



Silvia Richard

Executive Consultant

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PROFILE

Silvia Richard has more than 15 years of experience in the renewable energy and water resources management sector as a specialist in hydroelectricity projects and multi-purpose dam projects. Today she occupies the position of international consultant and partner of Hill Engineering, a micro-enterprise created in February 2020 and owned by engineers passionate about renewable energies and hydroelectricity in particular.

More recently, she held the position of Expert Civil Engineering Hydroelectric Works at VOLTALIA in Paris, France. Its main activities were the development and revision of hydrological, hydraulic studies, design studies and costing in the APS and APD phase of small hydroelectric plants in Brazil, French Guiana and Africa, also as the piloting of these projects.

Previously, she held the positions of Member of society and Consultant in hydrology and hydroelectric energy within her own company MH Consultance Ltda between 2009 and December of 2013. In this function, she participated in the preparation of offers to provide services, project management, writing complete technical reports of project studies, presentation and discussion of project results to clients and the general public; and budgetary monitoring of projects. Some projects were continued and finalized by working from home, between 2010 and 2011 in England and also between March 2012 and December 2013, in France.

As Team Coordinator of Hydrological and Energetic Studies, she participated in all phases of development of hydroelectric projects from pre-feasibility studies, feasibility studies, financial and economic studies, hydrological studies and energy simulation up to " to the execution studies of small (1 to 30MW) to large (50MW-150MW) hydroelectric plants in different regions of Brazil. She supervised and organized a team of specialists (engineers, trainees and technicians) in hydrological, hydrometric, hydraulic, mechanical, geographic and civil engineering studies. She worked with a multidisciplinary team and developed specific studies to assess the flow reserved by hydrological and hydro biological methods downstream of the dams. She participated in site visits to assess the hydro morphological and hydrogeological characteristics of the watershed.

As Consultant of the Water Resources Management Program, she developed a multi-purpose dam study using multi-criteria software for optimizing water reservoirs, water demands and uses. This



study was funded by the IBRD (International Bank for Reconstruction and Development) for better water management and research into new sources of water for agriculture in southwestern Bahia, Brazil.

Silvia Richard has extensive experience in the development of hydroelectric potential studies, in dams of all types, optimization studies of hydraulic turbines, renovation and installation studies of hydroelectric plants, in different layout configurations. (water flow with or without daily reservoir, dam, regulating reservoir), complex hydraulic and hydrological studies (weir modeling, evaluation and obtaining of the water height x flow rate curves, studies of return channel curves, assessment of hydrogeology of the catchment area, studies of floods and flood zones, studies of solid flows carried and sediment deposition).

EDUCATION

Oct-2002 to Jan-2004 University of Edinburgh (Scotland-UK).

MSc. in Environmental Sustainability at CECS (Centre for the Study of Environmental Change and Sustainability), School of GeoSciences.

MSc. Thesis: "Assessment of eutrophication risk in Pirapama Reservoir and its water quality protection policy using a Public Participatory approach (Pernambuco Brasil)".

Feb-1993 to Oct-1998 UnB -University of Brasilia (Brasilia-DF, Brazil).

BSc. in Civil Engineering.

BSc. Final Project: "Alternatives Assessment for the water treatment optimisation of The Water Treatment Plant of Brasilia - CAESB (Brazil's Federal District Water Utility)."

PUBLICATIONS

MARQUES, SFS Assessment of eutrophication risk in Pirapama Reservoir and its water quality protection policy using a Public Participatory approach (Pernambuco - Brazil) / "Assessment of the risk of eutrophication of the Pirapama Reservoir and its Water Quality Protection Directive using a 'Participative Management approach (Pernambuco - Brazil) ". In: MSc Environmental Sustainability Thesis, University of Edinburgh, Scotland-UK, 2004.

MARQUES, S. F. S. Eutrophication caused by the load of phosphorus present in domestic sewage (Case study of Paranoá Reservoir, Brazil) / Eutrophication linked to the contribution of phosphorus present in wastewater (Case study of the Paranoá Reservoir, Brazil). In: Third Symposium for European Freshwater Sciences SEFS3, 2003, Edinburgh. Scotland-UK, Third Symposium for European Freshwater Sciences SEFS3, 2003.



BRANDS, S. F. S.; SILVA, G. D. Aspects hidrológicos da análise de Projetos de Usinas Hidrelétricas / Hydrological Aspects in Project Analysis of Hydroelectric Plants. In: Simpósio Nacional de Grandes Barragens, 2001, Fortaleza. Anais do Simpósio Nacional de Grandes Barragens, 2001.

BRANDS, S. F. S.; CAMELO, A. S.; Brandão, C. C. S.. A dimensão social da Ciência e da Tecnologia / The social dimension of Science and Technology. In: 32º. Congresso Universitário Internacional - UNIV, 1999, Italia. XXXII Congresso Universitário Internacional UNIV 99, 1999.

