



Geoscientist

Expertise field:

**CRYSTALOGRAPHY  
OPTICAL MINERALOGY  
STRUCTURAL GEOLOGY  
TECTONICS  
MICROTECTONICS  
FIELD GEOLOGY  
MINERALOGY**

#### CONTACT

WEBSITE:

[www.aigeodynamics.com](http://www.aigeodynamics.com)

Online tutoring  
consultancy

EMAIL:

[aigeodynamics@gmail.com](mailto:aigeodynamics@gmail.com)

#### LANGUAGES SPOKEN

- ✓ Spanish (mother tongue),
- ✓ English (excellent abilities in writing, reading and fluent speaking),
- ✓ Portuguese (understanding and translation)

# ANA IBIS DESPAIGNE DIAZ

Geologist

#### EDUCATION

- ✓ PhD in Geological Sciences (2010). University of Pinar del Río, Cuba.
- ✓ Master of Science in Geological Survey (1995). International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede, The Netherlands.
- ✓ Bachelor in Geology (1991). University of Pinar del Río, Cuba.

#### WORK EXPERIENCE

2018-2020: Lecturer in Geosciences, Rock forming minerals, Structural geology and tectonics, Microtectonics, Los Andes University, Bogota, Colombia.

2016-2017: Research Associate at Curtin University, Western Australia

2001-2012: Lecturer in Mineralogy and Crystallography; Head of the Geological Museum (11 years), and Acting Head of the Geology Department (2 years). University of Pinar del Río, Cuba:

1991-2001: Geologist. Leader of several geology projects (10 years) and Head of Hydrogeology and Environmental Studies Department (5 years). Geology and Mining Company in Central Cuba (government).

#### MAJOR PROJECTS

2016-2017: Granulite facies rocks along the southwest coast near Walpole, Western Australia. Age and geodynamic implications.

2011-2014: "Geology map of the Cuban Republic at scale 1:10,000 (update)"

"The metalogenic map of the Cuban Republic at scale 1:250,000"

2006-2010: "Geodynamic evolution of Western and Central Cuba from Jurassic to Pliocene"

"BT 2002-01011 - Terrenos metamórficos en el margen septentrional del Caribe (Cuba) del Ministerio de Ciencia, Tecnología y medio Ambiente, España"-  
(Metamorphic terranes in the northwestern margin of the Caribbean (Cuba) from the Ministry of Science, Technology and Environment, Spain).

2003-2005: "Geodynamic evolution of Western and Central Cuba (in cooperation with Greifswald University, Germany)"

2001-2002: Leader of the project "Geological data base of cement deposits in Sancti Spiritus Province, Central Cuba"

1999-2000: Leader of the project "Environmental study of Caibarién District, Villa Clara Province, Central Cuba"

Leader of the Project "Environmental study of San Juan de los Remedios Bay, Villa Clara Province, Central Cuba"

1997-1998: Leader of the project "Geological photo-interpretation and prospecting for non-metallic minerals in the northern part of Central Cuba"

1995-1996: Environmental studies of mining targets in Central Cuba.

Leader of the project "Environmental study of a zeolite deposit, Tasajera Area, Central Cuba".

Leader of the project "Environmental study in Santa Clara Province, Central Cuba"

Synthesis of geological data at regional scales, with emphasis on geological structures prospective for groundwater

1994-1995: MSc studies at International Institute of Aerospace Survey and Earth Sciences, Enschede, The Netherlands. Research thesis: '*Geological and structural studies in an area of Alpine peridotites and associated metamorphic rocks, Ronda Málaga region, Pujerra area, south Spain*'.

1993-1994: Post-graduate studies at the International Institute of Aerospace Survey and Earth Sciences, Enschede, The Netherlands. (Introduction to remote sensing techniques. Training in photo-interpretation techniques for geological and structural mapping, structural geology and tectonics, cleavage mapping in the Belgium Ardennes and Eifel graben, Germany).



1991-1992: "Geological mapping and mineral prospecting in Central Cuba, Las Villas III".

