

Curriculum Vitae  
**PROF. GOFFREDO LA LOGGIA**

Date of Birth: 19 Dec 1949

Nationality: Italian

Dipartimento di Ingegneria Civile, Ambientale, Aerospaziale, dei Materiali

Università degli Studi di Palermo

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## **EDUCATION AND QUALIFICATIONS**

1996 – present Full Professor of hydraulic and maritime works, hydrology – Università di Palermo

1994 -1996 Full Professor of Hydraulic Works – Università di Reggio Calabria

1986 - 1994 Associate Professor in Special Hydraulics Plants – Università di Palermo

1977 – 1986 Assistant Professor of Hydraulic Works – Università di Palermo

1974 – 1977 Assistant researcher of Hydraulics Works – Università di Palermo

1967 – 1973 Degree in Civil Engineering – Università di Palermo – maximum score obtained 110 cum laude/110 (with honors)

1962 – 1967 Classical high school degree (Giuseppe Garibaldi – Palermo)

## **RESEARCH INTERESTS**

The main research activities undertaken are related to the sectors of water resources management under scarcity conditions, urban hydraulics, Remote Sensing and Geographical Information Systems applied to water resources management, hydraulic modelling for mapping urban and non-urban areas subject to flooding.

Concerning water resources management under scarcity conditions, he worked on the optimal allocation of water resources, and, during recent years, on the subject of intermittent distribution networks modelling, due to water scarcity.

In the field of urban drainage, his research concerns rainfall-runoff modelling, including the transport of pollutants, in which the parameters are calibrated using data acquired from the experimental station installed under his supervision at the University Campus.

As far as Remote Sensing is considered, methodologies have been developed to evaluate soil erosion, for the study of submerged vegetation up to twenty meter depth, and for the computation of evapotranspiration using energy balance techniques.

Hydrological-Hydraulic modelling has undergone significant improvements to quantify discharge peaks using distributed data models, and to analyse the propagation of such discharges in flood prone areas. This system has been developed within a information technology environment, allowing facilitated data management, and the design and application of suitable models.

He also supervised the installation of a gauge to record rainfall and contemporary runoff in a small rural catchment, with the aim of collecting the necessary information to calibrate hydrological distributed data models, to be structured using Geographical Information Systems.

Finally, the most recent studies concern the integration of hydraulic-environmental modelling, biotic factors and remote sensing in order to define the environmental state of areas having weak water exchange such as coastal lagoons. It has been possible to evaluate the integration of these

different activities to define the possible scenarios after intervention or changes in the lagoon ecosystem.

Furthermore, remote sensing has become an analytical tool to better understand the relationship between vegetation dynamics and meteorological factors in semi-arid environments, and to evaluate the effects of the climate on vegetation and desertification. In particular, during recent years he coordinated research programs of national interest, aiming to contribute to define guide lines for the identification of drought prone areas.

## **PROFESSIONAL ACTIVITIES**

Reviewer for the journals:

- Urban Water
- International Journal of Remote Sensing
- International Journal of Chemistry and Ecology
- Water Resources Management

Member of Italian Association of Remote Sensing

Founder of Centro Studi Idraulica Urbana (Urban Hydraulics Study Centre), no profit research italian research association

Member of International Scientific Advisory Committee of Wessex Institute

## **FUNDING AND COORDINATION OF RESEARCH PROGRAMS**

- |           |   |
|-----------|---|
| 1991-1994 | Soil erosion control by means of Geographical Information Systems. Regional and european funds (POP)  |
| 1991-1994 | Using Remote Sensing to map Benthic Communities along Sicily coastal zone. Regional and european funds (POP)  |
| 1996      | Monitoring endangered submersed Mediterranean coastal vegetation by remote sensing. British Council, Italian Ministry of University and Resarch                                   |
| 1998      | Modelling bottom roughness caused by benthic vegetation. British Council, Italian Ministry of University and Resarch  |
| 2000-2003 | Methodologies of integrated analysis in environmentally valuable areas aiming to resources management. Italian Ministry of University and Research.                               |
| 2000-2002 | Analysis of the interaction among pollutants, hydrodynamic factors and biota in the protection of water bodies. Italian Ministry of University and Research.                      |
| 2000      | Analysis of the vegetation influence on lagoon hydrodynamics using laboratory experiments and mathematical modelling. British Council, Italian Ministry of University and Resarch |
| 2000      | Mapping of Posidonia oceanica priaries along Sicily coastlines using remote sensing techniques. CEOM, Palermo   |
| 2001      | Multitemporal analysis of natural vegetation in Sicily. Regional Minisry of cultural heritage.  |
| 2002-2003 | Mapping of Posidonia oceanica priaries along Campania and Calabria coastlines using remote sensing techniques. Fugro Oceansismica. Rome   |
| 2002-2004 | Models and software to implement the alert system for the hydraulic risk over Sicilian territory. Sicilian Hydrographic Service.  |
| 2002-2005 | CARE-S Computer Aided Rehabilitation of Sewer Systems European Union - Frame Programme 5  |

