

# CURRICULUM VITAE OF *PROF. GIOVANNI BATTISTA FERRERI*

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Born in Pantelleria (Trapani) on November 5<sup>th</sup> 1955

Domicile: Via G. Sciuti n. 97, IT-90144 Palermo (Italy)

Nazionalità: Italian

## 1 EDUCATION

**Secondary school:** Classical secondary school, July 1973, *Gonzaga* School of Palermo (Italy).

**University:** Specialistic graduation in *Hydraulic Civil Engineering* with the maximum score, 110/110 cum laude, November 1980, University of Palermo (Italy).

## 2 WORK EXPERIENCES

In the two-year period following his degree, namely from January 1981 to July 1983, he regularly worked together with a few engineering offices in designing urban and irrigation waterworks, drainage networks, gas-pipelines, and restoration of Sicilian streams.

On August 1983 he began his university career, always carried out full-time, as a researcher at the University of Palermo.

## 3 ACADEMIC CAREER

August 1983 - December 2003: Assistant Professor of *Hydraulics* at the University of Palermo.

December 2003 - present: Associate Professor of *Hydraulics* at the same University.

## 4 EDUCATIONAL EXPERIENCE

- 1983/84: Practical lessons of *Urban water supply and drainage networks*, specialist degree course in Hydraulic Civil Engineering, University of Palermo (Italy)
- 1983/84 to 88/89: Practical lessons of *Soil conservation and stream restoration*, specialist degree course in Hydraulic Civil Engineering, University of Palermo (Italy)
- 1983/84 to 96/97: Practical lessons of *Hydraulics*, specialist degree course in Hydraulic Civil Engineering, University of Palermo (Italy)
- 1983/84 to 97/98: Practical lessons of *Hydraulics II*, specialist degree course in Hydraulic Civil Engineering, University of Palermo (Italy)
- 1991/92: Lecturer of *Irrigation and land drainage*, specialist degree course in Agricultural Sciences, University of Reggio Calabria (Italy)
- 1992/93 to 97/98: Lecturer of *Hydraulics*, specialist degree course in Civil Engineering, University of Messina (Italy)
- 1997/98 to 99/2000: Lecturer of *Hydraulics*, specialist degree courses in Hydraulic Civil Engineering and in Environmental Engineering, University of Palermo (Italy)
- 2000/01: Lecturer of *Hydraulics*, specialist degree course in Building Engineering, University of Palermo (Italy)
- 2001/02 to 03/04: Lecturer of *Hydraulics and Hydraulic Works*, specialist degree course in Building Engineering - Architecture, University of Palermo (Italy)
- 2004/05 to 05/06: Professor of *Hydraulics*, specialist degree course in Building Engineering - Architecture, University of Palermo (Italy)
- 2004/05 to 12/13: Professor of *Experimental laboratory of Hydraulics*, degree course in Civil Engineering, University of Palermo (Italy)
- 2006/07 to 11/12: Professor of *Hydraulics*, degree course in Energy Engineering, University of Palermo (Italy)
- 2011: Lecturer of *Fluid-Dynamics* for the first degree Master in *Materials and Innovative Techniques for Sustainable Building*, University of Palermo & UNISOM (Association for the University of West Sicily and the Mediterranean Basin)
- 2011/12: Professor of *Applied Hydraulics*, degree course in Civil Engineering, University of Palermo (Italy)
- 2012/13 to present: Professor of *Hydraulics*, degree course in Civil and Building Engineering, University of Palermo (Italy)

He was supervisor or co-supervisor of more than a hundred first-or-second level degree theses, many of which of experimental type.

## 5 RESEARCH DOCTORATE

2004 to 2013: Member of the College of Professors of the Research Doctorate in *Hydraulic and Environmental Engineering*, Palermo University.

