

Carlos Fernando De Gracia

Institutional Address Department of Paleontology, Faculty of Earth Sciences, Geography and Astronomy
University of Vienna
Althanstraße 14 / 2A323
1090 Vienna, Austria

Phone number Office: +43-1-4277-53530
Personal: +43-677-63736404

e-Mail degraciac86@univie.ac.at

Personal Information

ORCID id 0000-0003-0637-3302
Date of birth 2th March, 1986
Place of birth Panama City, Panama
Nationality. Panamanian

Formal Education

2015 - 2017 Master in Geology, specific field: Geobiology
Charles University in Prague, Prague, Czech Republic
Thesis: Fossil Istiophorids (Perciformes, Istiophoridae) from the Chagres Formation, Panama
Year of degree: 2017
Advisor: Tomáš Přikryl
Co-advisor: Carlos Alberto Jaramillo
Scholarship from: Ministry of Education, Youth and Sports, Czech Republic

2004 - 2010 B. Sc. in Biology, specific field: animal biology
Universidad de Panamá, Panama City, Panama
Thesis: Structure of benthic communities on the pacific coast of Panama and Costa Rica during the formation of Central American Ithmus, Year of degree: 2010
Advisors: Aaron O'Dea, Luis D' Croz

2014 - 2015 Improvement Course in Czech Language
Charles University in Prague, Prague, Czech Republic
Scholarship from: Ministry of Education, Youth and Sports

Complementary Education

2011 - 2011 Postgraduate Course in Tropical Ecology. (240h).
Arizona State University (ASU), United States
Scholarship from: Smithsonian Tropical Research Institute

2009 - 2009 Seminar Neogene paleontology of Tropical America. (48h).
Youth Committee for the Advancement of Science in Panama (COJUCIP), Panama
Scholarship from: Comité Juvenil para el Avance de la Ciencia en Panamá

2009 - 2009 Workshop on Writing Scientific Papers. (40h).
Sustainable Sciences Institute (SSI), California, USA
Scholarship from: National Secretariat of Science Technology and Innovation (SENACYT), Panama

2009 - 2009 Workshop on Writing Scientific Proposal. (40h).
Sustainable Sciences Institute (SSI), California, USA
Scholarship from: National Secretariat of Science Technology and Innovation (SENACYT), Panama

2009 - 2009 Basic First Aid Course and R.C.P. (16h).
Panamanian Red Cross (CRP), Panama

- 2008 - 2008** Regular Course of Ichthyology (80h)
Universidad Experimental Francisco de Miranda (UEFM), Venezuela
Prof. Orangel Aguilera, PhD.
- 2008 - 2008** Internship in Venezuela Geology and Paleontology (480h)
Universidad nacional E. Francisco de Miranda (UNEFM), Falcon, Venezuela
Prof. Orangel Aguilera, PhD.
- 2007 - 2007** Advanced course on histological techniques (40h)
Smithsonian Tropical Research Institute (STRI) Panama
Scholarship from: National Secretariat of Science Technology and Innovation (SENACYT), Panama
Prof. Andrey Ostrovsky, Ph.D.
- 2007 - 2007** Application of genetic markers in fisheries (40h)
University of Florida (UF), USA and National Secretary of Science, (SENACYT), Panama
Scholarship from: National Secretariat of Science Technology and Innovation (SENACYT), Panama
- 2005 - 2006** Volunteer program. (12h).
Smithsonian Tropical Research Institute (STRI), Balboa, Panama
- 2006 - 2006** Workshop on Scientific Methodology (24h)
Smithsonian Tropical Research Institute (STRI) Balboa, Panama

Professional Experience

1. Universidad del Norte (North University), Barranquilla, Colombia

2017 - 2018 Position: Deputy collection manager

Schemes of job: Full -time

Description:

Collection manager in the paleontological collection of the Archaeological Museum of the peoples Karib (MAPUKA) from the Universidad del Norte, Barranquilla, Colombia. Functions included start the paleontological collection, create the specimen's database in Specify, create a catalog of specimens, preparation and curation of fossils (invertebrates, vertebrates, paleobotany) and start running the collection for the future.