### **Joint International Research Projects**

- ✓ Ar-Ar dating of key metamorphic fabrics, Escambray metamorphic complex, Central Cuba. Curtin University, 2011-2012.
- ✓ IGCP project 546 "Subduction Zones of the Caribbean", 2009-2015.
- ✓ Metamorphic terranes in the northern margin of the Caribbean plate (Cuba). Ministry of Science, Technology and Environment, Spain, 2005-2009.
- ✓ Geodynamic evolution of Western Cuba (in cooperation with Greifswald University, Germany, 2003).
- ✓ Geodynamic evolution of Central Cuba (in cooperation with Greifswald University, Germany, 2005).

### **PUBLICATIONS AND INTERNATIONAL CONFERENCE PRESENTATIONS**

- ✓ Acosta Solano, J.D, Despaigne-Díaz, A.I, Pearse, J. (submitted Geomorphology. Elsevier). Morphotectonic analysis of Upper Guajira, the septentrional region of South America: A GIS and Remote Sensing approach, 2019.
- ✓ Scarlett, A.G, Despaigne-Díaz, A.I, Wilde, S.A, Grice, K., 2019. An examination by GC\_GC-TOFMS of organic molecules present in highly degraded oils emerging from Caribbean terrestrial seeps of Cretaceous age. Geoscience Frontiers, 10, 5-15.
- ✓ Despaigne-Díaz, A.I, Cáceres Govea, D., García Casco, A., Wilde, S.A., and Millán Trujillo, G., 2017. Structure and tectonic evolution of the southwestern Trinidad dome, Escambray complex, Central Cuba: insights into deformation in an accretionary wedge, Tectonophysics, 717, 139-161.
- ✓ Despaigne-Díaz, A. I, García-Casco, A., Cáceres-Govea, D., Jourdan, F., Wilde, S. A, Millan-Trujillo, G., 2016. Twenty-five million years of subduction-accretion-exhumation during Late Cretaceous-Tertiary in the Northwestern Caribbean: The Trinidad dome, Escambray complex, central Cuba, American Journal of Science, 316 (3), 203-240, DOI:10.2475/03.2016.01.
- ✓ Cruz-Gómez, E. M., Velazco-Tapia, F., García-Casco, A., Despaigne-Díaz, A. I, Lastra-Rivero, J. F., Cáceres-Govea, d., 2016. Geoquímica del magmatismo mesozoico asociado al Margen Continental Pasivo en el occidente y centro de Cuba, Boletín de la Sociedad Geológica Mexicana, 68 (3), 443-475.