He was Tutor of the following students:

- 2012 to 2014: Doctor Massimiliano Monteforte  
Thesis: *SPH numerical modelling of wave-structure interaction*, co-Tutor Prof. Robert A. Dalrymple of Johns Hopkins University (Maryland, U.S.A.)  
Attainment of the qualification: 2015
- 2013 to 2016: Doctor Biagio Cammaroto  
Thesis: *Hydro-morphodynamic effects of a geocontainer submerged reef*, co-Tutor Prof. Carla Faraci of Messina University (Italy)  
Attainment of the qualification: 2017

Moreover, he was Tutor of the student Nedelcu Dragoş-Iulian of the Research Doctorate of Vasile Alecsandri University of Bacău (Romania), during a three-month stage at Palermo University, BRAIN Project, November 2010-January 2011.

## 6 FURTHER ACTIVITIES AND ORGANIZING TASKS

He was on competition committees for university researcher recruitment, for entrance to Research Doctorate, for attainment of Research Doctor qualification, for awarding of after-Doctorate study grants, for awarding and renewal of research allowances.

He was also, for many years, on committee for the Italian qualifying examination to private practice as an engineer.

He has been, up to present, on academic committees of the degree course in Civil and Building Engineering of Palermo University.

## 7 EXPERIMENTAL AND OPERATIONAL RESEARCHES ON COMMISSION

He took part in several experimental researches by physical models on commission, carried out in the Hydraulic Laboratory of Palermo University, in which he organized and performed the runs. Researches concerned dam spillways, dissipation basins, river stretches affected by specific works.

Furthermore, he took part in the study on commission of the catchment basin plan of Belice River (Sicily, Italy), for which he attended to the part relating to water supply and sewer drainage of the basin towns.

## 8 PARTICIPATION IN RESEARCH PROJECTS

He took part in research projects funded by Italian and Sicilian governments, concerning the following topics: reliability improvement of water supply systems; relationship between bentonite communities and hydro-dynamics in lagoon environment; exploitation and management of environmental quality areas; hydro-dynamics and sediment transport in coastal water bodies; river flow-rate peak assessment by the numerical analysis of unsteady flow; energy production by mini- and micro-hydroelectric devices.

## 9 SCIENTIFIC RESEARCH

His scientific activity mainly developed in the field of Hydraulics, with researches - often carried out by laboratory experiments - aiming at practical aspects of the studied phenomena. The topics dealt with are summarized below.

- 1) Measures, such as pre-dilution, to improve dilution of sewers discharged in the sea by submarine pipes.
- 2) Hydraulic design of particular check dams, flow characteristics and hydraulic jumps downstream of a drop with sudden cross-section enlargement.
- 3) Special discharge devices able to modulate the flow-rate and suitable for flood control.
- 4) Supercritical to subcritical flow transition in rectangular channels without hydraulic jump formation.
- 5) Special device for flow-rate measurement in steep open-channels.
- 6) Assessment of roughness coefficients and water leaks, and skeletisation of a distribution network.
- 7) Turbulent flow field and flow resistance in shallow flows over a dense meadow of very long and flexible aquatic vegetation (such as *Posidonia oceanica* or *Cymodocea nodosa*).
- 8) Storm sewer pressurization transient.
- 9) Extreme tide fluctuations.
- 10) Wave energy production.
- 11) Run-up on mild beaches.
- 12) Hydrodynamics produced by submerged geocontainer breakwaters.

He is co-Editor of the Proceedings of an international workshop.

## 10 PRESENT RESEARCH TOPICS

At present, his research activity mainly concerns with run-up in mild beaches, wave energy production and flow resistance in pipes.

## 11 OTHER ACTIVITIES

He has been Referee for the following journals:

- *Journal of Hydraulic Research*
- *Journal of Hydraulic Engineering*
- *Urban Water Journal*

## 12 ORGANIZATION OF CONGRESSES

He was a member of the organizing board and performed organization tasks for the following congresses held in Palermo:

- *13<sup>th</sup> International Workshop on Physical Processes in Natural Waters*, August 3<sup>st</sup> - September 4<sup>th</sup> 2009;
- *XXXII Italian Congress of Hydraulics and Hydraulic Constructions*, September 14<sup>th</sup> -17<sup>th</sup> 2010.

