

**D.Sc. LÍVIA GEBARA MURARO SERRATE CORDEIRO****GENERAL INFORMATION**

I'm a Brazilian oceanographer, D.Sc. in Environmental Sciences, currently living in Lisbon (Portugal) hired as Junior Researcher at the Portuguese Institute for the Sea and Atmosphere (IPMA). I have published 11 articles in Indexed International Journals, 3 of them as first author, 3 book chapters for science promotion, 27 papers in meetings and conferences and 11 technical reports in the research areas of Chemical Oceanography, Marine Biogeochemistry, and Paleoceanography. I have also integrated 15 scientific evaluation boards of graduation, master and doctorate projects. I have worked in national and international universities, and research institutes, but also in environmental consulting companies in the marine sciences area.

EDUCATION BACKGROUND

- Ph.D. in Environmental Sciences – UERJ, Brazil (Mar 2009 – Oct 2011).
Thesis: "Lipids as indicators of biogeochemical processes in sediments on the continental margin of the State of Rio de Janeiro".
- M.Sc. in Analytical Chemistry – PUC-RJ, Brazil (Mar 2004 – Feb 2006).
Dissertation: "Sterols as molecular markers of fecal contamination in the Iguaçú-Sarapuá estuarine system, northwest of Guanabara Bay (RJ)".
- B.S. in Oceanography – UERJ, Brazil (Mar 1996 – Aug 2001).
Monograph: "Water quality assessment along Rio dos Macacos, Rio de Janeiro city (RJ)".
- Technical Specialization in Extractive Metallurgy and SQE – CETEM-CEFET RJ, Brazil (120 hrs, March-Dec 2007).
- Online Summer School in "Trends, Rhythms and Events in the Earth's Climate System – Past, Present and Future" – University of Potsdam / Volkswagen Foundation (150 hrs, May-Sept 2021).

PROFESSIONAL EXPERIENCE

Portuguese Institute for the Sea and Atmosphere (IPMA, I.P.)Duty: Junior Researcher (Since Feb 2020)

- Hired by the EMSO-PT Project to develop a research on the assessment of paleoproductivity through lipid biomarkers on the Iberian Margin.
- Associate Researcher at the Oceanography and Climate Change Research Group (OC2) / CCMAR (University of Algarve)

Control Ambiental at service of PETROBRAS – Geodesy Dep. – Rio de Janeiro/RJDuty: Senior Environmental Analyst (May 2017 – Jan 2020)

- Hired to a pilot technical team responsible of standardizing the processes of environmental monitoring of Petrobras through the conduction of regional projects.
- Market prospecting of environmental analyzes of marine samples.
- Preparation of Technical Specifications, environmental characterization and monitoring projects, environmental monitoring reports, technical arguments to the Brazilian Environmental Regulation Institution (IBAMA), review of company's protocols for coastal and oceanic sampling.
- Logistics and supervising of environmental sampling on research vessels (Rs.V.): drop-cam imaging, water sampling for chemical and biological analysis, sediment sampling for chemical, physical and biological analysis, CTD profiles and primary production experiments.
- Development of quality control of chemical analyzes; audits of services of chemical analysis; and evaluation of results and reports of chemical analyzes.

**Pontifical Catholic University of Rio de Janeiro (PUC-Rio): Chemistry Dept. -
Laboratory of Marine and Environmental Studies (LABMAM) – Rio de Janeiro/Brazil**

Duty: Postdoctoral Research Scholar (Apr 2016 – Apr 2017)

- Postdoctoral Scholar from CAPES to support the development of research in the areas of paleoceanography and marine biogeochemistry investigation of the Brazilian equatorial and southeastern continental margins with a focus on the study of molecular and isotopic proxies in doctoral theses and undergraduate work.
- Provide scientific and logistical support to the development of consultancies carried out in the laboratory focusing on several organic biomarkers in environmental matrices through GC-MS, GC-FID, HPLC, LC-MS and GC-IRMS techniques. The main proxies analyzed in LABMAM were bulk organic matter (C:N, $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$); BTEX, SVOCs such as PAHs, n-alkanes and isoprenoids and organochloride compounds; sterols, n-alcohols and diols; alkenones; and hopanes and steranes.
- Preparation of reports and technical reports; and technical-scientific dissemination of the products.
- Supporting management of the laboratory and its key processes: storage and processing of samples, equipment, capital and human resources.

