless insular shelves of the Azores volcanic Archipelago, Portugal. IAS 2019 - 34<sup>th</sup> Meeting of Sedimentology, 10-13 September, Rome, Italy. (Oral presentation).
- [53] Rebelo A.C.\*, Rasser M.W., Johnson, M.E., **Ramalho R.S.**, Quartau, R., Ávila S.P. (2019) Pleistocene coralline algal frameworks from the Azores (NE Atlantic). 12<sup>th</sup> International Symposium on Fossil Algae, 16-24 September, Lucknow, India. (Oral Presentation).
- [52] Mitchell, N.\*, Zhao, Z., Quartau, R., **Ramalho, R.S.** (2019) Coastal erosion rates of lava deltas around oceanic islands. EGU General Assembly, 7–12 April, Vienna, Austria. (PICO).
- [51] **Ramalho, R.S.\***, Quartau, R., Madeira, J., Rebelo, A.C. (2018) The geology of Formigas Islets and its significance to our comprehension of the Terceira Rift in the Azores Triple Junction. AGU Fall Meeting, 10–14 December, Washington DC, USA. (Poster).

- [50] Quartau, R.\*, Trenhaile, A.S., **Ramalho, R.S.**, Mitchell, N.C. (2018) The role of subsidence in shelf widening around ocean island volcanoes: Insights from observed morphology and modeling. AGU Fall Meeting, 10– 14 December, Washington DC, USA. (Poster).
- [49] **Ramalho, R.S.\***, Quartau, R., Madeira, J., Rebelo, A.C. (2018) The geology of Formigas Islets and its significance to the comprehension of the Terceira Rift. 10<sup>th</sup> Portuguese Nacional Geological Congress. 10–13 July, Ponta Delgada, Portugal. (Oral presentation).
- [48] **Ramalho, R.S.\***, Helffrich, G., Thomas, C., Quartau, R., Madeira, J. (2018) The geological evolution of Flores island in the Azores Archipelago: a product of multi-stage volcanism and a complex history of vertical movements. 10<sup>th</sup> Portuguese Nacional Geological Congress. 10–13 July, Ponta Delgada, Portugal. (Oral presentation).
- [47] **Ramalho, R.S.\***, Helffrich, G., Madeira, J., Cosca, M., Thomas, C., Quartau, R., Hipólito, A., Rovere, A., Hearty, P., Ávila, S. (2018), The geological evolution of Santa Maria Island in the Azores Archipelago: a review. 10<sup>th</sup> Portuguese Nacional Geological Congress. 10–13 July, Ponta Delgada, Portugal. (Oral presentation).
- [46] Quartau, R.\*, **Ramalho, R.S.**, Madeira, J., Santos, R., Rodrigues, A., Roque, C., Carrara, G., da Silveira, A.B. (2018) The submarine morphology of Madeira Archipelago: insights into the role of gravitational, erosional and sedimentary processes in shaping the flanks of volcanic ocean islands. 10<sup>th</sup> Portuguese Nacional Geological Congress. 10–13 July, Ponta Delgada, Portugal. (Oral presentation).
- [45] Quartau, R.\*, **Ramalho, R.S.**, Madeira, J., Rivera, J., Orejas, C., Tempera, F., Afonso, P., Ricchi, A. (2018) The Formigas volcanic edifice and its relationship with the onset of Terceira Rift. 10<sup>th</sup> Portuguese Nacional Geological Congress. 10–13 July, Ponta Delgada, Portugal. (Oral presentation).
- [44] **Ramalho, R.S.\***, Helffrich, G., Madeira, J., Cosca, M., Thomas, C., Quartau, R., Hipólito, A., Rovere, A., Hearty, P., Ávila, S. (2018) Emergence and evolution of Santa Maria Island (Azores). EGU General Assembly, 8–13 April, Vienna, Austria. (PICO).
- [43] **Ramalho, R.S.\***, Quartau, R., Ricchi, A., Madeira, J., Cruz, J., (2018) Evidence for late Pleistocene volcanism at Santa Maria Island, Azores? EGU General Assembly, 8–13 April, Vienna, Austria. (PICO).
- [42] Quartau, R.\*, **Ramalho, R.S.**, Rivera, J., Orejas, C., Tempera, F., Afonso, P., Ricchi, A. (2018) The morphology of the Formigas Bank and its significance to the onset of Terceira Rift. EGU General Assembly, 8–13 April, Vienna, Austria. (PICO).
- [41] Quartau, R.\*, Trenhaile, A., **Ramalho, R.S.**, Mitchell, N. (2018) The role of subsidence in shelf widening around ocean island volcanoes: Insights from observed morphology and modeling. EGU General Assembly, 8–13 April, Vienna, Austria. (Poster).
- [40] Quartau, R.\*, **Ramalho, R.S.**, Madeira, J., Santos, R., Rodrigues, A., Roque, C., Carrara, G., da Silveira, A.B. (2018) Gravitational, erosional and sedimentary processes on volcanic ocean islands: Insights from the submarine morphology of Madeira archipelago. EGU General Assembly, 8–13 April, Vienna, Austria. (Poster).
- [39] Ricchi, A.\*, Quartau, R., **Ramalho, R.S.**, Romagnoli, C., Casalbore, D., (2018) Santa Maria Island's (Azores Archipelago) geological evolution: new insights from high-resolution marine geophysical data. EGU General Assembly, 8–13 April, Vienna, Austria. (PICO).