## 13 ATTENDANCE AT CONGRESSES

He attended numerous congresses, both Italian and international ones. The main international congresses are the following:

- *9<sup>th</sup> Workshop on Physical Processes in Natural Waters (9<sup>th</sup> PPNW)*, Lancaster (UK), September 4<sup>th</sup> - 6<sup>th</sup> 2005
- *10<sup>th</sup> Workshop on Physical Processes in Natural Waters (10<sup>th</sup> PPNW)*, Granada (SP), June 26<sup>th</sup> - 28<sup>th</sup> 2006
- *32<sup>nd</sup> Congress of IAHR – Harmonizing the Demands of Art and Nature in Hydraulics*”, Venice (Italy), July 1<sup>st</sup> - 6<sup>th</sup> 2007
- *5<sup>th</sup> International Symposium on Environmental Hydraulics – ISEH V*, Tempe, Arizona (USA), December 4<sup>th</sup> - 7<sup>th</sup> 2007
- *11<sup>th</sup> International Conference on Urban Drainage - 11<sup>th</sup> ICUD*, Edinburgh, Scotland (UK), August 31<sup>st</sup> - September 5<sup>th</sup> 2008
- *2<sup>nd</sup> International Symposium on Shallow Flows*, Hong Kong (China), December 8<sup>th</sup> - 12<sup>th</sup> 2008
- *13<sup>th</sup> International Workshop on Physical Processes in Natural Waters (13<sup>th</sup> PPNW)*, Palermo (Italy), September 1<sup>st</sup> - 4<sup>th</sup> 2009
- *5<sup>th</sup> International Short Conference On Applied Coastal Research - 5<sup>th</sup> SCACR*, RWTH Aachen University, Aachen (Germany), June 6<sup>th</sup> - 9<sup>th</sup> 2011

## 14 PUBLICATIONS

He is author of 50 papers dealing with the topics listed in *Section 9*, 10 of which are on international journals ISI, 7 on Italian journals, 15 on the proceedings of international congresses and 18 on the proceedings of Italian congresses. Moreover, he is co-Editor of the proceedings of an international workshop.

The papers published on international journals and on the proceedings of international congresses are reported in the list below.

Palermo, April 2017

## LIST OF INTERNATIONAL PUBLICATIONS

### 1. Papers on international journals

- 1.1) Ferreri G. B. and Ferro V. (1990): "Short-duration rainfalls in Sicily". *Proc. ASCE*, Vol. 116, n. HY3, 1990, pp. 430-435. Discussion and closure in *Proc. ASCE*, Vol. 118, n. HY1, pp. 109-111.
- 1.2) Ferreri G. B. and Nasello C. (1995): "Quasi-constant discharge diversion structure". *Journal of Hydraulic Engineering Div., ASCE*, Vol. 121, No. 11, November, pp. 792-801.
- 1.3) Ferreri G. B. and Nasello C. (2002): "Hydraulic jumps at drop and abrupt enlargement in rectangular channel". *Journal of Hydraulic Research*, Vol. 40, n. 4, pp. 491-505, ISSN: 0022-1686.
- 1.4) Ciralo G., Ferreri G. B. and La Loggia G. (2006): "Flow resistance of *Posidonia oceanica* in shallow water". *Journal of Hydraulic Research*, Vol. 44, n. 2, pp. 189-202, ISSN 0022-1686.
- 1.5) Ferreri G. B., Freni G. and Tomaselli P. (2010): "Ability of Preissmann slot scheme to simulate smooth pressurisation transient in sewers". *Journal of Water Science & Technology-WST*, 62(8), pp. 1848-1858, ISSN 0273-1223.
- 1.6) Lo Re C., Musumeci R.E., Foti E. and Ferreri G.B. (2014). "Random wave run-up with a physically-based Lagrangian shoreline model". *Procedia Engineering*, 70, pp. 1046-1054, ISSN 1877-7058, DOI 10.1016/j.proeng.2014.02.116.
- 1.7) Ferreri G.B., Ciralo G. and Lo Re C. (2014): "Storm Sewer Pressurization Transient – An Experimental Investigation". *Journal of Hydraulic Research*, Vol. 52, n. 5, pp. 666-675, ISSN: 0022-1686, DOI 10.1080/00221686.2014.917726.
- 1.8) Ferreri G.B., Ciralo G. and Lo Re C. (2014): "Flow hydraulic characteristics determining the occurrence of either smooth or abrupt sewer pressurization". *Journal of Hydraulic Research*, Vol. 52, n. 5, pp. 676-683, ISSN 0022-1686, DOI 10.1080/00221686.2014.917727.
- 1.9) Monteforte M., Lo Re C. and Ferreri G.B. (2015): "Wave energy assessment in Sicily (Italy) ". *Renewable Energy*, Vol. 78, pp. 276-287, ISSN 0960-1481.
- 1.10) Lo Re C.; Cannarozzo M. and Ferreri G.B. (2016): "Present-day use of an empirical wave prediction method". *Proc. of the Institution of Civil Engineers - Maritime Engineering*, 169(1), pp. 3-14, ISSN 1741-7597.