2. Smithsonian Tropical Research Institute (STRI), Panama

2019 - 2020 Position: predoctoral fellow

Schemes of job: Full-time and exclusiveness

2011 - 2014 Position: field paleontologist, Working hours: 4/weekly

Schemes of job: Part-time

Description:

Panama Canal Expansion Project: Paleontology rescue in the excavations of the Panama Canal expansion zone to recovery Neogene fossils coordinated between the Smithsonian Tropical Research Institute (STRI), the Panama Canal Authority (ACP) and the University of Florida (UF).

2011 - 2014 Position: field paleontologist, Working hours: 4/weekly

Schemes of job: Part-time

Description:

Panama Canal Expansion Project: Paleontology rescue in the excavations of the Panama Canal expansion zone to recovery Neogene fossils coordinated between the Smithsonian Tropical Research Institute (STRI), the Panama Canal Authority (ACP) and the University of Florida (UF).

2011 - 2014 Position: Fellow

Schemes of job: Full-time and exclusiveness

Description: Research fellow in fish paleontology, founded by the National Secretary of Sciences technology and Innovation (SENACYT).

2012 - 2012 Position: teacher assistant, Working hours: 16

Schemes of job: Part-time

Description: teacher assistant for the Course of Introduction to biology and field research in August 2012, Smithsonian Tropical Research Institute (STRI).

2012 - 2012 Position: teacher assistant, Working hours: 4/week

Schemes of job: Part-time

Description: teacher assistant for the selected topic in Paleontology (BIO. 479) in the faculty of sciences, University of Panama (UP). Introduction of paleontology, field work, fishes and fossil reptile labs. Sessions. Head professor: Catalina Pimiento, PhD.

2011 - 2011

Position: teacher assistant, Working hours: 40/weekly

Schemes of job: Full-time

Description:

Teacher assistant, international course of inferential statistics using R and experimental design. Organized by the Smithsonian Tropical Research Institute (STRI) and Young Committee for Advanced of Science in Panama (COJUCIP) for student from Panama and Central America.

2011 - 2011

Position: field assistant

Schemes of job: Full-time and exclusiveness

Description:

Research Assistant in field work, marine fossils collection in remote zones in the Pacific coast of Panama and Costa Rica (Burica Peninsula).

2010 - 2010

Position: Teacher assistant, Working hours: 40/weekly

Schemes of job: Full-time

Description:

Teacher assistant for a Tropical ecology course focused in marine ecosystems. Smithsonian Tropical Research Institute (STRI).

2010 - 2010

Position: Professor, Working hours: 40/weekly

Schemes of job: Full-time

Description:

Professor, Course for the course of coastal ecology and management. Smithsonian Tropical Research Institute (STRI), for Costa Rican students.

2010 - 2010

Position: Teacher Assistant, Working hours: 80/ weekly

Schemes of job: Full-time

Description:

Teacher assistant, international course for introduction of biological field research for Bc. students. 15 days Intensive course.

2008 - 2008

Position: Research Assistant, Working hours: 8/weekly

Schemes of job: Full-time and exclusiveness

Description:

Research Assistant in field work, Panama Paleontology Project (PPP). Marine paleontology research cruise (R/V Urraca) expedition to Guna Yala, in remote zones of the Caribbean of Panama for collection of rock and fossils.

2006 - 2006

Position: Research Assistant, Working hours: 8/weekly

Schemes of job: Full-time and exclusiveness

Description:

Research Assistant, project: Composition change of benthic communities in the hemipelagic waters of Pacific Panama and Costa Rica: collection of bulk sediment samples for analysis of fossil communities. Expedition to remote zones of the Pacific coast in Panama and Costa Rica: Nicoya – Burica Basin.

2006 - 2006

Position: Student, Working hours: 4/weekly

Schemes of job: Part-time

Description:

The Gatún: An exploration of the Panama Miocene: collection of mollusk and shark fossils

2005 - 2005

Position: Research Assistant, Working hours: 8/weekly

Schemes of job: Full-time and exclusiveness

Description:

Research Assistant in the Research cruise R/V Urraca in an expedition to the Golfo de los Mosquitos, Caribbean of Panama. Work includes dredge sampling of modern benthic communities and collect live specimens of benthic fauna.

Activities

05/2013 - 07/2013

Field paleontologist, Tropical Center of Paleontology and Archeology (CTPA), STRI

Specification:

Hidrosogamoso hydroelectric project, Paleontology rescue in the excavation zones of the Sogamoso River to recovery Cretaceous and Paleocene fossils during the construction of the Sogamoso mega - dan. Santander, Colombia.