- [38] Melo, C., **Ramalho, R.S.\***, Quartau, R., Hipólito, A., Gil, A., Borges, P., Cardigos, F., Ávila, S., Madeira, J., Gaspar, J., (2018) Genesis and morphological evolution of coastal talus-platforms (fajãs) with lagoons: the case study of the recently-formed Fajã dos Milagres (Corvo Island, Azores). EGU General Assembly, 8–13 April, Vienna, Austria. (Poster).
- [37] Quartau, R.\*, **Ramalho, R.S.**, Madeira, J., Santos, R., Rodrigues, A., Roque, C., Carrara, G., da Silveira, A.B. (2017) Gravitational, erosional and sedimentary processes on volcanic ocean islands: Insights from the submarine morphology of Madeira archipelago. AGU Fall Meeting, 11–15 December, New Orleans, USA. (Oral presentation).
- [36] **Ramalho, R.S.\***, Madeira, J., Hipólito, A., Quartau, R., (2017) Evidence for megatsunami inundation on SE Santiago Island (Cape Verde) – the field of megaclasts of Ponta do Lobo. 5<sup>th</sup> International Tsunami Field Symposium, 3-7 September, Lisbon, Portugal. (Oral presentation).
- [35] **Ramalho, R.S.\***, Madeira, J., Costa, P.M., Freitas, M.C., Andrade, C.F., (2017) Fields of stranded megaclasts as potential evidence for tsunami inundation in Sal Island (Cape Verde). 5<sup>th</sup> International Tsunami Field Symposium, 3-7 September, Lisbon, Portugal. (Poster)
- [34] Madeira, J.\*, **Ramalho, R.S.**, Hipólito, A., (2017) Tsunami inundation of Santiago Island (Cape Verde): distribution and characterization of the correlative deposits. 5<sup>th</sup> International Tsunami Field Symposium, 3-7 September, Lisbon, Portugal. (Poster).
- [33] Madeira, J.\*, Mata, J., Moreira, M., **Ramalho, R.S.**, (2017) Tsunami deposits from the Island of Maio (Cape Verde): paleocurrent markers and basal erosion features. 5<sup>th</sup> International Tsunami Field Symposium, 3-7 September, Lisbon, Portugal. (Oral presentation).
- [32] Ávila, S.\*, Paris, R., **Ramalho, R.S.**, Rolan, E., Gonzalez, E.M., Melo, C.S., Cordeiro, R., Madeira, J., (2017) Glacial-age tsunami deposits prove the tropical-ward geographical range expansion of marine cold-water species. 5<sup>th</sup> International Tsunami Field Symposium, 3-7 September, Lisbon, Portugal. (Oral presentation).
- [31] Omira, R.\*, Quartau, R., **Ramalho, R.S.**, Ramalho, I., Baptista, M.A., Terrinha, P., Madeira, J., (2017) Tsunami Hazard from Non-Seismic Sources in the NE Atlantic. International Tsunami Symposium 2017, 21-25 August, Bali-Flores, Indonesia. (Oral presentation).
- [30] Fernandes R.\*, Dumont S., Madeira J., Mata J., Bos M., Carrilho F., Silveira G., **Ramalho, R.S.**, Candeias C., Fonseca J. and the FIRE team members (2017) A Multidisciplinary approach for studying an active volcano: the example of Fogo volcano (Cape Verde). IAVCEI Scientific Assembly, 14-18 August, Portland, USA. (Oral presentation).
- [29] Mata, J.\*, Martins, S., Mattielli, N., Madeira, J., Caldeira, R., **Ramalho, R.S.**, Silva, P., Moreira, M. (2017) The 2014 Fogo eruption (Cape Verde): constraints on the short-term geochemical evolution and plumbing system. Goldschmidt 2017. 13-18 July, Paris, France (Oral Presentation).
- [28] Vieira, G.\*, Pina, P., Fernandes, R., Almeida, P., Dumont, S., Martins, B., Candeias, C., Oliveira, C., **Ramalho, R.S.** (2017) Very high-resolution aerophotogrametric survey of the 2014/2015 lava flow field of Fogo volcano (Cape Verde). UAS4Enviro2017 - Small Unmanned Aerial Systems for Environmental Research, 28–30 June, Vila Real, Portugal. (Oral presentation).
- [27] **Ramalho, R.S.\*** (2017) The conundrum of ocean island uplift. 6<sup>th</sup> meeting of the Regional Commission for the Atlantic Neogene Stratigraphy. 10-13 July, Ponta Delgada, Azores, Portugal. (Oral presentation).

- [26] **Ramalho, R.S.\***, Helffrich, G., Madeira, J., Cosca, M., Thomas, C., Quartau, R., Hipólito, A., Rovere, A., Hearty, P., Ávila, S. (2017) Emergence and evolution of Santa Maria Island (Azores). 6<sup>th</sup> meeting of the Regional Commission for the Atlantic Neogene Stratigraphy. 10-13 July, Ponta Delgada, Azores, Portugal. (Oral presentation).
- [25] Ricchi, A.\*, Quartau, R., **Ramalho, R.S.**, Romagnoli, C., Casalbore, D. (2017) Marine terraces development on reefless volcanic islands: new insights from high-resolution marine geophysical data from Santa Maria. 6<sup>th</sup> meeting of the Regional Commission for the Atlantic Neogene Stratigraphy. 10-13 July, Ponta Delgada, Azores, Portugal. (Oral presentation).
- [24] Quartau, R.\*, **Ramalho, R.S.**, Rivera, J., Tempera, F., Orejas, C. Afonso, P., Ricchi, A. (2017) The role of volcanism, tectonics and erosion in the development of Formigas Bank (Azores, NE Atlantic). 6<sup>th</sup> meeting of the Regional Commission for the Atlantic Neogene Stratigraphy. 10-13 July, Ponta Delgada, Azores, Portugal. (Oral presentation).
- [23] Ávila, S.P.\*, Paris, R., **Ramalho, R.S.**, Rolán, E., Martín González, E., Melo, C.S., Cordeiro, R., Madeira, J. (2017) Glacial age megatsunami fossil deposits in volcanic oceanic islands: a biological point of view. 6<sup>th</sup> meeting of the Regional Commission for the Atlantic Neogene Stratigraphy. 10-13 July, Ponta Delgada, Azores, Portugal. (Oral presentation).
- [22] Rebelo A.C.\*, Quartau R., **Ramalho R.S.**, Johnson, M.E. (2017) Rhodoliths and associated sediments around reefless volcanic island shelves (Azores and Madeira Archipelagos, NE Atlantic). 6<sup>th</sup> meeting of the Regional Commission for the Atlantic Neogene Stratigraphy. 10-13 July, Ponta Delgada, Azores, Portugal. (Oral presentation).
- [21] Omira, R.\*, **Ramalho, R.S.**, Quartau, R., Ramalho, I., Madeira, J., Baptista, M.A. (2017) The Fogo's Collapse-triggered Megatsunami: Evidence-calibrated Numerical Simulations of Tsunamigenic Potential and Coastal Impact. EGU General Assembly, 23-28 April, Vienna, Austria. (Oral presentation).
- [20] Spieker, K.\*, Rondenay, S., **Ramalho, R.S.**, Thomas, C., Helffrich, G. (2016) Fine-scale crustal structure of the Azores Islands from teleseismic receiver functions. AGU Fall Meeting 12-16 December, San Francisco, USA. (Oral presentation).
- [19] Costa, P.J.M.\*, Baptista, M.A., Wronna, M., Omira, R., Quartau, R.; **Ramalho, R.S.**, Andrade, C., Dawson, S., Dourado, F. (2016) Registo de tsunamis no Atlântico. 48<sup>th</sup> Brazilian Congress on Geology. 9-13 October, Porto Alegre, Brazil.
- [18] Madeira, J.\*, **Ramalho, R.S.**, Hipólito, A., Mata, J., Moreira, M., Andrade, C., Freitas, M.C., Ferrer, M., Gozalez de Vallejo, L., Gaspar, J.L. (2016) Urban risk from tsunami hazard at volcanic oceanic islands: examples from Macaronesia. The International Conference on Urban Risks 2016, 30 June - 2 July, Lisbon, Portugal. (Oral presentation).
- [17] Spieker, K.\*, Rondenay, S., **Ramalho, R.S.**, Thomas, C., Helffrich, G. (2016) Evidence for magmatic underplating under the Azores Islands from P-wave receiver functions. EGU General Assembly, 17-22 April, Vienna, Austria. (Oral presentation).
- [16] **Ramalho, R.S.\***, Winckler, G., Madeira, J., Helffrich, G., Hipólito, A., Quartau, R., Adena, K., Schaefer, J., (2015). Hazard potential of volcanic flank collapses raised by new megatsunami evidence, AGU Fall Meeting 14-18 December, San Francisco, USA. (Oral presentation).
- [15] **Ramalho, R.S.\***, Winckler, G., Madeira, J., Helffrich, G., Hipólito, A., Quartau, R., Adena, K., Schaefer, J., (2015). Hazard potential of volcanic flank collapses raised by new megatsunami evidence, Arthur Holmes Meeting, tsunami Hazards and Risks: Using the Geological Record, Geological Society of London, 25th September, London, UK. (Poster).