- ✓ Despaigne-Díaz, A. I., García Casco, A., Cáceres-Govea, D., Jourdan, F., and Wilde., S. A, 2016. Integrating petrology, P-T records and geochronology to decipher subduction-exhumation processes: The Trinidad dome, Escambray metamorphic complex, Cuba. Goldschmidt International Conference, Prague, August, 2015.
- ✓ Llanez-Castro, A., Diaz De Villavila, L., Despaigne-Díaz, A. I., Ronneliah-Sitalli, M., García-Jimenez, D., 2015. Geoquímica de las rocas volcánicas máficas de edad Cretácica de la Región Habana-Matanzas (Cuba occidental): implicaciones paleotectónicas, Ciencias de La Tierra y El Espacio, 12(2), 117-133.
- ✓ Rojas-Agramonte, Y., García-Casco, A.; Kröner, A.; Herwartz, D.; Despaigne-Díaz, A. I.; and Wilde, S, 2012. New geochronological ages (U-Pb/Lu-Hf) from high-pressure rocks of the Escambray terrane and Santa Clara serpentinite mélange, central Cuba. Regional correlations and geodynamic implications. Geophysical Research Abstracts Vol. 14, EGU2012-14375-1.
- ✓ Despaigne-Díaz, A. I., 2011. Evolución tectonometamórfica de la cúpula Trinidad. Evidencias de subducción y colisión durante el Cretácico Superior en la placa Caribe. Regional Geology session. GEO1-O4, IV Cuban Convention of Earth Sciences, 2011. Memoirs in CD-Rom, La Havana, 4-8 de April. ISBN 978-959-7117-30-8.
- ✓ Despaigne-Díaz, A. I., Cáceres Govea., D., 2009. Análisis estructural de la zona de Yaguanabo, macizo Escambray, Cuba Central aplicando criterios macro y criterios microtectónicos (Structural analysis of Yaguanabo area, Escambray massif, Central Cuba, using macro and microstructural criteria), Revista Geología y Minería 25, No. 1, 1-33.
- ✓ Despaigne-Díaz, A. I., Cáceres Govea., D., 2009. Las maclas de calcita en los metacarbonatos. Significado tectónico y su empleo en la determinación de las temperaturas de deformación. Calcite twins in metacarbonates. Tectonic significance and their use to determine deformation temperatures. Revista Geología y Minería. 25, No. 2, 1-31.
- ✓ Sommer, M; Despaigne-Díaz, A. I.; Cobiella-Reguera, J. L; Meschede, M; Hüneke, H, 2000. DEM survey of the macro scale geomorphology and the tectonic structures of Cuba: methodology and implications for the Meso- and Cenozoic geodynamics of the NW-Caribbean. III National Geological and Mining Congress, La Havana, Cuba. Memoirs, 174.
- ✓ Despaigne-Díaz, A. I., 1998. Environmental impact assessment in a zeolite deposit (Zeolita Tasajeras). II<sup>nd</sup> National Geological and Mining Congress, La Havana, Cuba. Memoirs, 174.
- ✓ Despaigne-Díaz, A. I.; Díaz Muñoz, B; Montero-Orozco, M., 1998. Surface water pollution in Arroyo Grande basin, Santa Clara, Cuba. III<sup>rd</sup> National Geological and Mining Congress, La Havana, Cuba. Memoirs, 183.
- ✓ Despaigne-Díaz, A. I., 1998. Geological and structural mapping of the peridotite country rocks, south Spain. Earsel/NSEOG Symposium and Workshops. Abstract vol., 65.

- ✓ Despaigne-Díaz, A. J., 1996. Structural study of the peridotite country rocks in Pujerra area, with emphasis on development of cleavages and mineralogy. ITC Journal 2, 188-192.

### **Postgraduate and further Studies**

- ✓ “<sup>40</sup>Ar/<sup>39</sup>Ar dating of key metamorphic fabrics, Escambray metamorphic complex, Central Cuba”, Curtin University, December 2011-March, 2012.
- ✓ Geological processes modelling. University of Granada, Spain 2008.
- ✓ Microtectonics. University of Granada, Spain 2008.
- ✓ Analytical techniques applied to mineral research, Institute of Applied Geology (GEA). University of Concepción, Chile. April 2002.
- ✓ First international meeting about teaching of Earth Sciences for Latin America and the Caribbean. University of Pinar del Rio, Cuba. February, 2002.
- ✓ International course on Metallogeny applied to environmental geochemistry and mineralogy. Institute for Postgraduate Studies, FIGEMPA, University of Ecuador, Quito. June, 2002.
- ✓ Modeling of mineral deposits. National School of Geology, Santa Clara, Cuba. May, 2001.
- ✓ Applications of GIS to environmental geology, mineral resources management and evaluation of mineral potential. National School of Geology, Santa Clara, Cuba. April, 2000.
- ✓ Microsoft Excel. National School of Geology, Santa Clara, Cuba. January 1997.
- ✓ First workshop on Environmental Sciences and mining. Chilean Ministry of Mining and National School of Basic Industry (MINBAS), La Havana, Cuba. September, 1996.
- ✓ Geological Survey. International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede, The Netherlands. August 1993-April 1994 (Postgraduate studies).
- ✓ English. Language School “Andrés Bello”, Santa Clara, Villa Clara, Cuba. 1994.
- ✓ Learning English. University Marta Abreu, Santa Clara, Villa Clara, Cuba, 1993.