2. Smithsonian Museum of Natural History - SI

2012 - 2012

Visiting researcher, Working hours: 8/ weekly

Description:

3. Florida Museum of Natural History - FLMNH

2012 - 2012

Visiting Researcher, Working hours: 8/ weekly

Description:

Review fossil fish collections from Florida Museum of Natural History. Research funded by Florida Museum of Natural History Travel Grant.

Member of committee and associations

1. The Paleontological Society

2016-2017

Member 2016 - 2017

2008 - 2011

Description:

Member 2008 - 2011

president 2009 - 2010

2. Young committee for the advance of the science - COJUCIP

2008 - 2011

Description:

Member 2008 - 2011

president 2009 - 2010

3. Charles Darwin scientific group- GUCUD

2007 - 2010

Description:

Member 2007 - 2010

President 2007 - 2008

Project evaluator

1. National secretary for science technology and innovation - SENACYT

2010 - 2010

Project evaluator for high school science projects in the national fair of science

Areas of Expertise

1. Paleobiology
2. Systematics
3. Macroecology

Languages

Spanish	First language
English	Understanding Fluent, Speaking Fluent, Writing Fluent, Reading Fluent
Czech	Understanding Functional, Speaking Functional, Writing Functional, Reading Functional
Portuguese	Understanding Functional, Speaking Basic, Reading functional

Awards and Grants

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|-------------|--|
| 2018 | Scholarship for study Ph. D degree in the University of Vienna, Austria. Doctoral and postdoctoral scholarships program from the National Secretariat of Science Technology and Innovation (SENACYT), Panama |
| 2015 | Travel Grant, European association of Vertebrate Paleontology (EAVP) |
| 2012 | International Student Travel Grant for Study the Vertebrate Paleontology |

Collections, University of Florida (UF)

- 2011** Short term fellowship, Smithsonian Tropical Research Institute (STRI)
- 2010** Award to best degree thesis 2010 from the Panamanian Asociation for the Advance of Science (APANAC) and SENACYT
- 2010** Grant of the program for new researchers, National Secretariat of Science Technology and Innovation (SENACYT)
- 2010** Grand of Promotion Program on Science Activities (to organize seminars), National Secretariat of Science Technology and Innovation (SENACYT)
- 2010** Grand of Support for the generation of scientific and technologic capabilities (to organize seminars). National Secretariat of Science Technology and Innovation (SENACYT)
- 2009** Grand of Promotion Program on Science Activities (to organize seminars), National Secretariat of Science Technology and Innovation (SENACYT)
- 2009** Grant of the Program for promotion of scientific activities (travel grant), National Secretariat of Science Technology and Innovation (SENACYT)
- 2009** Internship, Smithsonian Tropical Research Institute (STRI)
- 2008** Honor of merit Octavio Méndez Pereira medal, Universidad de Panamá
- 2008** Outstanding Student in the Innovation Area of the Science Faculty, University of Panama (UP)
- 2007** Abdiel Adames Student Fellowship for complete bachelor thesis, Smithsonian Tropical Research Institute (STRI)
- 2007** Grant to complete University studies, Instituto para la Formación Aprovechamiento y Huso de Recursos Humanos (IFARHU), Pamama

S, T & A Production

Bibliographic Production

Papers published in Scientific Journals

1. CORTÉS, DIRLEY; **DE GRACIA, CARLOS**; AGUIRRE – FERNÁNDEZ, GABRIEL; JARAMILLO, CARLOS; BENITES – PALOMINO, ALDO; ATENCIO – ARAÚZ, ENRIQUE. Shark – cetacean trophic interactions during the late Pliocene in the Central Eastern Pacific (Panama). *PALEONTOLOGIA ELECTRONICA.*, v22, p. 1 -13, 2019.
2. CARRILLO-BRICEÑO, JORGE D.; AGUILERA, O.; **DE GRACIA, CARLOS**; AGUIRRE-FERNANDEZ, G.; KINDLIMANN, R.; SANCHEZ-VILLAGRA, M. R. An Early Neogene Elasmobranch fauna from the southern Caribbean (Western Venezuela). *PALAEONTOLOGIA ELECTRONICA.*, v.19(2), p.1 - 32, 2016.
3. CARRILLO-BRICEÑO, JORGE D.; **DE GRACIA, CARLOS**; PIMIENTO, CATALINA; AGUILERA, ORANGEL A.; KINDLIMANN, RENÉ; SANTAMARINA, PATRICIO; JARAMILLO, CARLOS. A new Late Miocene chondrichthyan assemblage from the Chagres Formation, Panama. *Journal of South American Earth Sciences.*, v.60, p.56 - 70, 2015.
4. MACFADDEN, BRUCE J.; SYMISTER, CHANIKA; CANNAROZZI, NICOLE; PIMIENTO, CATALINA; **DE GRACIA, CARLOS**. Comparative Diagenesis and Rare Earth Element Variation in Miocene Invertebrate and Vertebrate Fossils from Panama. *The Journal of Geology.*, v.123, p.491 - 507, 2015.
5. VELEZ-JUARBE, JORGE; WOOD, AARON R.; **DE GRACIA, CARLOS**; HENDY, AUSTIN J. W.; VIRIOT, LAURENT. Evolutionary Patterns among Living and Fossil Kogiid Sperm Whales: Evidence from the Neogene of Central America. *Plos One.*, v.10, p.e 0123909 -, 2015.