- [14] Quartau, R.\* , Mitchell, N.C., Hipólito, A., **Ramalho, R.S.**, Tempera, F., Roque, C. (2015) The morphology of insular shelves as a key for understanding the geological evolution of volcanic islands: examples from the Azores Archipelago. VIII Symposium on the Atlantic Iberian Margin, 21-23 September, Malaga, Spain. (Oral presentation).
- [13] **Ramalho, R.S.\***, Helffrich, G., Madeira, J., Cosca, M., Quartau, R., Thomas, C., Hipólito, A., Ávila, S., (2014). The emergence and evolution of Santa Maria Island (Azores) - the conundrum of uplifting islands revisited. AGU Fall Meeting 15-19 December, San Francisco, USA. (Poster).
- [12] Eisele, S.\* , Freundt, A., Kutterolf, S., **Ramalho, R.S.** (2014) The long-living Cao Grande magmatic system on Santo Antão, Cape Verde Islands? A revised model. AGU Fall Meeting, 15-19 December, San Francisco, USA. (Oral presentation).
- [11] Johnson, M.E.\* , Baarli, G., Cachão, M., Ledesma-Vasquez, J., Mayoral, E., **Ramalho, R.S.**, Santos, A., da Silva, C.M. (2014) Taphonomy and sedimentary dynamics of modern and fossil rhodolith beds from North Atlantic islands. 7<sup>th</sup> International Meeting on Taphonomy and Fossilization, 10-13 September, Ferrara, Italy. (Oral presentation).
- [10] **Ramalho, R.S.\***, Helffrich, G., Thomas, C., Quartau, R. (2014). The volcano-stratigraphic evolution of Flores Island in the Azores Archipelago. 1<sup>st</sup> International Workshop on Volcano Geology. 7-11 July, Funchal, Madeira, Portugal. (Oral presentation).
- [9] **Ramalho, R.S.\***, Brum da Silveira, A., Fonseca, P., Madeira, J. Cosca, M., Cachão, M., Fonseca, M., Prada, S. (2014). The emergence of volcanic oceanic islands on a slow-moving plate: the example of Madeira Island, NE Atlantic. 1<sup>st</sup> International Workshop on Volcano Geology. 7-11 July, Funchal, Madeira, Portugal. (Oral presentation).
- [8] **Ramalho, R.S.\***, Madeira, J., Helffrich, G., Schaefer, J., Winckler, G., Quartau, R., Adena, K. (2013). Evidence for a Mega-Tsunami Generated by Giant Flank Collapse of Fogo Volcano, Cape Verde, AGU Fall Meeting 9-13 December. San Francisco, USA. (Poster).
- [7] Adena, K.\* , Elliott, T., **Ramalho, R.S.** (2013).  $^{238}\text{U}$ - $^{230}\text{Th}$  and  $^{235}\text{U}$ - $^{231}\text{Pa}$  Disequilibria from the Island of Fogo, Cape Verde. Goldschmidt, 25-30 August, Florence, Italy. (Oral presentation).
- [6] Eisele, S.\* , Freundt, A., Kutterolf, S., **Ramalho, R.S.** (2013). The phonolitic Cão Grande Plinian volcanism on Santo Antão, Cape Verde Islands: When, Where, How. IAVCEI Scientific Assembly, 20-24 July, Kagoshima, Japan. (Oral presentation).
- [5] **Ramalho, R.S.\***, Helffrich, G., Cosca, M., Vance, D., Hoffmann, D., Schmidt, D.N. (2011). Using Island Freeboard to track Dynamic Topography on the Cape Verde Hotspot Archipelago, Dynamic Topography: a key surface record of deep Earth processes, 1-2 September. GSL. London, UK. (Oral presentation).
- [4] **Ramalho, R.S.\***, Quartau, R., Trenhaile, A., Helffrich, G., Madeira, J., Victria, S., Schmidt, D.N. (2011). Why have the old Cape Verde Islands remained above sea-level? Insights from field data and wave erosion modeling, AGU Chapman Conference “The Galápagos as a laboratory for the Earth Sciences”, 25-30 July, Puerto Ayura, Ecuador. (Poster).
- [3] **Ramalho, R.S.\***, Helffrich, G., Cosca, M., Vance, D., Hoffmann, D., Schmidt, D.N. (2011). Episodic swell growth inferred from variable uplift of the Cape Verde hotspot islands, AGU Chapman Conference “The Galápagos as a laboratory for the Earth Sciences”, 25-30 July, Puerto Ayura, Ecuador. (Poster).
- [2] **Ramalho, R.S.\***, Helffrich, G., Vance, D., Schmidt, D. (2007). Testing the depleted swell root model for the Cape Verdes hotspot swell, British Geophysical Association Postgraduate Research in Progress Meeting, 2-4 September, Cardiff, UK. (Oral presentation). **RECIPIENT OF THE RUNNERS-UP BEST TALK.**

- [1] **Ramalho, R.S.\***, Brum da Silveira, A., Madeira, J., Fonseca, P., Prada, S., Rodrigues, C.F. (2005). Fracture pattern and structural control of Madeira Island volcanism (Portugal). SAL05 Workshop on Ocean Island Volcanism. 1-9 April 2005. Cape Verde. (Oral presentation).