University of Aveiro – Aveiro/Portugal

Duty: Postdoctoral Research Scholar (Jan 2015 – Dec 2015)

- Postdoctoral Scholar from CAPES/FCT to work with methodological improvement of natural dissolved organic matter isolation in estuarine environments with saline and TOC concentration gradient (Ria de Aveiro). The main proxy in this study was DOC through SPE-PPL isolation, TOC determination and its molecular characterization by EEM Fluorescence Spectroscopy, FTIR-ATR and ^1H NMR.

CETEM Centre for Mineral Technology/ MCT - Rio de Janeiro/Brazil

Duty: Production Manager (Oct 2013 – Nov 2014)

- Management of the Reference Materials Laboratory and its key procedures: storing and processing of samples, resources and equipment control, preparation of technical reports and scientific products. Supervision of in loco sample preparation (drying, grinding and homogenization) and of analytical techniques such as Laser Diffraction Particle Size, Gas Pycnometry, Thermogravimetric analysis (TGA) and XRF Spectrometry.
- Research and development of production techniques for new matrices CRMs.
- Assisting the Quality Manager in all procedures of the Management System, internal meetings and internal and external audits.
- Assisting the program coordination in raising funds and grant applications.

Duty: Quality Assurance Assessor (Oct 2006 – Nov 2008)

- Assisting the coordination of Quality Management System on the NBR ISO 9001:2000 Certification.
- Management of the Reference Materials Laboratory and its key procedures.
- Assisting the coordination of Interlaboratory Measurements Program for Mining and Metallurgy Industry with method selection and data treatment from ore physical properties and its chemical characterization (metals and trace elements).

Université Pierre et Marie Currie/ LOCEAN – Paris/France

Duty: Postdoctoral Research Scholar (Oct 2012 – Apr 2013)

- Postdoctoral Scholar from CNPq to assess the organic biogeochemistry of the Cabo Frio Upwelling System (SW Atlantic Ocean) and the paleoceanography of Cabo Frio continental shelf samples (SW Atlantic Ocean) of the Resurgence Project. The evaluated molecular biomarkers in this study were sterols, n-alcohols and diols, n-alkanes and isoprenoids and alkenones through GC-MS and GC-FID techniques.

**Federal Fluminense University (UFF): Geochemistry Dept. /Ressurgência Project/
Petrobras Geochemistry Thematic Network/ ANP – Niterói/Brazil**Duty: Manager of Organic Geochemistry (Sep 2011 – Sep 2013)

- Assisting graduate and post-graduate students with scientific knowledge, analytical experience and management support to the development of researches in chemical oceanography, paleoceanography and marine geochemistry in the Cabo Frio Upwelling System. The evaluated proxies in this project were bulk organic matter (C:N, $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$), phenols from lignin, lipid biomarkers, alkenones, sulfur isotopes, metals and trace elements, radionuclides, benthonic and planktonic foraminifera, mineralogy, radiocarbon dating and physical properties of sediment cores and sediment trap samples; TS profiles, nutrients and $\delta^{18}\text{O}$ of water samples.
- Resource management of the laboratory and its key procedures: chemical analyzes, data treatment and control of analytical data quality, resources and equipment control.
- Preparation of technical reports and publications in peer-reviewed journals.
- Management and people development.

**Rio de Janeiro State University (UERJ): Lab. of Marine Organic Geochemistry (LaGOM)
– Rio de Janeiro/Brazil**Duty: Senior Oceanographer (Jan 2009 – Sep 2011)

- Responsible for project development of CENPES/Petrobras at LaGOM: Environmental Characterization of Campos Basin – Organic Geochemical Proxies (Project Habitats). The proxy evaluated in this study were bulk organic matter (C:N) through CHNS analyzer; sterols, n-alcohols and fatty acids through GC-MS and GC-FID.
- Resource management of the laboratory and its key procedures: organic chemical analyzes, treatment and control of analytical data quality, resources and equipment control.
- Preparation of technical reports and publications in peer-reviewed journals.
- Management and people development.
- Logistics of field sampling.

