CURRICULUM VITAE (June 2009)

Complete name:	**Vázquez Zambrano Raúl Fernando**
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e-mail:	• raulfvazquezz@yahoo.co.uk • rvazquezz@aragon.es
Web site:	• **http://www.geocities.com/raulfvazquezz**
Place and date of birth:	Cuenca – ECUADOR, April 22nd 1970
Nationalities:	Ecuadorian, Belgian
Civil status:	Unmarried

Education

Diploma	Institution / University - Faculty	Beginning of studies	Date of graduation	Level of graduation *
PhD in Civil Engineering (Water Resources Eng.)	K.U.Leuven, Faculty of Engineering, Belgium	March 1998	5 June 2003	------
Master of Science in Water Resources Engineering	K.U.Leuven, Faculty of Engineering, Belgium V.U.Brussel, Faculty of Engineering, Belgium	Oct. 1995	19 Sept. 1997	Great Distinction (80%)
Civil Engineer	Universidad de Cuenca, Faculty of Engineering, Ecuador	Oct. 1987	23 Dic. 1993	Great Distinction (82%)

* On a four-entry grading scale: satisfaction, distinction, great distinction and greatest distinction.

Postgraduate training

Training course	Institution / University - Faculty	Training period
• "International Workshop and Conference on the Soil and Water Assessment Tool (SWAT)"	UNESCO-IHE, Delft, The Netherlands	2-6 July 2007
• "Vegetation Image processing"	Leuven Earth Observation – Ground for GIS (K.U.Leuven), Belgium	17-21 April 2000
• "Cartographic reporting and GIS"	Leuven Earth Observation – Ground for GIS (K.U.Leuven), Belgium	30th March – 4th April 2000
• Int. Course in Microcomputer Applications for Water Resources Engineering "Irrigation and Drainage"	Institute for Land and Water Management, K.U.Leuven, Belgium	July 1996 - Oct. 1996
• Int. Course in Microcomputer Applications for Water Resources Engineering "Remote Sensing and GIS for Land and Water Resources Management"	Institute for Land and Water Management, K.U.Leuven, Belgium	July 1994 - Oct. 1994

Language skills (1 to 5 for competence, where 5 is highest)

Language	Reading	Spoken	Written
Spanish	5	5	5
English	5	5	5
French	4	3	3
Catalán	4	1	1
Flemish (Dutch)	2	1	1

General experience & other skills

➔ General experience with several activities of the project management cycle such as project proposal formulation, project- coordination and implementation, financial expenditure supervision, coordinating the edition of progress- and final- reports, organising project meetings, dissemination of main project findings, etc.

➔ General professional experience as a Civil Engineer (14 years) in the following fields:

- Field measuring techniques commonly used in hydrogeology, surface hydrology, characterisation of soils and unsaturated (i.e. vadose) zone for irrigation;

- Land surveying (optical as well as GPS methods) for the digital modelling of the terrain;
- Numerical code validation (throughout the code developing process) against analytical solutions and the predictions of existing comparable codes;
- Project formulation

➔ Other skills:
- Competent with most common Microsoft Office software and other word processors (WordPerfect) and spreadsheets (LOTUS, QPRO);
- competent with Statistical analyses, in particular, using the R statistical/programming tool;
- some experience with HTML, text (ASCII) and XML formats;
- basic programming skills: BASIC, FORTRAN, PASCAL, QBASIC, PERL, MATLAB, R. Author of several programs for professional as well as research applications;
- experience with mathematical models and GIS, such as Modflow-GWVistas (groundwater modelling), MIKE-SHE (Integral surface-subsurface-groundwater modelling), IDRISI (Geographic Information Systems: GIS), ArcView (GIS) and ARC/INFO (GIS);
- familiar with GPS (Global Positioning Systems) surveying.

Employment antecedents

01 Nov. 2008 – ongoing. Civil Engineering Researcher. Contract INIA-CITA. Centro de Investigación y Tecnología Agroalimentaria de Aragón (CITA), Unidad de Suelos y Riegos (USyR), Zaragoza, Spain.

01 Oct. 2007 – 13 Oct. 2008. Civil Engineering Consultant. TYPSA (**http://www.typsa.es/eng/**) - Dirección Territorial Cataluña, Unidad de Hidráulica, Barcelona, Spain.