6. O'DEA, AARON; HOYOS, NATALIA; RODRÍGUEZ, FÉLIX; DEGRACIA, BRIGIDA; **DE GRACIA, CARLOS**. History of upwelling in the Tropical Eastern Pacific and the paleogeography of the Isthmus of Panama. *Paleogeography, Paleoclimatology, Paleoecology.*, v.348-349, p.59 - 66, 2012.
7. **DE GRACIA, CARLOS**; O'DEA, AARON; RODRÍGUEZ, FÉLIX; D'CROZ, LUIS. Respuesta ambiental en el Pacífico frente a la subducción de la dorsal asísmica de Cocos (Panamá y Costa Rica). *Revista de Biología Tropical.*, v.60, p.893 - 908, 2012.
8. ODEA, A.; RODRIGUEZ, F.; **DE GRACIA, CARLOS**.; COATES, A. La paleontología marina en el Istmo de Panamá. *Canto Rodado.*, v.2, p.149 - 179, 2007.

Papers in press / prep.

1. CARRILLO – BRICEÑO, JORGE D.; VILLAFAÑA NAVEA, JAIME, A.; **DE GRACIA, CARLOS**; FLORES – ALCÍVIAR, FREDY F.; KINDLIMANN, RENÉ; ABELLA, JUAN. Diversity and paleoenvironmental implications of an elasmobranch assemblage from the Oligocene – Miocene boundary of Ecuador. *PeerJ*, in review.
2. **DE GRACIA, CARLOS**; CORREA – METRIO, ALEXANDER, CARVALHO, MÓNICA; JUARVE, JORGE – VELEZ; PŘIKRYL, TOMÁŠ; JARAMILLO, CARLOS. The taxonomy and paleontology of Istiophorid billfishes (Istiophoridae). In preparation

Chapters published

1. **DE GRACIA, CARLOS**. Paleocology of tropical eastern Pacific. In: *Historia Natural del Istmo de Panamá*. 1 ed. Hong Kong: Toppan Leng Fung, 2015, v.1, p. 47-63.

Abstracts in congress and symposiums

1. **DE GRACIA, C.** The taxonomy of fossil billfishes (Istiophoridae). Smithsonian Tropical Research Institute Annual Fellow Symposium, 2019. Panama, Panama. Oral communication
2. **DE GRACIA, C.** A new billfish (Istiophoriformes, Istiophoridae) from the Upper Miocene of the Caribbean (Panama). 13th Annual Meeting of the European Association of Vertebrate Paleontologists (EAVP), 2015. Opole Poland. Oral communication
3. CARRILLO-BRICENO, J. ; **DE GRACIA, C.** ; RODRIGUEZ, F. . The first fossil record of the great white shark *Carcharodon carcharias* from Central America and its association with other macropredatory sharks. In: 13th Annual Meeting of the European Association of Vertebrate Palaeontologists (EAVP), 2015, Opole Poland.
4. CARRILLO-BRICENO, J. ; **DE GRACIA, C.** The Chondrichthyan fauna from the late Miocene Chagres Formation: A new paleoenvironmental inference. In: 4th International Palaeontological Congress (ICP), 2014, Mendoza Argentina. p. 673.
5. VELEZ-JUARBE, J.; **DE GRACIA, C.**; WOOD, AARON R.; HENDY, A. A new pygmy sperm whale (odontoceti, physeteroidea, kogiidae) from the late Miocene of panama. In: 4th international palaeontological congress (ICP), 2014. Mendoza Argentina. p. 629.
6. **DE GRACIA, C.**; CARRILLO-BRICENO, J. ; SCHWARZHANS, W. ; JARAMILLO, C. . An exceptional marine fossil fish assemblage reveals a highly productive deep-water environment in the Central American Seaway during the late Miocene. In: Geological Society of America Annual Meeting (GSA), 2012, Charlotte NC. p. 58-9. Oral communication
7. SYMISTER, C. ; MCFADDEN, B. ; HENDY, A. ; PIMIENTO, C. ; **DE GRACIA, C.** . Diagenesis and Paleoenvironmental changes in Neogene fossils and environments from Panama: evidence from REE proxies. In: Society of Vertebrate Palaeontology Annual Meeting (GSA), 2012, Raleigh, NC. *Journal of Vertebrate Palaeontology*, 2012. v. 32. p. 182-182.
8. YOUNG, S. ; **DE GRACIA, C.** . El estudio de las carreras científicas orientadas a la investigación y sus retos. In: XIII Congreso Nacional de Ciencia y Tecnología, 2010.

