

BIO Melina Balderrama Durán - BOLIVIA

Born in Bolivia, she is an industrial engineer bachelor at the Bolivian Catholic University, a PhD in Industrial Engineering in the area of computer integrated manufacturing from the Ramón Llull University - Institut Quimic de Sarriá in Barcelona, Spain. She also has a master's degree in industrial and business management as well as other postgraduate courses on issues of environment, energy, human resources, quality management, academic management, industrial costs.

She has 18 years of work experience, has specialized in the development and management of social projects from and for the public sector, international development cooperation and the academic sector. She has done individual, team, independent and institutional consultancies within the framework of issues of Environment, Energy, Disaster Risk, and Water.

She has been a university professor since 2011 of several topic courses that are part of her professional competence in undergraduate and postgraduate level: Automated processes in the industry, sensorics in the industry, sensorics in engines, environment and society, renewable energies, energy efficiency, methodology Research, project development

She has directed theses and degree projects. She is a member of the editorial committee of the magazine Energetic of the National University of Colombia, developer of postgraduate courses on topics of Disaster Risk, renewable energy and energy efficiency, water technologies and environmental management.

She has been the tutor of the winning project of the national contest of renewable energies for university students of the year 2013 with the project of generation of biodiesel from oils used by transesterification.

She has created and promoted 4 training programs in renewable and alternative energies:

- Geothermal, lithium and biomass energy (created)
- Solar, wind and water energy (created)
- Energy for sustainability (created)
- Sizing of solar pumps for irrigation (promoted)
- Course of uses of solar pumping systems for irrigation (promoted)

She has published 4 scientific articles indexed and revised the manual of use of the solar pumping kit for irrigation, prepared by the GIZ Nexus Program

DESCRIPTION OF WORK EXPERIENCE

Among the projects that she has managed, marked her life, the projects carried out by the United Nations Development Program (UNDP), for which he provided administration and management services for the *Capacity 21 - Phase III* and the *Bolivian Poverty Reduction Strategy* projects, stand out. The first one, dedicated to promote the local capacities of the municipalities of Bolivia for the development of productive activities within the framework of sustainability and in compliance with the Rio +10 agenda. The second project developed the Dialogue 2000 process, with the aim of defining an economic development policy that includes the voice of all sectors, especially vulnerable sectors such as women and young people. This both projects allow her in deep the reality and challenges of Bolivia in sustainability and development because were focused into the less developed regions of Bolivia.

She worked at universities since 8 years ago, at the Bolivian Catholic University "San Pablo" as chair of studies at Environmental Engineering, Director of the Department of Environmental Engineering, National Research Coordinator and National Coordinator of Special Projects. From these different positions, she promoted the link between the University and the public sector (national and subnational governments), the private sector, bilateral and multilateral international cooperation agencies and other international universities. In this way important and unprecedented alliances were achieved with Germany (GIZ, German Association of Solar Energy, Association of scholarship holders in Germany), Spain (AECID, Polytechnic University of Valencia, Polytechnic University of Catalonia, Polytechnic University of Madrid), Switzerland (SDC, Helvetas Swiss Intercooperation, Swisscontact), Belgium (CTB, VLIR UOS), USA (Embassy), Sweden (SIDA, SI, RISE) and others. She developed and created the Postgraduate Unit of Environmental Engineering, from which the courses of different levels of training in energy (renewable energy, energy efficiency), water (treatment technologies, irrigation, governance) were promoted. Under her leadership, the university developed application skills for competitive funds, thus leading projects funded by the European Union, Belgium, Spain.

On the subject of energy, she worked directly and in coordination with the GIZ with different programs: Endev Bolivia (access to energy for development), PERR (Renewable Energy Program), NEXO (Water, energy and food).

Of special interest is the work of training courses in renewable energy, water and food. We collaborated with the development of courses on the use of solar pumping systems for irrigation in which municipal public officials and users of irrigation systems in the communities participated. In these courses they have been based on the toolbox developed

by GIZ and the target group of women, therefore, knowledge management has been worked as a tool for the empowerment of women and as access to training that will improve the quality of life. In addition, poverty reduction approaches and mitigation and adaptation measures to climate change were included as main axes of the training.

The development of the Manual for the use of the solar pumping system for irrigation is a corollary example of the interest in contributing to the reduction of CO₂ emissions from knowledge management and the empowerment of the most vulnerable.