
CURRICULUM VITAE

PERSONAL DATA:

Name and surname: Guillermo COLLAZOS

Age: 46 years

Birthplace: Tres Arroyos - Argentina

Second nationality: Italian

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EDUCATION:

- Ph. D. in Hydraulic Engineer, December 2004. Standard: excellent *cum-laude*. PhD thesis title: "Decision Support System for Economic Evaluation and Optimization of Water Resources Systems". Department of Hydraulic Engineer and Environment, Universidad Politécnica de Valencia (UPV), España.
- Civil Engineer, December 1996. Average of 8,30 (on 10). Faculty of Engineering - Universidad Nacional de La Plata (UNLP)- Argentina.
- Hydraulic Engineer, December 1996. Average of 8,33 (on 10). Faculty of Engineering - Universidad Nacional de La Plata (UNLP)- Argentina.

HONORS AND AWARDS:

- Graduate scholarship (in merit competition) for PhD study of the Generalitat Valenciana (Spanish region). From march 2001 to December 2004.
- Selected for postdoctoral position (in merit competition) in the CEAZA (Centro de Estudios Avanzados para Zonas Áridas) in La Serena (Chile). Finally I refuse this position.

UNIVERSITY MANAGEMENT ACTIVITY:

Student Consultant in the Council Government of Engineering Faculty, year 1996.

WORK EXPERIENCE:

- From set/2013 to actually: reasercher of CIC (Cientifics Reasercher Comision) of Buenos Aires State, in the Hydrology Institut of Plains (Azul, Argentina). Development of technological and research activities in the field of surface hydrology, water governance, use of aerial photography in the monitoring of surface storage and floods. Responsible for several service agreements.
- From aug/2010 to set/2013: hydrologist, expert in FEWS and numerical modeling, working for the SENER company (Las Arenas, Bilbao, España).
Main tasks: configuration of the FEWS (Flood Early Warning System) for the Basque Water Agency, calibration of TETIS models, management and configuration of several hydraulic and hydrological models for the delimitation of flood zones, generation of series of synthetic precipitations, calculation of characteristic flows, estimation of flood risks, etc.
- From nov/2008 tp jul/2010: Hydrologist of the Automatic Hydrological Information System (SAIH) of the Tajo Hydrographic Confederation (Madrid, Spain), working for the Ofiteco company (in joint venture with SICE).
Tasks carried out: review and validation of hydrological information, making technical reports and programming automation, creation and calibration of hydrological models (rain-runoff, snow-melt, one-dimensional flow, etc.) and their incorporation into the FEWS environment (for early warning of avenues in real time). Configuration of the FEWS system (creation of workflows) in the Tajo SAIH.
- From jul/2007 to oct/2008: head of hydrology of the Automatic Hydrological Information System (SAIH) of the Júcar Hydrographic Confederation (Valencia, Spain), working for the Ofiteco company (in joint ventures with Indra).
Tasks carried out: automation of the Weekly Report of the state of the exploitation systems, monitoring of the incidences of the measurement system, realization of telephone and face-to-face watches (in episodes of torrential rains), elaboration of annual hydrological reports, drought or adverse events , reports for the operating commissions of the different exploitation systems, hydraulic studies in gauging stations, creation of databases in Access, use of the FEWS system for early warning of floods, use and treatment of meteorological grids information (forecast and radar), etc.
- From no/2006 to jun/2007: hydrologist of the Automatic Hydrological Information System (SAIH) of the Segura Hydrographic Confederation (Murcia, Spain), working for the company UTE SEGURA XXI (SICE, Indra and Dragados).
Tasks performed: daily control of the functioning of the sensors and measuring elements, debugging and correction of data, maintenance of the expense curves, maintenance route recommendations to the field teams, making monthly reports on the state of the basin, use of the SCADA system and its different databases, programming of macros in VBA, etc.