9. **DE GRACIA, C.**. La emersión del Istmo de Panamá y el cambio en las comunidades bentónicas del Pacífico Este tropical. In: XIII Congreso Nacional de Ciencia y Tecnología, 2010. Panama, Panama. Oral communication
10. DELGADO, D. ; GONZALES, J. ; OSORIO, A. ; VIGIL, D. ; **DE GRACIA, C.** . Patrones ancestrales de depredación en *Strombina lessepsiana* (Molusca: Gasteropoda). In: XIII Congreso Nacional de Ciencia y Tecnología, 2010. Panama, Panama.
11. RIOS-KOTLIAROVA, J. ; VIGIL, D. ; **DE GRACIA, C.** ; RODRIGUEZ, F. . Paleobiología y paleoecología de los moluscos fósiles en Payardi, Colón 10 millones de años. In: XIII Congreso Nacional de Ciencia y Tecnología libro de Resúmenes, 2010. Panama, Panama.
12. **DE GRACIA, C.**; ODEA, A. ; RODRIGUEZ, F. . Transformación de las comunidades bentónicas entre el Pacífico de Panamá y Costa Rica. In: XIII Congreso de la Sociedad Mesoamericana para la Biología y Conservación Belice, 2009, San José, Costa Rica. Mesoamericana, 2009. v. 13. Oral comunicatrion
13. **DE GRACIA, C.**; RODRIGUEZ, F. ; ODEA, A. . Estructura ecológica del golfo de Chiriquí durante os últimos 4 millones de años. In: Primer congreso juvenil de Ciencia Tecnología e Innovación. Asociación Panameña para el Avance de la Ciencia, 2006. Panama, Panama. Oral communication

Science divulgation / articles in Newspapers

1. Smithsonian Tropical Research Institute news, 2019.
<https://stri.si.edu/story/fishy-past>
2. Telemetro Panama, Tv interview, 2019
https://www.youtube.com/watch?v=knoTU_6Yx8U
3. Radio Panama, radio interview, 2019
<https://www.radiopanama.com.pa/noticias/actualidad/carlos-de-gracia-paleontologo-panameno/20190625/nota/3919200.aspx>
4. Efe news, digital newspaper, Latin America, 2019
<https://www.efe.com/efe/america/sociedad/la-fascinante-historia-del-surgimiento-istmo-de-panama-guarda-misterios/20000013-3946659>
5. La Prensa, Newspaper, Panama, 2015
https://www.prensa.com/salud_y_ciencia/Carlos-Gracia-explorar-Costa-Abajo_0_4235576597.html
6. PCP-PIRE divulgation page. Gainesville, Florida University, 2012.
<https://www.floridamuseum.ufl.edu/panama-pire/voices/2012-issues/the-panamanian-strait-and-the-probable-use-of-the-canal-seaway/>

Articles in Magazines

1. GRACIA, C.; MARTINEZ, J.
. Acta Biológica Panamensis. Panamá, p.14 - 28, 2008.

Other Relevant Information

Research interests

- Paleobiology
- Macroecology
- Systematics

Software and skills

- R language
- Adobe photoshop
- Adobe illustrator
- Specify software for collections database
- Scientific collections management
- Drawing
- Photography
- Fossils preparation