May. 2005 – 30 September 2007. Civil Engineering Researcher. Contract INIA-CITA. CITA, USyR, Zaragoza, Spain.

Oct. 2003 – Oct. 2004. Civil Engineering Researcher, Project (PDM/03/188) "Simplification of distributed hydrologic models in the scope of an integrated catchment-based approach". Faculty of Engineering, Laboratory of Hydraulics, Catholic University of Leuven (K.U.Leuven), Leuven, Belgium.

Nov. 1997 - Jan. 1998. Civil Engineering Consultant. "Preliminary Studies for the Plan of Environmental Management in the community of Dandán". Proyecto para el Manejo del Agua y el Suelo (PROMAS) - University of Cuenca.

July 1995 – Aug. 1995. Civil Engineering Consultant. Planimetric surveying (cadastral) of the zones of Gualleturo (Cañar) and Bulán (Azuay) by means of GPS (Global Positioning Systems). PROMAS - University of Cuenca.

Nov. 1994 – May. 1995. Civil Engineering Consultant. "Definitive study of the Irrigation Systems for Chontamarca, Gualleturo, Bachirín and San Antonio de Paguancay". PROMAS - University of Cuenca.

Oct. 1994 - June 1995. Civil Engineering Consultant. "Pre-feasibility study of the Irrigation System for Bulán – San Cristóbal". PROMAS - University of Cuenca.

March 1994 - July 1994. Civil Engineering Consultant. "Preliminary Studies for the Second stage of the Masterful Plan of Potable Water and Sewage System for the city of Cuenca". Planning Department – Municipal Enterprise for Telephone Systems, Potable Water and Sewer Systems (ETAPA).

Jan. 1994 - March 1994. Civil Engineering Researcher. "Protection of embankments of the rivers of Cuenca and control of Floods". Institute for Technical Research - University of Cuenca.

Participation in Projects

- 15th December 2007 – 15th Mach 2008. "Recuperació de Recursos Subterranis Parcialment Substituïts per ATLL a L'àmbit del Penedès - Garraf". Client: Aigües Ter LLobregat (ATLL). Técnica y Proyectos S.A. (TYPSA), Barcelona, Spain.
- 6th February 2007 – 9th May 2007. "Validation of a groundwater flow module based on finite volume techniques and unstructured meshes. CEMAGREF" as a part of the general project "Taking into account the spatial heterogeneity of continental surface in distributed hydrologic models: application to the upper Saöne catchment". CEMAGREF, Hydrological Processes and Distributed Modelling Group, Lyon, France.
- October 2006 – October 2007. Convenio de Colaboración entre la Confederación Hidrográfica del Ebro (CHE) del Ministerio de Medio Ambiente y el Centro de Investigación y Tecnología Agroalimentaria de

Aragón (CITA) de la Diputación General de Aragón para Evaluación del Impacto Medioambiental de las Actividades Agrarias en tres sistemas de riego de la cuenca del Ebro.

- 21st February 2006 – 31st December 2009. "Diagnosis and Control of Salinity and Nitrate Pollution in Mediterranean Irrigated Agriculture (acronym: QUALIWATER)". Project INCO-CT-2005-015031. Centro de Investigación y Tecnología Agroalimentaria de Aragón (CITA), Unidad de Suelos y Riegos (USyR), Zaragoza, Spain. Project Coordinator (CITA): Dr. Ramón Aragüés Lafarga.
- 1st November 2006 – 30th October 2009. "Insumos de Producción y Calidad de los Retornos en un Regadío de la Cuenca Media del Ebro". Spanish National Project (CSIC) AGL2006-11860/AGR. CITA-USyR, Zaragoza, Spain. Project Coordinator (CITA): Dr. Daniel Isidoro.
- 1st November 2007 – 31st December 2008 (effective only until 30th September 2007). "Validación de un Modelo Acoplado de Simulación de Procesos Hidrológicos e Hidráulicos utilizando datos de cuencas experimentales en Montaña Mediterránea". Aragón (Spain) Project (DGA) PM/088/2006. CITA-USyR, Zaragoza, Spain. Project Coordinator (University of Zaragoza): Dr. Pilar Brufau.
- October 2003 – September 2004. "Simplification of distributed hydrologic models in the scope of an integrated catchment-based approach". PDM/03/188. Katholieke Universiteit Leuven (KULeuven). Project Coordinator: Raul F. Vázquez Z.
- December 2000 - December 2002. . "Integrated modelling of the hydrological cycle in a view of climate change". Belgian Federal Office for Scientific, Technical and Cultural Affairs (OSTC). Project Coordinator (KULeuven): Prof. Jan Feyen.
- January 1997 - 30 November 2000. "Integrated modelling of the hydrological cycle in a view of climate change". (**http://www.belspo.be/belspo/fedra/proj.asp?l=en&COD=CG/DD1/08**). Belgian Federal Office for Scientific, Technical and Cultural Affairs (OSTC). Project Coordinator (KULeuven): Prof. Jan Feyen.