#### **SELECTED INVITED SEMINARS AT OTHER RESEARCH INSTITUTIONS:**

- [14] **Ramalho, R.S.** (2020) Megatsunamis in the Cape Verde Islands. Stuttgart State Museum of Natural History. 23 January, Stuttgart, Germany.
- [13] **Ramalho, R.S.** (2020) The flank collapse of Fogo Volcano and ensuing tsunami. Institute for Geophysics, WWU Münster. 21 January, Münster, Germany.
- [12] **Ramalho, R.S.** (2020) The tsunamigenic flank collapse of Fogo Volcano. MARUM, University of Bremen. 20 January, Bremen, Germany.
- [11] **Ramalho, R.S.** (2018) Unravelling the hazard potential of tsunamis triggered by volcanic flank collapses. Department of Earth, Ocean and Ecological Sciences, University of Liverpool. 31 October, Liverpool, UK.
- [10] **Ramalho, R.S.** (2017) Ocean island volcanoes: tales of growth and destruction. School of Earth and Environmental Sciences, Manchester University, 23th November, Manchester, UK.
- [9] **Ramalho, R.S.** (2016) Ocean island volcanoes: tales of growth and destruction. Advisory Board Meeting, Instituto Dom Luiz, 19 December, Lisbon, Portugal.
- [8] **Ramalho, R.S.** (2016). Emergence and geological evolution of Madeira Island, NE Atlantic. Birkbeck College, University College of London, 4 November, London, UK.
- [7] **Ramalho, R.S.** (2016). Hazard potential of volcanic flank collapses raised by new megatsunami evidence. School of Earth Science's Seminar Series, Univ. of Bristol, 26 January, Bristol, UK.
- [6] **Ramalho, R.S.** (2015) The tsunamigenic potential of volcanic flank collapses - insights from the Cape Verde Islands, Research Seminar, Plymouth University, 14 October, Plymouth, UK.
- [5] **Ramalho, R.S.** (2015) Megatsunami triggered by giant flank collapse of Fogo volcano, Cape Verde Archipelago. Rocky Mountain Seminar Series, USGS Denver Federal Center, 20 January, Denver, USA.
- [4] **Ramalho, R.S.** (2014) The might of Fogo Volcano. Univ. of Stanford, 11th December, Stanford, USA.
- [3] **Ramalho, R.S.** (2014) The conundrum of ocean island uplift revisited – an Atlantic perspective. Univ. of Berkeley, 8 December, Berkeley, USA.
- [2] **Ramalho, R.S.** (2014). Megatsunami triggered by giant flank collapse of Fogo volcano, Cape Verde Archipelago. Lafayette College, 17 October, Easton, USA.
- [1] **Ramalho, R.S.** (2012). Uplift, flank collapses and megatsunamis in the Cape Verde Archipelago. Job Interview at Univ. of Bristol, 15 May, Bristol, UK.

#### **EDITORIAL ROLE:**

- [1] **Guest Associate Editor for Volcanology in Frontiers of Earth Science**, with the Research Topic "**Ocean Island Volcanoes: Genesis, Evolution and Impact**" (<https://www.frontiersin.org/research-topics/5840/ocean-island-volcanoes-genesis-evolution-and-impact>).

**Journal Impact Factor: 2.892**

**ROLE AS REVIEWER:** I have acted as a reviewer for the following journals:

- Science
- Geology
- Earth and Planetary Science Letters
- Journal of Geophysical Research
- Earth Processes and Landforms
- G-cubed
- Geological Society Special Publications
- Journal of Volcanology and Geothermal Research
- Marine Geology
- Journal of Iberian Geology
- Research Ideas and Outcomes
- Deep-Sea Research Part I: Oceanographic Research P.
- Geological Journal
- Applied Geochemistry
- The Holocene
- Natural Hazards
- Natural Hazards and Earth System Science
- Sedimentology

#### **RESEARCH COVERAGE IN THE MEDIA:**

[18] **Ramalho et al. (2015), *Science Advances***: worldwide media coverage, reaching an Altmetric score of ~500, being in the **top 5% of over 4 million articles ever tracked by Altmetric**. In terms of attention score, this paper is the 4<sup>th</sup> most media-cited paper of *Science Advances* for articles of similar age. Media coverage included:

Nature (<http://www.nature.com/news/island-boulders-reveal-ancient-mega-tsunami-1.18485>)

Science (<http://news.sciencemag.org/asiapacific/2015/10/ancient-volcanic-collapse-likely-triggered-270-meter-high-tsunami>)

EOS (<https://eos.org/articles/mysterious-boulders-suggest-ancient-800-foot-tall-tsunami>)

NewScientist (<https://www.newscientist.com/article/dn28282-megatsunami-170-metres-high-once-smashed-into-cape-verde/>)

Scientific American (<https://www.scientificamerican.com/article/ancient-skyscraper-high-tsunami-prompts-worries-about-current-risk/>)

BBC Earth (<http://www.bbc.com/earth/story/20151005-the-tsunami-that-engulfed-an-island>)

The Guardian (<http://www.theguardian.com/world/2015/oct/02/volcano-collapse-caused-mega-tsunami-cape-verde-fogo-scientists-study>)

The New Yorker (<http://www.newyorker.com/tech/elements/a-tsunami-written-in-stone>)

The Atlantic (<http://www.theatlantic.com/science/archive/2015/10/traces-of-an-ancient-mega-tsunami/411970/>)

Nature World News (<http://www.natureworldnews.com/articles/17240/20151003/megatsunami-uneearthed-evidence-800-foot-wave-worries-experts.htm>)

ABC España (<https://www.abc.es/ciencia/20151002/abci-mega-tsunami-201510021602.html>)

24 Horas (<http://www.24horas.cl/tendencias/cienciaysalud/cientificos-comprueban-existencia-de-un-megatsunami-de-240-metros-de-altura-1804202>)

Der Spiegel (<http://www.spiegel.de/wissenschaft/natur/riesiger-tsunami-vor-73-000-jahren-im-atlantik-a-1055932.html>)

NOS Netherlands (<http://nos.nl/artikel/2060969-megatsunami-van-73-000-jaar-geleden-had-golven-van-170-meter.html>)

O Público (<http://www.publico.pt/ciencia/noticia/ha-73000-anos-um-megamaremoto-arrasou-cabo-verde-1709932?page=-1>)

O Observador (<http://observador.pt/2015/10/02/efeito-devastador-um-megatsunami-ha-73-mil-anos/>)

[27] Ramalho et al. (2017), *GSA Bull*: worldwide media coverage, e.g.