### 2. Papers on the proceedings of international congresses

- 2.1) Ferreri G. B., Napoli E. and Tumbiolo A. (1994): "Calibration of roughness in water distribution networks". *Proc. of the 2<sup>nd</sup> International Conference on Water Pipeline Systems, BHR Group Conference Series*, Publ. No. 10, Edinburgo (UK), May, pp. 379-396.
- 2.2) Ciralo G., Ferrante F., Ferreri G. B., Folkard A. and La Loggia G. (2001): "Flow resistance of ribbon-like vegetation long and very flexible in shallow water". *Proc. of the 3<sup>rd</sup> International Symposium on Environmental Hydraulics*, Tempe, Arizona (USA), December, CD-ROM.
- 2.3) Maltese A., Folkard A., Ciralo G., E. Cox, Ferreri G. B. and La Loggia G. (2005): "On the influence of flexible vegetation on flow fields in shallow water: a flume experiment". *Proc. of the 9<sup>th</sup> Workshop on Physical Processes in Natural Waters*, Lancaster (UK), September 4<sup>th</sup> - 6<sup>th</sup>, pp. 195-202.
- 2.4) Maltese A., Cox E., Ciralo G., Folkard A. M., Ferreri G. B. and La Loggia G. (2006): "Flow and turbulence characteristics in the presence of a discontinuous ligulate seagrass prairie". *Proc. of the 10<sup>th</sup> Workshop on Physical Processes in Natural Waters*, Granada (SP), June 26<sup>th</sup> - 28<sup>th</sup>, pp. 129-139, ISBN/ISSN: 84-611-4209-8.
- 2.5) Ciralo G. and Ferreri G. B. (2007): "Log velocity profile and bottom displacement for a flow over a very flexible submerged canopy". *Proc. of the 32<sup>nd</sup> Congress of IAHR – Harmonizing the Demands of Art and Nature in Hydraulics*, Venice (Italy), July 1<sup>st</sup> - 6<sup>th</sup>, CD-ROM, ISBN 88-89405-06-6.
- 2.6) Ciralo G., Ferreri G. B. and La Loggia G. (2007): "Flow resistance of a very dense *Posidonia oceanica* grassland in shallow water". *Proc. of the 5<sup>th</sup> International Symposium on Environmental Hydraulics – ISEH V*, Tempe, Arizona (USA), December 4<sup>th</sup> - 7<sup>th</sup>, CD-ROM.
- 2.7) Ciralo G. and Ferreri G. B. (2007): "Experimental investigation on pressurization transient of a drainage sewer". *Proc. of the 5<sup>th</sup> International Symposium on Environmental Hydraulics – ISEH V*, Tempe, Arizona (USA), December 4<sup>th</sup> - 7<sup>th</sup>, CD-ROM.