Grants

Institution/Project	Type of grant	Period
• Diputación General de Aragón (DGA), Aragón, Spain	Grant for carrying out a Research Project (PM/088/2006)	2007 - 2008
• Consejo Superior de Investigaciones Científicas (CSIC), Spain	Grant for carrying out a Research Project (AGL2006-11860/AGR)	2007 - 2009
• CEMAGREF (Lyon, France)	Grant for a visiting Researcher	02.2007 – 05.2007
• K.U.Leuven – Belgium	Post-doctoral research grant	01.10.03 – 30.09.04
• Spanish Ministry of Science and Technology (MCyT)	Grant "Juan de la Cierva" for young researchers	04 – 07 (not accepted owing to personal reasons)
• European Union (EU)	Young-scientist grant for attending an Int. Conference	16.09.02 – 23.09.02
• IUPWARE – OSTC (Belgian Federal Office for Scientific, Technical and Cultural Affairs, project CG/DD/08C)	Grant for PhD	Mar.1998 - Sep. 2003
• IUPWARE	Grant for MSc	Sep.1995 - Sep. 1997
• Interuniversity Programme in Water resources Engineering (IUPWARE)	Research training grant	Aug.1994 - Sep. 1994

Research and Academic Certifications

***** Spain***

PROFESOR AYUDANTE DOCTOR (Assistant Professor Dr.). 19.05.2008. Agencia Nacional Española de Evaluación de la Calidad y Acreditación (ANECA)-Spanish Ministry of Science and Innovation. Resolution **PAD/2008/1950**.

***** Ecuador***

PROFESOR ASOCIADO (Associated Professor Dr.). 20.05.2008. Honorable Consejo Universitario, University of Cuenca. Communication **086/CU/08**.

Research visits

06.02.2007 – 06.05.2007. Validation of a groundwater flow module based on finite volume techniques and unstructured meshes. CEMAGREF, Unité de Recherche Hydrologie-Hydraulique (**http://www.lyon.cemagref.fr/hh/index.shtml**), Lyon, France. Hosting supervisor: Dr. Isabelle Braud.

Selected publications

For additional data on publications please visit the URL: **http://www.geocities.com/raulfvazquezz**.

***** Book Chapters***

Vázquez R. F. and J. Feyen, 2008. Application of distributed hydrologic models. In: Numerical modelling of Hydrodynamics for Water Resources, Pilar García-Navarro and Enrique Playán (Eds.). ISBN 978-0-415-44056-1. Taylor & Francis, London, United Kingdom: 153-174.

***** Peer-review journals***

-- Listed in the Journal Citation Report (JCR), 2007

Vázquez R. F., K. Beven and J. Feyen, 2009. GLUE based assessment on the overall predictions of a MIKE SHE application. Water Resources Management, 23(7): 1325-1349.

Vázquez R. F., P. Willems and J. Feyen, 2008. Improving the predictions of a MIKE SHE catchment-scale application by using multi-criteria approach. Hydrological Processes, 22(13): 2159-2179.

Vázquez R. F. and J. Feyen, 2007. Assessment of the effects of DEM gridding on the predictions of basin runoff using MIKE SHE and a modelling resolution of 600 m. Journal of Hydrology, 334: 73-87.

Vázquez R. F. and J. Feyen, 2004. Potential Evapotranspiration for the Distributed Modeling of Belgian Catchments. (ASCE) Journal of Irrigation and Drainage Engineering, 130(1): 1-8.

Vázquez R. F. and J. Feyen, 2003. Effect of potential evapotranspiration estimates on effective parameters and performance of the MIKE SHE-code applied to a medium-size catchment. Journal of Hydrology, 270(4): 309-327.