### **Memberships**

- ✓ Geological Society of America (GSA)
- ✓ Cuban Geological Society
- ✓ Geochemical Society
- ✓ Australian Institute of Geoscientists (AIG)

### **THESIS SUPERVISED**

**2019.**

**Willian Guillermo Caranton Mateus** Macro and microstructural study of the northwest flank of Sierra Nevada de Santa

Marta (SNSM); Colombia. Los Andes University, Bogota, Colombia. Diploma thesis.

**Diana Valentina Jiménez Villarraga** Tectonic evolution of the Quetame massif (macro, microstructural and petrographic analysis) in the Eastern cordillera, Colombia. Los Andes University, Bogota, Colombia. Diploma thesis.

**Simon Santiago Alba Pinilla** Deformation analysis of the Antioquian Batholith and the related tectonic terranes using macro and microstructural techniques. Los Andes University, Bogota, Colombia. Diploma thesis.

**Nicolás Duque Valenzuela** Structural evolution of the Belen área, northern part of the Floresta massif, Colombia. Los Andes University, Bogota, Colombia. Diploma thesis.

**Julian Fernando Garrido Chinsaca** Macro and microstructural analysis in a shear zone of the Sevilla metamorphic province. Sierra Nevada de Santa Marta Colombia. Los Andes University, Bogota, Colombia. Diploma thesis

**Andrea Carolina Martínez Martínez** Tectonic evolution of the southern part of the Floresta massif, Colombia. Los Andes University, Bogota, Colombia. Diploma thesis.

**2018.**

**Felipe Arrubla Arango** Geology and Geochemistry of the Frontino-Morrogacho Gold District. Los Andes University, Bogota, Colombia. Diploma thesis.

**2015.**

**Lisnorys Alazales Capetillo** Rehabilitation of the extraction front in the open pits "Pijirigua and La Paila", Artemisa province, Cuba. Impact assessment and mitigation plans. Construction Company Tranzmec, Artemisa, Cuba. MSc Thesis.

**2014.**

**Sandy Ortega** Structure and Mineralogy of the contact zone between Mabujina amphibolite complex and Escambray metamorphic complex, Central Cuba., University of Pinar del Río, Cuba (in progress). MSc Thesis.

**Isbel Mesa and Reiner Mayeta** Petrology and Geochemistry of basalts and diabases of the Havana-Matanzas region, Cuba. Ophiolite or arc related. University of Pinar del Río, Cuba. Diploma Thesis.

**2013.**

**Marcelis Rodríguez Hernández** Eclogites and exotic rocks in Escambray massif. Tectonic significance for the geodynamic evolution and exhumation of the massif. University of Pinar del Río, Cuba. Diploma Thesis.

**2012.**

**Mako Roneliah Sitali** Petrology and Geochemistry of the Cretaceous mafic volcanites in Havana-Matanzas region, Western Cuba. University of Pinar del Río, Cuba. Diploma Thesis.

**2012.**

**Edilia Ajete** Petrology and Geochemistry of the plutonic mafic and felsic rocks related to the ophiolites in Havana region, Western Cuba. University of Pinar del Río, Cuba. Diploma Thesis.

**2011.**

**Ana Vivian Prieto and Marbelis Riverón** Calcite twins and deformation in minerals in metacarbonates as



deformation temperature indicators, Trinidad Dome, Escambray metamorphic complex, Central Cuba. .  
University of Pinar del Río, Cuba. Diploma Thesis.

**2009.**

***Katherine Maldonado and Ulises Ricardo Machado*** Structure and metamorphism of greenschist facies rocks in the Trinidad Dome, Escambray Massif, central Cuba, University of Pinar del Río. Diploma Thesis.

**2007.**

***Lisnorys Alazales Capetillo*** Microstructures and poly-deformation in the SW border of the Trinidad Dome, Escambray Massif, Central Cuba., University of Pinar del Río, Cuba. Diploma Thesis.

**2003.**

***Yordanka Venegas*** Mineralogy of laterite technologic samples in the San Felipe deposit, Camaguey region, Eastern Cuba. University of Pinar del Río, Cuba. Diploma Thesis.

**Professional reviewer:**

Colombian Association for Science Advances (ACAD)