EOS (<https://eos.org/articles/scientists-offer-new-explanation-for-islands-unexpected-uplift>)

IFLScience (<http://www.iflscience.com/environment/the-secret-of-the-amazing-rising-island-revealed/>)

BBC Radio (<http://www.bbc.co.uk/programmes/b085fz38> at minute 02:47:08)

O Público (<https://www.publico.pt/ciencia/noticia/a-ilha-de-santa-maria-esta-a-erguerse-do-fundo-do-mar-1751680>)

Diário de Notícias (<http://www.dn.pt/sociedade/interior/ilha-de-santa-maria-esta-a-erguer-se-do-fundo-do-mar-5504871.html>)

## FUNDING ACHIEVEMENTS:

### INDIVIDUAL FELLOWSHIPS SECURED AT INTERNATIONAL AND NATIONAL CALLS

#### Funded – past

##### [3] Investigador FCT (nível inicial) / FCT Independent Research Fellow (Lecturer level)

Reference: IF/01641/2015 MEGAWAVE

Title: *Unravelling the hazard potential of tsunamis triggered by volcanic flank collapses.*

PI: Dr Ricardo Ramalho

Funder: Fundação para Ciência e Tecnologia (FCT), Portugal

Host: IDL/Faculdade de Ciências da Universidade de Lisboa, Portugal

Dates: 10/2016 – 05/2021

Budget: €210,000

#### Funded – past

##### [2] FP7 Marie Curie International Outgoing Postdoctoral Fellowship

Reference: FP7-PEOPLE-2011-IOF ISLAND FREEBOARD

Title: *What can island isostasy tell us about hotspot dynamics?*

PI: Dr Ricardo Ramalho

Funder: European Research Council

Host: School of Earth Sciences, University of Bristol (UK) & Lamont-Doherty Earth Observatory of Columbia University (USA)

Dates: 01/2013 – 01/2016

Budget: €272,000

##### [1] FCT Doctoral Fellowship

Reference: SFRH/BD/24835/2005

Title: *Building the Cape Verde Islands*

PI: Ricardo Ramalho

Funder: Fundação para Ciência e Tecnologia (FCT), Portugal

Host: School of Earth Sciences, University of Bristol (UK)

Dates: 12/2005 – 12/2010

Budget: €100,000

## STANDARD AND OTHER RESEARCH GRANTS SECURED AS PRINCIPAL INVESTIGATOR

### Funded – active

#### **[4] UNTleD – *Unlocking the megaTsunami Deadlock: using the near-source impacts to constrain tsunami generation by volcanic flank collapses***

Reference: PTDC/CTA-GEO/28588/2017 and LISBOA-01-0145-FEDER-028588

PI: Dr Ricardo Ramalho (IDL/Faculdade de Ciências da Universidade de Lisboa, Portugal)

Funder: Fundação para Ciência e Tecnologia (FCT), Portugal, and Portugal2020 (FEDER)

Type: FCT Standard Grant

Dates: 08/2018 – 08/2021

Budget: €240,000

#### **[3] *Volcanic Flank Collapses and Megatsunamis in the Cape Verde Islands***

Reference: DEM\_GEOL1529

PI: Dr Ricardo Ramalho (IDL/Faculdade de Ciências da Universidade de Lisboa, Portugal)

Funder: Deutsches Zentrum für Luft- und Raumfahrt (DLR), Germany

Type: Call for TanDEM-X Dataset access

Dates: 04/2018 – 03/2021

Budget: 0 (free access to commercial satellite data)

### Funded – past

#### **[2] MEGAWAVE – *Unravelling the hazard potential of tsunamis triggered by volcanic flank collapses (Exploratory Project)***

PI: Dr Ricardo Ramalho (IDL/Faculdade de Ciências da Universidade de Lisboa, Portugal)

Funder: Fundação para Ciência e Tecnologia (FCT), Portugal

Type: FCT Exploratory Project associated to individual fellowship IF/01641/2015 MEGAWAVE

Dates: 08/2017 – 05/2021

Budget: €50,000

#### **[1] Conference Attendance and Travel Grant to AGU Chapman Conference “The Galápagos as a laboratory for the Earth Sciences”**

PI: Dr Ricardo Ramalho (IfG, WWU Münster, Germany)

Funder: American Geophysical Union

Type: AGU Conference Attendance and Travel Grant

Dates: 01/2012 – 01/2013

Budget: US\$4,000

## STANDARD AND OTHER RESEARCH GRANTS SECURED AS CO-PRINCIPAL INVESTIGATOR

(\*grant proposals idealized and written in its majority by R. Ramalho)

(\*\* large contribution to proposal idealization and writing from R. Ramalho)

(\*\*\* smaller contribution to proposal writing from R. Ramalho)

### Funded – active

#### **[2] HAZARDOUS – *Evaluating HAZARDS related to the formation and development of detrital and lavic “fajãs” in the PortugUese volcanic archipelagoS\*\****

Reference: PTDC/CTA-GEO/0798/2020

PI: Dr Rui Quartau (IH – the Portuguese Hydrographic Institute); Co-PI: Dr Ricardo Ramalho (IDL/Faculdade de Ciências da Universidade de Lisboa, Portugal)

Funder: Fundação para Ciência e Tecnologia (FCT), Portugal

Type: FCT Standard Grant

Dates: due to start in May 2021

Budget: €250,000

#### **[1] RV Meteor M155 – *The tsunamigenic gravitational flank collapse of Fogo volcano, Cape Verde Islands\****

PI: Dr Sebastian Krastel (University of Kiel, Germany); Co-PI: Dr Ricardo Ramalho (IDL/Faculdade de Ciências da Universidade de Lisboa, Portugal)

Funder: The German Research Foundation (DFG) and the German Research Fleet Coordination Centre, Germany

Type: Research Cruise Proposal to the German Research Fleet Coordination Centre

Dates: 05/2019 – 11/2019 (Cruise from 25/05/2019 to 1/07/2019)

Budget: €160,000

## STANDARD AND OTHER RESEARCH GRANTS SECURED AS CO-INVESTIGATOR

(\*grant proposals idealized and written in its majority by R. Ramalho)

(\*\* large contribution to proposal idealization and writing from R. Ramalho)

(\*\*\* smaller contribution to proposal writing from R. Ramalho)

### Funded – active

#### **[8] GEMMA - *improving GEodynamic Models in MAcaronesia by reconciling geodetic, geophysical and geological data\*\****

Reference: PTDC/CTA-GEO/2083/2021 GEMMA

PI: Dr Rui Fernandes (Instituto Dom Luiz, Portugal); Co-I: Dr Ricardo Ramalho (IDL/Faculdade de Ciências da Universidade de Lisboa, Portugal)