Duty: Oceanographer Specialist (Mar 2002 – Mar 2004)

- Responsible for project management on environmental monitoring of the CENPES/Petrobras project: "Identification of Pollution in Water and Sediments of REDUC Influencing Area". The main proxy evaluated in this study were bulk organic matter (C:N) through CHNS analyzer; and fecal sterols through GC-MS.
- Participation in the environmental sampling team and responsible for organic chemical analyzes (sterols, alcohols and hydrocarbons).
- Preparation of technical reports.

Ecology and Environment do Brazil – Rio de Janeiro/BrazilDuty: External Consultant on Chemical Oceanography (Aug 2006 – Feb 2008)

- Consulting for chemical oceanography area of the Petrobras (UnBA) monitoring project: "Production and Flow of Natural Gas in the Manati Field".
- Report writing on Water and Sediment Quality.

Pontifical Catholic University of Rio de Janeiro (PUC-Rio): Laboratory of Marine and Environmental Studies (LABMAM) – Rio de Janeiro/BrazilDuty: Environmental Chemistry Monitoring Trainee (Nov 2000 – Dec 2001)

- Performing procedures of organic chemical analysis and samplings of the CENPES/Petrobras project: "Damage Caused by Oil Spill in Guanabara Bay".

Geodatum Geotechnology & Environmental Consulting – Rio de Janeiro/BrazilDuty: Environmental Management Trainee (Apr 2000 – Sep 2000)

- Management procedures relating to Environmental Impact Studies (EIA/RIMA) and Environmental Audits.

HUMAN RESOURCES TRAINING

Rio de Janeiro State University (UERJ): Faculty of Oceanography – Rio de Janeiro/ BrazilDuty: Substitute Professor (March – July 2009, 60h course)

- Main Professor of the regular class “Water Quality in Estuaries” at the Oceanography undergraduate program.

Duty: Assistant Supervisor (2010)

- Osni Nascimento Cardoso. *Esthers and n-Alcohols composition in sediment cores from the Cabo Frio upwelling area*. 2010. Oceanography Graduation final project. Rio de Janeiro State University (main supervisor: Renato da Silva Carreira).

Federal Fluminense University (UFF): Geochemistry Dept. / Niterói/BrazilDuty: Assistant Supervisor (2013)

- Bernardo Rolim Rangel. *Sea Surface Temperature Variation on the Cabo Frio Continental Shelf in the last 200 years*. 2013. Federal University of Rio de Janeiro. Biological and Biophysical Sciences Graduation final project (main supervisor: Ana Luiza Albuquerque).

SCIENTIFIC AND ACADEMIC IMPACT *(in detail at: <https://orcid.org/0000-0002-1601-8825>)*

- Eleven Articles Published in Peer-reviewed Indexed International Journals.
- Twenty-seven papers published in national and international meetings and conferences.
- Two published chapter of books for science promotion.
- Eleven Technical Reports
- Participation in Scientific Evaluations: ten graduate final course projects (from 2003 to 2012), three M.Sc. dissertation (2017, 2020, 2021) and two PhD qualify (2019, 2022).
- Co-supervision of two undergraduate final course projects (2011 and 2012).
- Member of the 2012 Brazilian Oceanography Congress evaluation board of abstracts.
- Referee for: Quaternary Science Reviews. Elsevier (2020)

LANGUAGE PROFICIENCY & SKILLS

- **Portuguese** (native), **English** (fluent), **French** (mid-level), **Spanish** (mid-level).
- Advanced user of Office pack and Statistica software, mid-level user of ArcGis and beginner user of MATLAB and R software.
- Experience with field work sampling and processing environmental samples (including sampling onboard vessels and oil platforms).
- Solid experience on water quality assessment, laboratory management, quality assurance, and environmental pollution assessment.
- Experience in produce and evaluate data from chromatographic, spectroscopic, elemental, isotopic, mineralogical, microscopic, physical-chemical and spectrophotometric analyses from diverse environmental samples; and in operation the following equipment: CG-FID, CG-MS, UV-VIS, 2D/3D-FP, NMR, FTIR-ATR, TGA, TOC and CHNS analyzers, CILAS.
- Trainings on EUMETSAT Satellite Data, Application of Isotopes in Environmental Research, Environmental Planning and Management, Integrated Coastal Management, Law and Environmental Regulations, Ecological Modelling, Environmental Impact, ISO 9001:2000, ISO 17025:2005 and Production of Certified Reference Materials and Proficiency Testing.
- Easy communication and leadership skills in multicultural environments.