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- Fellowship main in agreement between the Confederación Hidrográfica del Júcar (Water Agency) and the Universidad Politécnica de Valencia for make economics study at basin scale, in pilot Júcar basin required by the Water Framework Directive. Dates: April, 2004 to December, 2004.
 - Fellowship in the following UPV project:
 - “SSD PARA LA GESTIÓN CUANTITATIVA, CUALITATIVA Y AMBIENTAL DE CUENCAS HIDROGRÁFICAS. Financing: Ministerio de Ciencia y Tecnología (DGI-SGPI, project REN2002-03192). Dates: October 2002 to October 2005.
 - “SEDEMED: SEQUÍAS Y DESERTIFICACIÓN EN CUENCAS MEDITERRÁNEAS”. Financing: European Commission (program Interreg IIIc, project SEDEMED). October 2001 to October 2004.
 - Graduated scholarship in *Hydrology Laboratory*, Faculty of Engineering, Universidad Nacional de La Plata, Argentina. Duration: 15 months; end in 1998.
 - Scholarship holder in *Hydromechanical Laboratory*, Faculty of Engineering, Universidad Nacional de La Plata, Argentina. Duration: 4 months; end in 1996.

COURSES:

- *Analysis of climatic projections of precipitation-temperature using statistical methods*, Instituto de Hidrología de Llanuras, Azul, Argentina. Teacher: Eleonora M. C. Demaría (University of Arizona). Date: nov/14.
- *Tools for the management of watersheds - Application of SWAT*, Instituto de Hidrología de Llanuras, Azul, Argentina. Teachers: Gabriel Vázquez Amabile (AACREA) y Natalia Uribe Rivero (DAPA-CIAT), de 35 hs. Date: oct/13.
- *User course of the WISKI system (Water Information System of KISTERS)*, Basque Water Agency, Vitoria, España. Date: nov/12.
- *Delft Software Days 2012*, DELTARES, Delft Netherlands. Date: nov/12.
- *Conference of coordination before Floods*, Escuela de Protección Civil, Rivas Vaciamadrid, España. Date: jun/10.
- *Advanced FEWS configuration course*, DELTARES, Delft Netherlands. Several teachers, 20 hs. Date: feb/10.
- *NAM-Mike models configuration course*, DIH-Spain, Confederación Hidrográfica del Tajo, Madrid. Teacher: Luis De Celli, de 16 hs. Date: apr/09.
- *Course international of GIS apply to management of hydrological information ArcHydro*, Universidad Politécnica de Valencia. Teacher: Carlos Patiño, 30 h., assistance. Date: nov/04.

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- *Masterful course: Boundary of superficial hydrology in the XXI century*, Universidad Internacional Menéndez Pelayo, Valencia.
Teacher: Ignacio Rodríguez Iturbe, 30 h., with examination. Date: jun/03.
 - *Hydrogeology in Arid Regions*, Faculty of Natural Sciences, UNLP, 35 h., with examination. Date: oct/97.
 - *Computer Assistance Design (CAD)*, Faculty of Engineering, UNLP, 20 h., with assistance. Date: aug/97.
 - *Specialization en Operative Investigation*, Faculty of Engineering, UNLP, 54 h., with examination. Date: jul/97.

EDUCATIONAL ACTIVITY:

- 1995-1996: Student teaching assistant *ad-honorem* in the course *Soil Mechanics*, UNLP.
- 1996-1998: Graduate teaching assistant *ad-honorem* in the course *Exploitation of Water Resources*, UNLP.
- *Introduction of the University Education* Faculty of Engineering, UNLP, 40 h., with assistance. Date: July 1998.
- Visiting teacher of 18 h. theoretical-practical about *Decision and optimization in Water Resources field*, for the course “Advanced Superficial Hydrology”, in: “Master in Eco-hydrology”, year 2005. Universidad Nacional de La Plata, Argentina.
- Teacher of course “Use of simulation and optimization models in Planning y Management of Water Resources”, of 40 h. Universidad Nacional de La Plata, Argentina. Date: December 2005.