Vázquez R. F and J. Feyen, 2002. Assessment of the performance of a distributed code in relation to the ET_p estimates. Water Resources Management, 16(4): 329-350.

Vázquez R. F., L. Feyen, J. Feyen and J. C. Refsgaard, 2002. Effect of grid-size on effective parameters and model performance of the MIKE SHE code applied to a medium sized catchment. Hydrological Processes, 16(2): 355-372.

Feyen L., **R. F. Vázquez**, K. Christiaens, O. Sels and J. Feyen, 2000. Application of a distributed physically-based hydrological model to a medium size catchment. Hydrology and Earth System Sciences, 4(1): 47-63.

-- Not listed in the Journal Citation Report (JCR), 2007

Vázquez R. F. and J. Feyen, 2004. Análisis de Sensibilidad con MIKE SHE variando Topografía y ET. Ingeniería del Agua 11(3): 315-328.

Célleri R., L. Timbe, **R. F. Vázquez** and J. Feyen 2003. Assessment of the relation between the NAM rainfall-runoff model parameters and the physical catchment properties. HIP-VI UNESCO Technical Documents in Hydrology, 66: 9-16.

Feyen L., **R. F. Vázquez**, K. Christiaens, O. Sels and J. Feyen, 1999. Kalibratie- en validatieprocedure van het ruimtelijk verdeeld fysisch gebaseerd hydrologisch MIKE SHE model met toepassing op het stroomgebied van de Grote en de Kleine Gete. Tijdschrift Water 101: 21-41.

Feyen L., **R. F. Vázquez**, K. Christiaens, O. Sels and J. Feyen, 1999. Gegevensvereisten, -bronnen en -stroming ten behoeve van het ruimtelijk verdeeld, fysisch gebaseerd hydrologisch MIKE SHE model met toepassing op het stroomgebied van de Grote en de Kleine Gete. Tijdschrift Water 101: 1-20.

- Manuscripts under review and preparation

Dehotin J., **R. F. Vázquez**, I. Braud, S. Debionne and P. Viallet, 2009. Hydrological modelling using unstructured and irregular grids: Example of 2D groundwater modelling. Submitted to the ASCE "Journal of Hydrologic Engineering".

***** Publications in International Conference Proceedings***

Dehotin J., I. Braud, **R.F. Vázquez**, S. Debionne and P. Viallet, 2008. Prise en compte de l'hétérogénéité des surfaces continentales dans les modèles couplés zone non saturée / zone saturée, Proceedings

of the "33èmes Journées scientifiques du GFHN, Impact de l'usage du sol sur les ressources en eau souterraine", 19-20 November, Avignon, France: 22-22.

Vázquez R. F. and J. Feyen, 2007. Using coarse grids for modelling basin flow dynamics with the distributed code MIKE SHE: possibilities and problems, Proceedings of the International Congress on "Development, Environment and Natural Resources: Multi-level and Multi-scale Sustainability", 11-13 July, Cochabamba, Bolivia: (1) 466-473.

Vázquez R. F., K. Beven, and J. Feyen, 2006. Assessing the Uncertainty of the Distributed Modelling of a Non-Experimental Catchment, Book of Abstracts of the ERB 2006 Conference "Uncertainties in the 'monitoring-conceptualisation-modelling' sequence of catchment research", 19-22 September, Luxembourg.

Vázquez R. F., K. Beven, and J. Feyen, 2006. Prediction bounds of a catchment model conditioned on distributed streamflow observations, Book of Abstracts of the 2006 EGU General assembly, Vienna, Austria: CD-ROM (Abstract No. EGU06-A-09250), ISSN: 1029-7006.

Vázquez R. F., P. Willems, J. Feyen and J. Berlamont, 2004. Effects of land cover trends on the distributed hydrologic predictions of a medium size catchment, Proceedings of the AgEng2004 Conference, 12-15 September, Leuven: paper 579 (CD-ROM).

Vázquez R. F., P. Willems, J. Feyen and J. Berlamont, 2004. Multi-criteria evaluation of the performance of the MIKE SHE code applied at a catchment scale, Proceedings of the 2004 ASAE/CSAE Annual International Meeting, 1-4 August, Ottawa, paper 042105 (CD-ROM).

