



MANUEL J. HERNANDEZ

Ph.D. Soil Science and Irrigation Water Management, 1986, University of California, Davis

M.Sc. Water Science, 1979, University of California, Davis

Agricultural Engineer, 1976, University of Göttingen, Germany

Research topics:

- Water quality and treatment techniques for urban, industrial and agricultural use.

Actual position:

- Director and Chief Scientist of the Canary Islands Water Research Center (FCCA) (since 1999).
- Managing Director of DrinTec Solutions a subsidiary of the FCCA (since 2009).

Recent patents and inventions:

- Procedure for the preparation of constant height upflow limestone contactor with control of turbid waters for the remineralization of soft and desalinated waters.
- Procedure for reduction of silica content in hard waters with fluidized sand beds.
- Procedure for the remineralization of soft and desalinated water using micronized limestone.
- Special components for the construction of upflow limestone contactors of constant height inside rectangular and circular tanks.
- Underdrain pipe system with filtering limpets for uniform air and water backwashing.
- Low pressure CO₂ dissolver for soft and desalinated waters.
- Automatic system for measuring water quality in reverse osmosis racks.

Desalination plants with the upflow limestone contactor patented design:

- 70,000 m³/d (on-going).
- 40,000 m³/d (on-going).
- 21.200 m³/d (on-going).
- 21.200 m³/d (on-going).
- 21,200 m³/d (2010).
- 16.500 m³/d (2010).
- 200,000 m³/d (2009).
- 80,000 m³/d (2008).
- 10,000 m³/d; 12,000 m³/d and 10,000 m³/d (2006-2007).
- Over 20 plants: 600 m³/d to 3,000 m³/d in FRP tanks (2003-2011).

Technical publications:

- Guideline for the remineralization of desalinated water. 2nd edition, written Spanish and English. Published by the Spanish Ministry of Environment (2010)
- Technical publications on remineralization of desalinated water, water diagnosis, fluoride treatment, silica removal, water quality for irrigation, environmental legislation and regional water resources planning. (2002-2010)
- Research report on the toxicity problems of excessive boron and sodium when irrigating with desalinated water. (2007-2008)

- Research report on the impact of brine discharge on sewer water quality and wastewater treatment.(2008)
- Research report on wastewater treatment and wastewater reuse.
- Editor of a quarterly bulletin on water research for the Canary Islands Water Research Centre. (1999-present)

Previous positions:

- Principal consultant on environmental and water quality issues for multinational corporations and government bodies.
- Postgraduate researcher at the University of California, Davis.

Selected projects prior to 1999:

- Atlas of surface water quality of Spain for the Spanish Ministry of Environment. Included detailed analysis of EU criteria and application to Spanish water bodies. (1998-99)
- Official guidelines of the Spanish Ministry of Environment for reporting environmental information to the EU regarding surface and groundwater quality for the Spanish Ministry of Public Works (1999).
- Technical evaluation and analysis of the Panama Canal Zone reports submitted by the US-Forces before leaving the Canal Zone (1998).
- Master plan for management wastewater sludge disposal for the Greater Madrid Authority, Spain (1998)
- Environmental water and pollution assessments of several breweries, as well as engineering and construction of anaerobic water treatment plants for Guinness Brewing Worldwide (1994-1996).
- Soil and groundwater pollution of different installations for oil companies and chemical industry. (1990-1996).
- Environmental audits and impact assessment of major industrial installations (1990-1996)
- Guideline for transport and reusing municipal wastewater. (1990)
- Evapotranspiration and irrigation planning in California. California Irrigation Management System. (1984-1987)
- Analysis and correction of crop nutritional toxicities, deficiencies and soil degradation due to poor water irrigation water. (1981-1984)
- Evaluation of water resources of the Canary Islands. Prognosis on evolution of water demand and availability. (1981)

Languages:

- English (excellent in speaking, reading and writing)
- German (excellent in reading and speaking, good in writing)
- Spanish (mother language)

Address:

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