OTHER KNOWLEDGE:

- COMPUTER SKILL: Office (Word, Excel, Access, Power Point etc.) very good user level. User expert of AutoCAD, ArcGIS, QGIS, LaTeX (scientifically writing), GAMS, MatLab, PhotoShop, etc. User of hydrological software: HEC-HMS, HEC-RAS, NAM, MIKE, IBER, Infoworks, TETIS, Aquatool, etc.
- PROGRAMMING: high level in Visual Basic 6.0 and Fortran 90.
- LANGUAGES: Spanish: native. English: read: good; write and speak: regular.
- FIELD ACTIVITY: participation in 3 field-out water quality sampling in Ebro river (España) between 1999-2001; actually periodic field tasks in Azul basin.

PhD WORKS:

- The PhD program *Management and Planning of Water Resources*, in Department of Hydraulic Engineer and Environment, Universidad Politécnica de Valencia (España) has been first class of quality evaluation into Spain.
- Field work: Management and Planning of Water Resources.
Director: PhD. Joaquín Andreu Álvarez.
Key words: mathematical modeling, water economy, management integrated of basins, nonlinear optimization.
- I'm study the following courses:
 - Water Resources System Analysis.
 - Stochastic Hydrology.
 - Methodology of management of ecosystems of superficial waters.
 - Mathematical physical modeling of flow in fluvial channels.
 - Mathematical models of groundwater flow and mass transport.
 - Conjunctive utilization of superficial water and groundwater.
 - Environment Impact.
 - Mathematical models for superficial water.
 - Geostatistical.
- I did two Investigation Works that require the PhD program:
 - Work 1: *Stochastic Model of Flow Monthly Intermittent Series*, director: teacher Félix Francés García.
 - Work 2: *Economic Optimization of Water Resources System*, director: teacher Joaquín Andreu Álvarez.
- In December 2004 I finished the PhD thesis: “**Decision Support System for Economic Evaluation and Optimization of Water Resources Systems**”. ISBN: 0-542-13628-7. Standard: **excellent cum-laude**.

SCIENTIFIC PAPERS:

- “Regionalised spatiotemporal rainfall and temperature models for flood studies in the Basque Country, Spain”. *P. Cowpertwait, D. Ocio, G. Collazos, O. de Cos, and C. Stocker*. Hydrology and Earth System Sciences, 17, 479-494, 2013.
<http://www.hydrol-earth-syst-sci.net/17/479/2013/hess-17-479-2013.html>

OTHER SCIENTIFIC WORKS:

- Part in “Assessment of Environmental and Resource Costs in the Water Framework Directive, ECO2 information sheet dealing with environmental and resource costs in the WFD”. Unión Europea. Amsterdam (Holland). Jun/04.
<http://www.waterframeworkdirective.wdd.moa.gov.cy/.../ECOResouceCosts.pdf>

CONGRESS WORKS:

- “Curvas IDF para el centro de la Pcia. de Buenos Aires”. *Guillermo Collazos y Georgina Cazenave*. ConAgua 2015, Paraná, Argentina. June, 2015. ISBN 978-987-27407-4-0.
- “Uso del modelo IBER en un problema de flujo bidimensional”. *Guillermo Collazos*. ConAgua 2015, Paraná, Argentina. June, 2015. ISBN 978-987-27407-4-0.
- “Obtención de caudales extremos mediante simulación hidrológica continua y generación estocástica de tormentas en la Comunidad Autónoma del País Vasco”. *David Ocio Moreno, Christian Stocker, Ángel Eraso Alberdi, José María Sanz de Galdeano, Guillermo Collazos, Óscar de Cos Mier*. III Jornadas de Ingeniería del Agua. Valencia (España). October, 2013.
<http://www.ingenieriadelagua.com/2004/JIA/Jia2013/pdf/b41.pdf>
- “Implantación de FEWS en la cuenca del río Tajo”. *Guillermo Collazos y Peter Godiksen*. XXIV Congreso Latinoamericano de Hidráulica, Punta del Este, Uruguay. Nov/10.
- “Sistema Soporte de Decisión H2O para planificación y gestión del uso de los recursos hídricos a escala de cuenca”. *Collazos, Guillermo*. V Congreso Ibérico sobre Gestión y Planificación del Agua, Faro (Portugal). December, 2006. ISBN 989-20-0456-6.
- “Sistema Soporte de Decisión H2O para análisis y planificación de Sistemas de Recursos Hídricos”. *Guillermo Collazos*. XXII Congreso Latinoamericano de Hidráulica, Ciudad Guyana, Venezuela. October, 2006.
- “Methodology and tools for integrated Assessment of the resource and environmental requirements cost.”. *Joaquín Andreu Álvarez, Manuel Pulido Velázquez, Guillermo Collazos*. Second International Workshop on implementing economic analysis in the Water Framework Directive. Paris (France). February, 2005.
- “SSD para el análisis económico de Sistemas de Recursos Hídricos”. *Collazos, Guillermo; Andreu Álvarez, Joaquín; Pulido Velázquez, Manuel*. IV Congreso Ibérico sobre Gestión y Planificación del Agua, Tortosa (España). December, 2004. ISBN 84-689005-2-4.