- 2.8) Ciraolo G. and Ferreri G. B. (2008): "Sewer pressurization modelling by a rigid-column method". *Proc. of the 11<sup>th</sup> International Conference on Urban Drainage - 11<sup>th</sup> ICUD*, Edinburgh, Scotland (UK), August 31<sup>st</sup> - September 5<sup>th</sup>, CD-ROM.
- 2.9) Ciraolo G. and Ferreri G. B. (2008): "Mathematical modelling of pressure oscillations in sewer pressurization". *Proc. of the 11<sup>th</sup> International Conference on Urban Drainage - 11<sup>th</sup> ICUD*, Edinburgh, Scotland (UK), August 31<sup>st</sup> - September 5<sup>th</sup>, CD-ROM.
- 2.10) Ciraolo G., Ferreri G. B. and La Loggia G. (2008): "Influence of *Posidonia oceanica* meadow density on flow resistance in shallow waters". *Proc. of the 2<sup>nd</sup> International Symposium on Shallow Flows*, Hong Kong (China), December 8<sup>th</sup> - 12<sup>th</sup>, CD-ROM.
- 2.11) Ciraolo G., Costa C., Ferreri G. B., Folkard A. M. and Maltese A. (2009): "Particle tracking in a gap of aquatic vegetation meadow". *Proc. of the 13<sup>th</sup> International Workshop on Physical Processes in Natural Waters*, Palermo (Italy), September 1<sup>st</sup> - 4<sup>th</sup>, CD-ROM, ISBN/ISSN 978-88-903895-0-4.
- 2.12) Ferreri, G. B., Freni G. and Tomaselli P. (2010): "Ability of software SWMM to simulate sewer smooth pressurization transient". *Proc. of the 7<sup>th</sup> International Conference on Sustainable Techniques and Strategies in Urban Water Management - Novatech 2010*, Lyon (France), June 27<sup>th</sup> - July 1<sup>st</sup>, USB key.
- 2.13) Nedelcu D. I., Sajin T., Ferreri G. B., Lo Re C. and Ostahie C. N. (2011): "Analysis of wave energy conversion process". *Proc. of the 15<sup>th</sup> International Conference on Modern Technologies, Quality and Innovation - ModTech 2011*, Vadul lui Voda-Chisinau (Republic of Moldova), May 25<sup>th</sup> - 27<sup>th</sup>, pp. 753-756, ISSN 2069-6736.
- 2.14) Tomaselli P. D., Lo Re C. and Ferreri G. B. (2011): "Analysis of tide measurements in a Sicilian harbour". *Proc. of the 5<sup>th</sup> International Short Conference On Applied Coastal Research - 5<sup>th</sup> SCACR*, Ed. H. Schüttrumpf e G.R. Tomasicchio, RWTH Aachen University, Aachen (Germany), June 6<sup>th</sup> - 9<sup>th</sup>, CD-ROM, pp. 579-586, ISBN 978-3-8440-1132-6, ISSN 1437-8477.
- 2.15) Cammaroto B., Faraci C., Ferreri G.B. and Foti E. (2014): "Experimental investigation on a geocontainer Submerged reef". *Proc. of the 5<sup>th</sup> Conference on the Application of Physical Modelling to Port and Coastal Protection - Coastlab14*, Eds. V. Pechev and F. Taveira Pinto, Published by Black Sea - Danube Coastal Research Association (BDCA), Varna (Bulgaria), September 29<sup>th</sup> - October 2<sup>nd</sup>, CD-ROM, ISBN: 978-619-90271-1-0.

### 3. EDITORSHIPS

- 3.1) Ciraolo G., Ferreri G.B. and Napoli E. (2009). *Proceedings of the 13<sup>th</sup> International Workshop on Physical Processes in Natural Waters*, Palermo (Italy), September 1<sup>st</sup> - 4<sup>th</sup>, CD-ROM, ISBN/ISSN 978-88-903895-0-4.