Vázquez R. F., J. Feyen and J. Berlamont, 2003. Multi-criteria assessment of the effects of DTMs on a catchment modelling, Proceedings of the First Flanders Engineering PhD Symposium "Industry-Ready Innovative Research', 11 December, Brussels, paper Civi06 (CD-ROM).

Vázquez R. F., J. Feyen and J. Berlamont, 2002. Preliminary results of an uncertainty analysis by using the MIKE SHE code, Proceedings of the 5th International Conference on Hydro -Science & -Engineering, 16-21 September, Warsaw: CD-ROM.

Vázquez R. F., J. Feyen and J. Berlamont, 2002. Effects of DTM generation methods on the MIKE SHE modelling of a medium size catchment, Proceedings of the 5th International Conference on Hydroinformatics, 1-5 July, Cardiff: (2) 1262-1267.

Vázquez R. F. and J. Feyen, 2001. Effect of Potential Evapotranspiration Estimates on the Performance of the Mike She Code Applied to a Medium Sized Catchment. International Annual Meeting of the ASAE (paper No. 01-2037, http://asae.frymulti.com/), Sacramento-CA.

Celleri R., L. Timbe, **R. F. Vázquez**, A. Abu El-Nasr and J. Feyen, 2000. Assessment of the relation between the parameters of the NAM rainfall-runoff model and the physical properties of the catchment. Proceedings CD of the "ERB 2000 Conference on Monitoring and Modelling Catchment Water Quantity and Quality", 27-29 September, Ghent.

Feyen L., **R. F. Vázquez**, K. Christiaens, O. Sels and J. Feyen, 1999. Application of a distributed physically based hydrological model to a medium sized catchment. Proceedings of the "International Workshop of EurAgEng's Field of Interest on Soil and Water: Modelling of transport processes in soils at various scales in time and space", 24-26 November, Leuven, Belgium: 745-754.

***** Other selected publications***

Vázquez R. F., 2003. Assessment of the performance of physically based distributed codes simulating medium size hydrological systems. PhD thesis ISBN 90-5682-416-3, Department of Civil Engineering, K. U. Leuven, Belgium, 335pp.

Timbe L. M., J. Feyen, **R. F. Vázquez Z.**, Abu El-Nasr and K. Christiaens, 2001. Analysis of the rainfall-runoff process at catchment scale using the MIKE 11-NAM model in a lumped context. Internal Publication 61, Institute for Land and Water Management, K.U.Leuven, Leuven: 69p.

Vázquez R. and J. Feyen, 2000. Estimation of potential evapotranspiration (ET_0) time series under Belgian conditions. Internal Publication 58, Institute for Land and Water Management, K.U.Leuven, Leuven: 32p.

Liu F., **R. F. Vázquez**, I. Mirabal, J. Feyen and M.G. Bos, 1999. Design of open canals: bed slope limitations. Proceedings of the "VIII Congreso Nacional de Hidráulica", 27-29 October, Guayaquil, Ecuador: 117-128.

Vázquez R., L. Feyen, K. Christiaens, A. Abu El-Nasr and J. Feyen, 1999. Calibration and validation of the distributed physically based hydrological MIKE SHE model, with application to the Gete basin. Internal Publication 55, Institute for Land and Water Management, K.U.Leuven, Leuven: 92p.

Vázquez R., 1998. Preliminary Studies for the Plan of Environmental Management in the community of Dandán. Project report, PROMAS, University of Cuenca, Cuenca, Ecuador: 70 pp.

Vázquez R., 1997. Numerical bi-dimensional modelling of the Brusselean aquifer, Proceedings of the "VII Congreso Nacional de Hidráulica", 13-15 November, Quito, Ecuador: 307-321.

Dercon G., **R. Vázquez**, C. Verdugo, B. De Bievre, P. Cisneros y F. Cisneros 1995. Pre-feasibility study of the Irrigation system for Bulán - San Cristóbal. Project report, EPBSAC - University of Cuenca, Cuenca, Ecuador: 130 pp.

Cisneros F., G. Dercon, B. De Bievre, P. Cisneros, **R. Vázquez**, C. Verdugo and P. Vimos, 1995. Final study of the Irrigation systems for Chontamarca, Gualleturo, Bachirín and San Antonio de Paguancay. Project report, EPBSAC, University of Cuenca, Cuenca, Ecuador: 115 pp.

Zeas R., D. Mora and **R. Vázquez**, 1994. Informatics: The Salmon-F modelling system. Technical Magazine of the Construction Bureau of Cuenca 10: 17-21.