- 2002-2005 RISURSIM Risk Management in Urban Areas - Simulation and Optimization. European Union - EUREKA program.
- 2003-2005 University lab for the management of aquatic systems – LISA. Italian Ministry of University and Research. PON 2000-2006
- 2003-2005 Sécheresse et désertification dans le bassin Méditerranée II. Community Program INTERREG III B MEDOCC - Axis 4. mis. 4
- 2003-2006 City-NET - The network of European Research Projects on Integrated Urban Water Management. European Union - Frame Programme 5
- 2003 Quantification and management of water resources under scarcity conditions. Italian Ministry of University and Research.
- 2004 Scientific cooperation to implement the “Plan for the Hydrogeological Arrangement (PAI)”. Regional Ministry for Environment and Territory.
- 2005 The synergistic benefits of remote sensing techniques for shallow marine habitat monitoring. British Council, Italian Ministry of University and Research
- 2005 Drought forecasting and mitigation. Italian Ministry of University and Research
- 2005-2008 GEOGRID "virtual laboratory" based on a telematic sharing platform for knowledge management, oriented to the District Technology AgroBio and environmentally friendly fishing. Program agreement (APQ) for research of the Sicilian Region
- 2005-2008 Improvement of a network laboratory for monitoring and sustainable management of aquatic resources - LARA. Program agreement (APQ) for research of the Sicilian Region
- 2006 Models definition and application useful to evaluate desertification climatic and vegetational indicators, using remote sensing and field measures. Regional Environmental Agency. Sicily.
- 2006 Application of remote sensing techniques for lake monitoring and algae bloom forecasting. Regional Environmental Agency. Sicily.
- 2007 Marine Pollution Monitoring and Mitigation by Remote Sensing (MAPRES) – European Commission – Directorate General for Environment.
- 2007 DSS development for the FIRETOURIS program. INTERREG III C– ZONA EST
- 2008 Monitoring coastal water quality using remote sensing techniques. Regional Environmental Agency. Sicily.
- 2008 Water resources evaluation and management under climatic change scenarios. Italian Ministry of University and Research
- 2011 SESAMO: information system for acquisition, management and sharing environmental data for DSS. Sicilian Region PO-FESR 2007-2013
- 2011 Aquaknight - AQUA KNowledge and Innovation transfer for water savinG in tHe mediTerranean basin. ENPI-CBCMED

## **TEACHING EXPERIENCE AND COORDINATION**

- 1995-96 President of the Consiglio di Corso di Laurea in Ingegneria Civile, Facoltà di Ingegneria, Università di Reggio Calabria.
- 1997-98 Lecturer of Aqueducts and Sewers, Facoltà di Ingegneria di Palermo,.
- 1999 - present Founder and manager of the Remote Sensing and Geographical Information Systems Laboratory (MEDILAB).

2002-2003	Coordinator of the University Master in GIS. Italian Ministry of University and Research. SINTESI Palermo.
2002-2003	Director of the University Master in GIS. Polo Universitario di Agrigento.
2003-2006	Member of the CoNiSMa Scientific Council for the Remote Sensing sector.
2003-2004	Coordinator of the University Master in management of the Urban Water-Environmental System. Italian Ministry of University and Research. SINTESI Palermo.
2004-2005	Coordinator of the University Master in GIS. Polo Universitario di Agrigento.
2005-2010	Head of Dipartimento di Ingegneria Idraulica ed Applicazioni Ambientali.
1998-1999	Lecturer for the Short course on Environmental Management and GIS. Istituto Universitario di Architettura di Venezia.
1998-1999	Lecturer for the specialisation school in Environmental Engineering. University of Reggio Calabria
1999-2000	Lecturing for the Short course on Environmental Management and GIS. Istituto Universitario di Architettura di Venezia.
2002-2003	Lecturer for the University Master in GIS and Remote Sensing. Istituto Universitario di Architettura di Venezia.
2002-2003	Lecturer for the University of Catania High School – Master in water management and environmental protection.
2003-2004	Lecturer for the University Master in GIS and Remote Sensing. Istituto Universitario di Architettura di Venezia.

## **ADVISING**

He has supervised more than 300 master and doctoral theses at University of Palermo, University of Reggio Calabria and University of Venice.

## **PUBLICATIONS**

He is author of more than 300 papers dealing with the following topics:

- Urban flooding analysis and management
- Urban hydrology
- Urban water systems management and rehabilitation
- Drought analysis and mitigation
- Hydraulic Networks
- Water Systems Management
- Remote Sensing
- Geographic Information Systems
- Rainfall-runoff modelling