Funder: Fundação para Ciência e Tecnologia (FCT), Portugal

Type: FCT Standard Grant

Dates: 09/2022 – 08/2025

Budget: €250,000



**[7] SIGHT - *Selsmic and Geochemical constraints on the Madeira HoTspot system*\*\***

Reference: PTDC/CTA-GEF/30264/2017 SIGHT

PI: Dr Graça Silveira (Instituto Dom Luiz, Portugal); Co-I: Dr Ricardo Ramalho (IDL/Faculdade de Ciências da Universidade de Lisboa, Portugal)

Funder: Fundação para Ciência e Tecnologia (FCT), Portugal

Type: FCT Standard Grant

Dates: 09/2018 – 08/2021

Budget: €240,000

**[6] *Rhodoliths from the Cape Verde Archipelago: insights into climate change and megatsunami sediment dynamics*\*\***

Reference: DFG RA 1597/3-1

PI: Dr Michael Rasser (Natural History Museum Stuttgart, Germany); Co-I: Dr Ricardo Ramalho (IDL/Faculdade de Ciências da Universidade de Lisboa, Portugal)

Funder: The German Research Foundation (DFG), Germany

Type: DFG Exploratory Standard Grant

Dates: 02/2018 – 01/2021

Budget: €20,000

**Funded – past**

**[5] FIRE - *Fogo Island volcano: multidisciplinary REsearch on 2014/15 Eruption*\*\***

Reference: PTDC/GEO-GEO/1123/2014 FIRE

PI: Dr Rui Fernandes (University of Beira Interior, Portugal); Co-I & Task leader: Dr Ricardo Ramalho (IDL/Faculdade de Ciências da Universidade de Lisboa, Portugal)

Funder: Fundação para Ciência e Tecnologia (FCT), Portugal

Type: FCT Standard Grant

Dates: 07/2015 – 09/2020

Budget: €200,000

**[4] PLATMAR - *Development of volcanic island shelves: insights from Sta. Maria Island and implications on hazard assessment, habitat mapping and marine aggregates management*\*\***

Reference: PTDC/GEO-GEO/0051/2014 PLATMAR

PI: Dr Rui Quartau (Instituto Hidrográfico, Portugal); Co-I & task leader: Dr Ricardo Ramalho (IDL/Faculdade de Ciências da Universidade de Lisboa, Portugal)

Funder: Fundação para Ciência e Tecnologia (FCT), Portugal

Type: FCT Standard Grant

Dates: 05/2016 – 09/2020

Budget: €200,000

**[3] *Quaternary explosive volcanism of the Cape Verde Archipelago: On- and offshore tephrostratigraphy*\*\*\***

Reference: DFG - Fr947/14-1

PI: Dr Armin Freundt (GEOMAR, Germany); Co-I: Dr Ricardo Ramalho (IfG, WWU Münster, Germany)

Funder: The German Research Foundation (DFG), Germany

Type: DFG Standard Grant

Dates: 11/2011 – 05/2014

Budget: €140,000

**[2] Investigation of Island Uplift of the Azores Island region\***

Reference: DFG - TH1530/6-1

PI: Dr Christine Thomas (University of Münster, Germany); Co-I: Dr Ricardo Ramalho (IfG, WWU Münster, Germany)

Funder: The German Research Foundation (DFG), Germany

Type: DFG Standard Grant

Dates: 01/2011 – 05/2013

Budget: €150,000

**[1] Surface exposure dating of a mega-tsunami deposit in Santiago island, Cape Verde\***

PI: George Helffrich (University of Bristol, UK); Co-I: Dr Ricardo Ramalho (IfG, WWU Münster, Germany)

Funder: Natural Environment Research Council

Type: NERC Use of Facilities Grant

Dates: 01/2012 – 01/2013

Budget: £6,400

**EXPLICIT KEY COLABORATIONS IN OTHER LARGE RESERCH GRANTS**

**[2] UPFLOW – Upward mantle flow from novel seismic observations**

PI: Dr Ana Ferreira (University College London, UK)

Funder: European Research Council

Type: ERC Consolidator Grant 2020

Dates: due to start in 2021

Budget: €2,843,038

**[1] SCAPETOURL – SeasCAPEs promotion to diversity TOURristic products**

PI: Dr Zita Botelho (University of Azores, Portugal)

Funder: European Regional Development Fund (FEDER)

Type: POR Açores project (FEDER)

Dates: 2019 – 2022

Budget: €180,000

**ROLE AS REVIEWER OF RESEARCH GRANT PROPOSALS**

**[5] Invited Expert Reviewer for Fundação para Ciência e Tecnologia (FCT, Portugal):** Review of applications to the 2020 National PhD Scholarships Call by FCT (review completed on the 15<sup>th</sup> August 2020).

**[4] Invited Expert Reviewer for the Graduate Women in Science (GWIS, UK):** Review of GWIS Grant Proposal 19/20 submitted to GWIS's National Fellowship Program (review completed on the 1<sup>st</sup> June 2020).

[3] **Invited Expert Reviewer** for the **National Environment Research Council (NERC, UK)**: Review of NERC Grant Proposal NE/W001268/1 submitted to NERC's Urgent Grant scheme (review completed on the 4<sup>th</sup> May 2021).

[2] **Invited Expert Reviewer** for the **National Environment Research Council (NERC, UK)**: Review of NERC Grant Proposal NE/T014814/1 submitted to NERC's Urgent Grant scheme (review completed on the 13<sup>th</sup> January 2020).

[1] **Invited Expert Reviewer** for the **National Science Foundation (NSF, USA)**: Review of NSF Grant Proposal 1728619 submitted the NSF Geomorphology & Land-use Dynamics program (GLD) in the Division of Earth Sciences (EAR) (review completed on the 12<sup>th</sup> April 2017).

#### **INSTITUTIONAL ROLES:**

[3] **Member of the Executive Board** of Instituto Dom Luiz from April 2019 – April 2021.

[2] **Coordinator** of Instituto Dom Luiz's **Research Group 3 “Solid Earth dynamics, hazards and resources”** from April 2019 – April 2021.

[1] **Organizer** of the weekly seminar series “**Solid as a Rock/Good Vibes**” at Instituto Dom Luiz, Faculdade de Ciências da Universidade de Lisboa (September 2017 – March 2018)

#### **PRIZES & AWARDS:**

[2] **Springer Thesis Award (2011)** - one of a few selected outstanding PhD theses from around the world and across the physical sciences in 2011.

[1] **Runners-up Best Talk (2007)** at the British Geophysical Association Postgraduate Research in Progress Meeting, 2-4 September 2007, Cardiff.