Reference to research work (Year: 2007, source: **http://www.isiknowledge.com/**)

1. **Vázquez RF**, Feyen L, Feyen J, et al. Effect of grid size on effective parameters and model performance of the MIKE-SHE code. HYDROLOGICAL PROCESSES 16 (2): 355-372 FEB 15 2002. Times Cited: **35**.
2. Feyen L, **Vázquez RF**, Christiaens K, et al. Application of a distributed physically-based hydrological model to a medium size catchment. HESS 4 (1): 47-63 MAR 2000. Times Cited: **22**.
3. **Vázquez RF**, Feyen J. Effect of potential evapotranspiration estimates on effective parameters and performance of the MIKE SHE-code applied to a medium-size catchment. J. HYDROLOGY 270 (3-4): 309-327. JAN 31 2003. Times Cited: **17**.
4. **Vázquez RF**; Feyen J. Assessment of the effects of DEM gridding on the predictions of basin runoff using MIKE SHE and a modelling resolution of 600 m. J. HYDROLOGY 334 (1-2): 73-87. FEB 20 2007. Times Cited: **5**.
5. **Vázquez RF**, Feyen J. Potential evapotranspiration for the distributed modeling of Belgian catchments. IRRIGATION AND DRAINAGE ENGINEERING-ASCE 130 (1): 1-8 JAN-FEB 2004. Times Cited: **4**.
6. **Vázquez RF**, Feyen J. Assessment of the performance of a distributed code in relation to the ETp estimates. WATER RESOURCES MANAGEMENT 16(4): 329-350. AUG 2002. Times Cited: **2**.

Reviewer

ASCE J. Irrig. Drain. Eng. (1); J. Hydrol. (2); Hydrol. Proces. (1); Wat. Res. Mang. (1).

Oral presentations in conferences, congresses and workshops

12th July 2007. Using coarse grids for modelling basin flow dynamics with the distributed code MIKE SHE: possibilities and problems. **International Congress on "Development, Environment and Natural Resources: Multi-level and Multi-scale Sustainability"**, Cochabamba, Bolivia.

19th June 2007. Application of distributed hydrological models. **International Workshop "Numerical Modelling of Hydrodynamics for Water Resources"**, Zaragoza, Spain.

20th September 2006. Assessing the Uncertainty of the distributed modelling of a non-experimental catchment. **ERB 2006: Uncertainties in the 'monitoring-conceptualisation-modelling' sequence of catchment research**, Luxembourg.

3rd April 2006. Prediction bounds of a catchment model conditioned on distributed streamflow observations. **2006 European Geophysical Union (EGU) Assembly**, Vienna, Austria.

13th September 2004. Effects of land cover trends on the distributed hydrologic predictions of a medium size catchment**. AgEng2004 Conference**, Leuven, Belgium.

3rd August 2004. Multi-criteria evaluation of the performance of the MIKE SHE code applied at a catchment scale. Paper number 042105 (**http://asae.frymulti.com/abstract.asp?aid=16382&t=2**), **2004 ASAE/CSAE Annual International Meeting**, Ottawa, Canada.

16th December 2002. On the main measures for evaluating the performance of distributed hydrological models. ***International Symposium on Land Use Change and Geomorphic, Soil and Water Processes in Tropical Mountain Areas***, Quito-Cuenca, Ecuador.

20th September 2002. Preliminary results from an uncertainty analysis by using the MIKE SHE code. ***5th International Conference on Hydro-Science & Hydro-Engineering***, Warsaw, Poland.

2nd July 2002. Effects of DTM generation methods on the MIKE SHE modelling of a medium size catchment. ***5th International Conference on Hydroinformatics***, Cardiff, UK.

4th September 2001. Potential evapotranspiration: its effect on the modelling of the hydrological cycle of a medium-sized catchment with the MIKE SHE code. ***International Workshop on Catchment-scale Hydrological Modeling and Data Assimilation***, Wageningen, the Netherlands.

31st July 2001. Effect of Potential Evapotranspiration Estimates on the Performance of the Mike She Code Applied to a Medium Sized Catchment. Paper number 012037 (**http://asae.frymulti.com/abstract.asp?aid=7315&t=1**). ***2001 ASAE Annual International Meeting***, Sacramento, USA.