COURSES AND SEMINARS

Temporary Nature towards an Adaptative Managing (Paris, France, 4 December 2018) - Technical Exchanges Day organised by French Agency for the Biodiversity (“Ministère de la Transition Ecologique et Solidaire”).

Wind Forum (São Paulo - SP, Brazil, 10-12 February 2009) - International Forum with the main companies related to Wind Energy, Brazilian Government and International Committees representatives where were discussed the main characteristics, potentialities and difficulties for the Wind Energy development in Brazil, including the environmental issues.

Hydro Summit Congress (São Paulo- SP, Brazil, 1- 3 July 2008) - Participation in the Workshop: “Carbon Credits Market and CDM (Clean Development Mechanism) Projects development in Brazil and abroad”.

Post-graduation course in Carbon Credits (Gauss Institute, Brasília-DF, Brazil, April 2008) - Course ministered by MSc. Gustavo Mozzer presenting the main aspects of the Climate Change Science, international conventions and treaties, aspects and proceedings for submitting CDM (Clean Development Mechanism) Projects in Brazil.

Third Symposium for European Freshwater Sciences – SEFS3 (Edinburgh-UK, 13-18 July 2003) - Presentation of poster entitled “Eutrophication caused by the load of phosphorus present in domestic sewage (Case study of Paranoá Reservoir, Brazil)”.

Eurolakes Symposium on Protecting Scotland’s Water Resources under the Water Framework Directive (Edinburgh-UK, 7th July 2003) - Participation as a student in the meeting organised by CEH (Centre for Ecology & Hydrology) and European Commission – Project: Eurolakes.

Pirapama’s Catchment Committee meeting (Escada-PE, Brazil, April 2002) - Presentation of the main results of the Water Multiple Use Conflicts Study in the Pirapama’s Catchment.

32nd International University Congress (Rome-Italy, 29th March to 4th April 1999) - Participation with the poster entitled “Social dimension of science and technology” based on graduation project.

DETAILED EXPERIENCE

INFRASTRUCTURE

Feb-2019 to Aug-2019 VOLTALIA (Paris, France) - Civil Engineering Expert – Hydropower Plants

Project manager, Feasibility studies in French Guyenne, hydrologic and hydraulic studies in different phases of hydropower projects development, Revision of all Basic Design studies of small hydro plants in Brazil and French Guyenne, Hydrologic assessment of pre-feasibility studies in Africa, Energy production simulations and project costs evaluation.

Jan-2014 to Jan-2016 Independent consultant in renewable energy (France- Brazil)

Feasibility assessments, hydraulic analyses and energy production simulations and assessments, working remotely from France in partnership with consultants in Brazil.

Feb-2009 to Dec-2013 MH Consultancy Ltd., Brasilia-DF (Brazil) - Consultancy in hydrological, hydropower and feasibility studies for the design of hydropower plants.

Member and shareholder of the company MH Consultancy Ltd., working in a multidisciplinary team for the production of the inventory, feasibility assessments and basic design of small and medium hydro plants in all national territory.

Nov-2006 to Feb-2009 LARROSA & SANTOS Consultants, Brasilia-DF (Brazil) Development and coordination of hydrological and hydropower studies for the production of the inventory, feasibility and basic design of hydropower plants.

Hydrological Studies Team management;

Cost-benefice analysis;

Ecological flow assessment downstream the hydropower plants.

Jul-2005 to Mar-2006 COOPERSANEO (Environment, Architecture and Sanitation Cooperative), Brasilia-DF and Macapá-AP(Brazil) Participation in the Environmental Urban Quality Programme for Amapá sponsored by BIRD (International Bank for Reconstruction and Development)/ADAP (Amapá Development Agency).

Production of the Diagnosis, Conception and Basic Design of Urban Drainage systems projects in Macapá, Santana e Laranjal do Jari, including the Diagnosis of the Water Treatment System project in Laranjal do Jari.

Aug-2004 to May-2005 SRH (Superintendence of Water Resources), Salvador- BA (Brazil) - Consultancy in Superficial Hydrology and Water Resources Planning of PGRH (Water Resources Management Project sponsored by BIRD)



Construction of a hydrological system using Labsid-Acquanet (USP- São Paulo University), a mathematical model that permits simulations and management of water availabilities and demands in a water basin; Hydrological studies to increase the water availability for agriculture in a water basin considering construction of reservoirs and rational use of water.

Dec-1998 to Sep-2002 ANEEL (Brazilian Electricity Regulatory Agency), Brasilia-DF (Brazil) - Hydrology Consultant at SIH (Superintendence of Hydrological Studies and Information)

Hydrological studies to mediate water conflicts dissolution in the semi-arid region of Brazil (Pirapama river catchment-PE);

Member of the Hydrological Studies working team for the analysis of Hydropower Plants;

Participation in the Hydrological Data Consistence Projects of Tapajós River (Amazon River Basin) and Doce River (East Atlantic River Basin);

Participation in the National Hydrological Network Planning Group; Hydrological models applications.

LANGUAGES

Portuguese (native)

Spanish (high)

English (fluent)

French (fluent)