#### **MEMBERSHIP OF SCIENTIFIC SOCIETIES:**

2007 – present: **Fellow of the Geological Society of London**

2008 – present: **American Geophysical Union**

2011 – present: **European Geosciences Union**

2012 – present: **International Association of Volcanology and Chemistry of Earth's Interior**

#### **OTHER ROLES:**

##### **PARTICIPATION IN INTERNATIONAL COMMITTEES AND INTERNATIONAL REPRESENTATIONS**

[3] External scientific advisor to a UN Development Project to commercially extract salt in Cape Verde Archipelago, 2012-2014.

[2] External scientific advisor to the Committee for “the extension of Cape Verde Continental shelf” to be presented to the United Nations in accordance with Article 76 of the Convention on the Law of the Sea, 2012-2014.

[1] Member of the scientific committee for the preservation of the geological heritage of Santa Maria Island (Azores) and co-proponent of the PalaeoPark Santa Maria

## ORGANISATION OF SCIENTIFIC MEETINGS

- [15] **Scientific Committee Member** of the “**10<sup>a</sup> Assambleia Hispano Portuguesa Geodesia y Geofísica**” (10<sup>th</sup> Spanish-Portuguese Assembly for Geodesy and Geophysics), 26–29 May, 2020, Toledo, Spain.
- [14] **Co-convener** of the Session “**Oceanic Intraplate Volcanism**” at **AGU Fall Meeting**, 10–14 December 2018, Washington DC, USA. (<https://agu.confex.com/agu/fm18/meetingapp.cgi/Session/57319>).
- [13] **Co-convener** of the Session “**O registo geológico de eventos marinhos extremos no Atlântico**” (The geological record of extreme marine events in the Atlantic) at the **IX Simpósio da Margem Ibérica Atlântica**, 4–7 September 2018, Coimbra, Portugal. (<https://mia2018univcoimbra.wixsite.com/mia2018/sessao-c>).
- [12] **Invited Chairman** of the Session “**Eventos Extremos de Inundação Costeira**” (Extreme events of coastal inundation) at the **10<sup>th</sup> Portuguese Nacional Geological Congress**. 11 July 2018, Ponta Delgada, Portugal.
- [11] **Co-organizer and lecturer** of the IDL’s Doctoral Training Programme “Earth Systems” Summer Course on “**Earth System interactions: processes and impacts**”, Madeira Island, Madeira, 8-12 July 2018.
- [10] **Co-organizer and leader of the Field trip** associated to IDL’s Doctoral Training Programme “Earth Systems” Summer Course on “**Earth System interactions: processes and impacts**”, Madeira Island, Madeira, 8th July 2018, entitled: “The evolution of a prominent island shield volcano”.
- [9] **Scientific Committee Member** of the **5<sup>th</sup> International Tsunami Field Symposium**, 3-7 September 2017, Lisbon, Portugal. (<http://itfs.campus.ciencias.ulisboa.pt>).
- [8] **Scientific Committee Member** of **RCANS 2017 – the 6<sup>th</sup> Regional Committee on Atlantic Neogene Stratigraphy meeting**, 10-13 July, 2017, Ponta Delgada, Azores, Portugal. (<http://rcans2017.org/>).
- [7] **Co-organizer and lecturer** of the 2<sup>nd</sup> ENA Workshop/ IDL’s Doctoral Training Programme “Earth Systems” Summer Course on “**Earth-system processes in the Atlantic**”, Terceira Island, Azores, 2-7 July 2017.
- [6] **Co-convener** of the Session “**STC11 - Sistemas vulcânicos: Manifestações de um planeta vivo**” (Volcanic systems: manifestations of a living planet”) at the **46<sup>th</sup> Brazilian Congress on Geology/1<sup>st</sup> Geological Congress of the Portuguese-speaking Countries**, 30 September - 5 October, Santos, Brazil.
- [5] **Co-organizer and lecturer** of the 2-day Short Course “**MC7 - Estruturas e texturas de rochas vulcânicas**”, at the **46<sup>th</sup> Brazilian Congress on Geology/1<sup>st</sup> Geological Congress of the Portuguese-speaking Countries**, 29 & 30 September, Santos, Brazil.
- [4] **Co-convener** of the Session “**Ocean Island Volcanoes and Large Igneous Provinces**” at the **IAVCEI Scientific Assembly 2013**, 20-24 July 2013, Kagoshima, Japan. ([http://www.kazan.or.jp/iavcei2013/iavcei\\_hp/program/3A.html](http://www.kazan.or.jp/iavcei2013/iavcei_hp/program/3A.html)).
- [3] **Co-organizer** of the **6<sup>th</sup> – 11<sup>th</sup> International Workshops “Palaeontology in Atlantic Islands”**; co-organisation and delivery of 6-day field workshops. Santa Maria Island, Azores, 2009–2016.

[2] **Co-organizer and co-leader** of the **Conference Field Trip of the 1<sup>st</sup> IAVCEI International Workshop on Volcano Geology** - a 1-day field trip in Madeira Island, to workshop participants. 8 July, 2014.

[1] **Co-organizer and lecturer** of the 3-day Short Course “**The evolution of oceanic islands: processes and products**”, University of Azores, 12-15 of July, 2010.

## RESEARCH CRUISE PARTICIPATION

[3] **RV Meteor M155 Research Cruise** “The tsunamigenic gravitational flank collapse of Fogo volcano, Cape Verde Islands”, 25 May – 1 July 2018. Participation as Co-Chief Scientist.

[2] **RV Arquipélago PLATMAR II Research Cruise**, 23–31 August 2018. Participation as Task Leader.

[1] **RV Meteor M80/3 Research Cruise** “Cape Verde Seamounts”, 26 December 2009 – 02 February 2010. Participation as Co-Investigator.

## OUTREACHING AND MEDIA SHOWCASING:

### OUTREACH EVENTS

[4] **Science Alive/Ciência Viva** (in Portugal and the UK, years: 2001-3; 2006) – Demonstration for the general public about geology and geophysics and especially Plate Tectonics. Responsible for demonstrating experimental plate tectonics with a purpose-built sand box for simulating faulting and fault structures in a brittle regime (UK).

[3] **Bristol University School Outreach Open Days** (UK, 2007-2010) – A-level student open day - Demonstration for A-level students about geology and geophysics and especially Plate Tectonics.

[2] **Royal Society Summer Science Exhibition 2009** – Demonstration for the general public about Plate Tectonics. The “rifting tank” present at the exhibition was designed by R. Ramalho and built by Charles Chapman.

[1] **Lamont-Doherty Earth Observatory Open House 2014** — Talk to the general public about the hazards of volcanic island flank collapses and resulting megatsunamis. Demonstrations on experimental volcanology.