27th Sep. 2000. Assessment of the relation between the parameters of the NAM rainfall-runoff model and the physical properties of the catchment. ***ERB 2000 Conference on Monitoring and Modelling Catchment Water Quantity and Quality***, Ghent, Belgium.

13th April 2000. Analysis of the sensitivity of the main model parameters and performance of a distributed physically based hydrologic model as a function of the modelling resolution. ***International Franqui Chair Workshop: The future of Distributed Hydrological Modelling***, Leuven, Belgium.

25th Nov. 1999. Application of a distributed physically based hydrological model to a medium sized catchment. ***International Workshop of EurAgEng's Field of Interest on Soil and Water: Modelling of transport processes in soils at various scales in time and space***, Leuven, Belgium.

28th Oct. 1999. Design of open canals: bed slope limitations. ***VIII Congreso Nacional de Hidráulica***, Guayaquil, Ecuador.

27th Oct. 1999. Integral physically based hydrological modelling with the aid of the MIKE SHE code. ***VIII Congreso Nacional de Hidráulica***, Guayaquil, Ecuador.

14th Nov. 1997: Modelación Numérica del Flujo Subterráneo Bidimensional en el acuífero Bruseleano, ***VII Congreso Nacional de Hidráulica***, Quito, Ecuador.

Courses of specialisation

12.03.2008. "VIII Congreso Nacional del Agua y el Medio Ambiente, CONAMA 2008". Duration: 8 hours theory. Evaluation: no. TIASA, Zaragoza, Spain.

10-11.10.2007. "Jornades sobre la Directiva 2006/118/CE relativa a la protecció de les aigües subterrànies contra la contaminació i el deteriorament". Duration: 16 hours theory and práctice. Evaluación: no. Agencia Catalana del Agua, Barcelona, Spain.

Feb.-March.2003. Nondeterministic methods in computational methods in computational mechanics. Doctoral Course. Duration: 18 hours theory, 6 hours practice. Evaluation: yes. Department of Mechanical Engineering, Faculty of Engineering, KULeuven, Leuven, Belgium.

16-17.09.2002. Routing of Water and Sediment in Channel Networks Using CCHE1D. International Course. Duration: 16 hours theory and practice. Evaluation: no. National Center for Computational Hydroscience and Engineering, University of Mississippi – Warsaw University of Technology, Warsaw, Poland.

01-02.07.2002. Machine Learning and Data Driven Modelling. International Course. Duration: 16 hours theory and practice. Evaluation: no. Cardiff School of Engineering, Cardiff University, Cardiff, UK.

17.10.2001. An introduction to tree based modelling. Doctoral Course. Duration: 4 hours theory. Evaluation: no. Faculty of Agriculture and Applied Biological Sciences, KULeuven, Leuven, Belgium.

03-05.09.2001. Catchment Scale Hydrological Modeling and Data Assimilation. International Workshop. Duration: 24 hours theory and practice. Evaluation: no. Wageningen University, Wageningen, The Netherlands.

7th May 1999. Doctoral course "Distributed Hydrological modelling: myth or reality!", Instructor: Prof. Jan Feyen, Catholic University of Leuven (K.U.Leuven), Leuven, Belgium.

30th April 1999. Doctoral course "Recent developments in the experimental and numerical assessment of crop evapotranspiration and irrigation scheduling", Instructor: Prof. Dirk Raes, Catholic University of Leuven (K.U.Leuven), Leuven, Belgium.

23rd April 1999. Doctoral course "New horizons in morpho-genetic soil scale analysis", Instructor: Prof. Jozef Deckers, Catholic University of Leuven (K.U.Leuven), Leuven, Belgium.

Feb. - June 1998. "Pressurised irrigation system". Instructor: Prof. Richard G. Allen, study load 30 hrs (theory) and 30 hrs (practice). Grade: 19/20. Institute for Land and Water Management, Catholic University of Leuven (K.U.Leuven), Leuven, Belgium.

Feb. - June 1998: "Dams and hydraulic structures". Instructor: Prof. M. Schiara, study load 30 hrs (theory) and 30 hrs (practice). Grade: 19/20. Institute for Land and Water Management, Catholic University of Leuven (K.U.Leuven), Leuven, Belgium.

13-15 Nov. 1997. "VII Congreso Nacional de Hidráulica", Ecuadorian association of Hydraulics, Quito, Ecuador.