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- “Metodología y herramientas para el análisis económicos de Sistemas de Recursos Hídricos. Aplicación a la Directiva Marco Europea del Agua”. *Andreu Álvarez, Joaquín; Collazos, Guillermo; Pulido Velázquez, Manuel; Pérez Martín, Miguel A.* IV Congreso Ibérico sobre Gestión y Planificación del Agua, Tortosa (España). December, 2004. ISBN 84-689005-2-4.
 - “Utilidad de los modelos hidroeconómicos para el análisis económico de la DMA”. *Guillermo Collazos, Joaquín Andreu Álvarez, Manuel Pulido Velázquez.* Jornadas AIRH-GE, Madrid (Spain). November, 2004; El análisis económico en la Directiva Marco del Agua: incidencias e implicaciones para España.
 - “Metodología y herramientas para el análisis económicos de Sistemas de Recursos Hídricos”. *Guillermo Collazos, Joaquín Andreu Álvarez y Abel Solera Solera..* XXI Congreso Latinoamericano de Hidráulica, Sao Pedro, Sao Pablo, Brasil. October 2004. ISBN 85-904853-1-5
 - “Mapas mensuales de evapotranspiración de cultivo en la cuenca del Azul y su utilización por parte del usuario final”. *Rivas, Raúl; Collazos, Guillermo; Vives, Luis; Usunoff, Eduardo.* SINERGIA 2004, XVII Congreso Argentino de Mecánica de Suelos e Ingeniería Geotécnica. III Congreso Argentino de Presas y Aprovechamientos Hidroeléctricos. VIII Simposio de Geología Aplicada a la Ingeniería y al Medio Ambiente. V Reunión Sobre Preparación y Uso de Mapas Temáticos.

OTHER SCIENTIFIC WORKS:

- Collaboration in “Assessment of Environmental and Resource Costs in the Water Framework Directive, ECO2 information sheet dealing with environmental and resource costs in the Water Frame Directive.” (European Union). Amsterdam, (Holland). June, 2004.

DEVELOPED SOFTWARE:

- Programs of calculation in Fortran 90:
 - EvalGes, MEvalGes y EcoGes for economic evaluation and optimization of Water Resources Systems (for PhD thesis).
 - SeriesAR for generation synthetic monthly flow series with AR models.
 - AutoVal for calculation confined aquifer with eigenvalue method.
 - LLuviaEsc for gauge rain-flow common models.
 - ModeloPunteo for generation of point rain through Markov chain.

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- Programs in Visual Basic 6.0:
 - Gestal interface in windows environment for the analysis economics of WRS programs (for PhD thesis).
 - VisorET for visualize potential evapotraspiration maps and calculate real evapotraspiration of crops in the Azul basin (Argentina).

 - **The “start” development, the Decision Support System DSS H2O for simulation and optimization of Water Resources Systems (WRS) in windows environment, that include four four complex calculation models.**
See in <http://www.ssd-h2o.com.ar>.