### AUTHORED SCIENTIFIC DOCUMENTARIES

[1] Ávila, S.P., Ramalho, R.S. & Serra, J. (2016) **Santa Maria, a ilha que nasceu duas vezes**. A TV documentary (27 min) for the “A Casa dos Fósseis” Science Centre, Santa Maria Island, Azores. Funded by Direcção Regional do Ambiente, Governo Regional dos Açores.

### AUTHORED OUTREACH BOOKS

[1] Ávila, S.P., Rebelo, A.C., Medeiros, A., Melo, C., Gomes, C., Bagaço, L., Madeira, P., Borges, P.A., Monteiro, P., Cordeiro, R., Meireles, R., and **Ramalho, R.S.** (2010) **Os fósseis de Santa Maria (Açores)**. Observatório Vulcanológico e Geotérmico dos Açores (OVGA). Vol. 1: A jazida da Prainha, 106 p.

## TV SHOWCASING

- [3] Expert's opinion for mass media: **SIC Notícias**, live at “**Jornal das 12**” (10th December 2019). Comment on the eruption of White Island (New Zealand).
- [2] Expert's opinion for mass media: **SIC Notícias**, live at “**Jornal das 17**” (23 and 24 December 2018) (<https://expresso.pt/internacional/2018-12-24-O-que-tera-originado-o-tsunami-na-Indonesia--O-geologo-Ricardo-Ramalho-explica#gs.8h118e>). Comment on the collapse of Anak Krakatau (Indonesia) and ensuing tsunami.
- [1] Expert explanations in “**Os Fósseis de Santa Maria – Açores**” (2014-2015). A TV series with 4 episodes (each ~30 minutes), broadcasted for RTP-1 and RTP-Açores. These episodes were coordinated and produced by Sérgio Ávila and directed by José Serra. 1<sup>st</sup> program: “*Os fósseis de Santa Maria*”; 2<sup>nd</sup> program: “*A Pedra-que-pica*”; 3<sup>rd</sup> program: “*A jazida da Malbusca e a gruta dos icnofósseis*”; 4<sup>th</sup> and final program: “*Os trilhos da Rota dos Fósseis*”. Funded by DRT/GRA.

## AUTHORED DIGITAL OUTREACH

- [3] Outreach text & film about Fogo's 73,000-old tsunami (<http://www.ldeo.columbia.edu/news-events/signs-ancient-megatsunami-could-portend-modern-hazard>)
- [2] Outreach photo essay about Fogo's 73,000-old tsunami (<https://blogs.ei.columbia.edu/2015/10/02/photo-essay-rising-islands-monster-wave/>)
- [1] Outreach photo essay about Fogo's 2014/2015 eruption (<https://blogs.ei.columbia.edu/2014/12/16/photo-essay-sleeping-giant-off-west-africa-awakes/>)

## SHORT COURSES:

### ACADEMIC SHORT COURSES

- [9] **Talking to Media and Policymakers**, by COMPASS (2015)
- [8] **Laboratory Safety & Hazardous Waste Management**, by Lamont-Doherty Earth Observatory (2013)
- [7] **Hydrofluoric Acid Safety Training**, by Lamont-Doherty Earth Observatory (2013)
- [6] **Workshop Safety**, by Lamont-Doherty Earth Observatory (2013)
- [5] **Data Protection**, by the University of Bristol (2013)
- [4] **Diversity in the Working Place**, by the University of Bristol (2013)
- [3] **Mass Spectrometry**, by the University of Bristol (2006)
- [2] **Teaching and Learning Programme for Postgraduates Who Teach**, by the University of Bristol (2006)
- [1] **Scientific Writing Skills**, by the University of Bristol (2005)

## SOFTWARE:

### PROGRAMMING LANGUAGES

- [1] R - language and environment for statistical computing and graphics

### PACKAGES

- [1] Latex    [2] Inkscape    [3] GIMP    [4] Agisoft Photoscan

## GEOLOGICAL & GEOGRAPHICAL INFORMATION SYSTEMS

[1] QGIS [2] GMT [3] ArcGIS [4] GlobalMapper [5] Kingdom [6] Landserf

## LANGUAGES:

### NATIVE LANGUAGE

Portuguese

### OTHER LANGUAGES

(scale from 1 (basics) to 3 (fluent), for reading, writing and speaking)

[1] English - 3,3,3;

2005 IELTS- International English Language Test System- British Council (score 7.5 out of 9).

[2] French - 3,2,2;

[3] Spanish - 3,2,3;

## OTHER TRANSFERABLE SKILLS:

I have successfully concluded the following courses:

- Basic Bushcraft Survival Skills, by Biblins Bushcraft (2011)
- Working with Adults (Curso Avançado de Formação de Adultos), by Associação dos Escoteiros de Portugal (the Portuguese Scout Association) (2004)
- Leadership II, by the UK Scout Association (2003)
- Basic Civil Protection, by the Portuguese Civil Protection Agency (2002)
- Outdoor Skills, by Associação dos Escoteiros de Portugal (the Portuguese Scout Association) (2001)
- Elementary Civil Protection, by the Portuguese Civil Protection Agency (2001)
- Leadership I (Curso Básico de Formação), by Associação dos Escoteiros de Portugal (the Portuguese Scout Association) (2000)
- Preliminary Leadership Training (Curso Preliminar de Formação), by Associação dos Escoteiros de Portugal (the Portuguese Scout Association) (1997)
- First Aid (1998, 2003, 2006)

## VOLUNTEERING:

### SCOUTING

I was a member of the Scout Movement from 1986 until 2013, and an Adult Leader from 1998 until 2013; I have worked with 14-17 and 17-21 years-old coeducational sections. In between 2003 and 2009 I served as Deputy National Chief Scout & International Commissioner (IC) for the Portuguese Scout Association between. As IC, I represented Portuguese Scouting at World and European levels, and headed and participated in many national and international working groups, workshops and task forces, in subjects as diverse as Strategy & Planning, World Policies, Mission Statement, Youth Policies, etc. I successfully applied and secured funding from the EU and other programs, in a combined total in excess of €60k. I also assumed a leading role in the organization of World and European events, with up to 30,000 participants from more than 150 different countries, taking up duties as Project, Human Resources, and Programme manager. In

2009 I became a Trainer of Adult Leaders, and I have designed, developed and delivered courses in subjects as diverse as: Pedagogical Aptitude Training, Presentation Skills, Coaching, Leadership Skills, Strategy & Planning, Outdoor Education, Outdoor & Survival Skills, Orienteering, Team Work, Tutorship & Mentorship, Risk Assessment, and Administrative Procedures. I have also tutored over 15 Adult Leaders at various levels, during their training period.

**LICENSES:**

**[2] Driver's License** (1996)

**[1] Seaman's License** (Carta de Marinheiro; 1993)