4-8 Oct. 1993. "Evaluación de Tierras para Riego". Instructor: Prof. Jozef Deckers, Catholic University of Leuven (K.U.Leuven) - University of Cuenca, Cuenca, Ecuador.

3-7 Aug. 1992. "Modelos Numéricos para Hidráulica de Ríos". Instructor: Dr. Donald W. Knight, The University of Birmingham - University of Cuenca, Cuenca, Ecuador.

4-8 May 1992. "Manejo de los programas de computación SAP-80 y SURFER". Instructor: MSc. Enrique García, University of Cuenca, Cuenca, Ecuador.

29-31 Jan. 1992. "Diseño Geométrico de Carreteras", Instructor: Germán López M., Fifth Zone of the Ministry of Public Constructions - University of Cuenca, Cuenca, Ecuador.

Academic and teaching experience

***** Teaching activities***

Nov. 3rd 2006. Seminar **"Introducción a la modelización numérica de cuencas de drenaje"**, **Undergraduate Course** in Hydrology, Área de Mecánica de Fluidos, Superior Polytechnic Centre (CPS), University of Zaragoza, Zaragoza (UZar), Spain.

January 23rd 2006. Seminar **"Modelos Hidrológicos"**, **Postgraduate Course** in Water Resources Engineering, CPS-UZar, Zaragoza, Spain.

Sept. 27th 2005. Seminar **"Modelización numérica de cuencas de drenaje"**, **Undergraduate Course** in Hydrology, Área de Mecánica de Fluidos, CPS-UZar, Zaragoza, Spain.

Sept. 28th 2004. ***Doctoral Seminar "MIKE-SHE modelling of the Nete catchment: multi-criteria evaluation of model results, and effects of trends in land cover"***, Hydraulics Laboratory, Faculty of Engineering, Catholic University of Leuven (K.U.Leuven).

Oct. 23rd 2002. ***Doctoral Seminar ID07 "Computation of the reference evapotranspiration for river basins in Belgium"***, Doctoral Programme of the Faculty of Agriculture and Applied Biological Sciences, Institute for Land and Water Management, K.U.Leuven.

Oct. 2nd 2002. ***Doctoral Seminar ID07 "Introduction to the GLUE approach for evaluating uncertainty on model prediction"***, Doctoral Programme of the Faculty of Agriculture and Applied Biological Sciences, Institute for Land and Water Management, K.U.Leuven,

Oct. 2nd 2002. ***Doctoral Seminar ID07 "Model calibration and validation"***, Doctoral Programme of the Faculty of Agriculture and Applied Biological Sciences, Institute for Land and Water Management, K.U.Leuven,

Oct. 1998 – March 1999. ***"Workshop of Information Technology "*** (programme "Masters in Water Resources Engineering"), Inter-university Programme in Water Resources Engineering (IUPWARE), Institute for Land and Water Management, K.U.Leuven.

***** Thesis advisor***

Sept. 2007 – December 2008. ***Masters thesis***. Modelling water movement in the vadose zone using HYDRUS-1D in a field located in "La Violada" irrigation district (Aragón, Spain). Boumediene Sayah. Instituto Agronómico Mediterráneo (IAMZ), Zaragoza, Spain.

Oct. 2000 – June 2001. ***Licentiate thesis*** "Studie van de invloed van klimaatsverandering op de hydrologie van een stroombekken (**Study of the influence of climate change on the hydrology of a medium size catchment**)", Stijn Rombauts, Institute for Land and Water Management, Catholic University of Leuven (K.U.Leuven).

Oct. 1999 – Sep. 2000. ***Masters thesis*** "Data processing for the integral modelling of the Ourthe catchment with the aid of the MIKE SHE code", Jesus Gonzales M., Institute for Land and Water Management, Catholic University of Leuven (K.U.Leuven).

Oct. 1998 – July 2000. ***Masters thesis*** "The effect of grid-size on the model parameters and the model performance of the distributed physically based code MIKE-SHE with application to the Gete-catchment ", Julio Martínez C., Institute for Land and Water Management, Catholic University of Leuven (K.U.Leuven).

Feb. 1998 – Sept. 1998. ***Masters thesis*** "Bed slope limitations in the design of open canals", Idania B. Mirabal R., Institute for Land and Water Management, Catholic University of Leuven (K.U.Leuven).

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