

Guido D'Urso

Prof. Eng. Guido D'Urso, PhD

Born in Salerno, Italy, on 1961, August 29th

Civil Hydraulic Engineering degree cum laude at University of Naples (Italy)

Phd Environmental Sciences at Wageningen Agricultural University

From Nov.1st, 2006: Full Professor of Agricultural Hydraulics, Irrigation management and Remote Sensing - at Department of Agricultural Sciences - University of Naples "Federico II"

<https://orcid.org/0000-0002-0251-4668>

Publications (Scopus, 7 March 2022): 106;

H-index: 27;

Total citations: 2219.

CONDENSED PERSONAL HISTORY

2021-... Member of the **Academic Senate** and President of the Commission for Research

2012-.... **Delegate of Rector for International Cooperation and Development of University of Naples Federico II**

2011-2020 Coordinator PhD Course on "Agricultural Sciences" of University of Naples Federico II

2010-2018 Coordinator of GuluNap Project between University of Naples Federico II and Gulu University (Uganda)

2009-2012 Member of Steering Committee of "Remote Sensing Laboratory for Environmental Hazard Monitoring" (RESLEHM) at University of Salerno (D.R. n.3143/2009); <http://www.diciv.unisa.it/reslehm/index>

2008 Visiting Scientist at USDA-ARS Hydrology & Remote Sensing Lab., Beltsville MD, within an OECD Program, duration 2 months

2007 Chair of the International Symposium "Remote Sensing Europe", Intern. Soc. Opt. Engin. SPIE (<http://spie.org/x6263.xml>); Chair of the Working Group of Intern. Comm. Agric. Engineer. (CIGR) on "Earth Observation for Land and Water Engineering"

Co-founder of the spin-off company of the University of Naples Federico II "ARIESPACE" s.r.l. (www.ariespace.com), for the application of Earth Observation to land and water management

2006-... Full Professor of Agricultural Hydraulics, Irrigation management and Remote Sensing - at Department of Agricultural Sciences - University of Naples "Federico II"

2005 Representative of Italian Cooperation, Ministry of Foreign Affairs, to the Steering Committee for the International Project FAO-ITALY "Information Products for Nile Basin Water Resources Management", Entebbe (Uganda)

1998 Appointed as Associate Professor of Agricultural Hydraulics, Agriculture Science Faculty, University of Naples "Federico II"

1997 Research fellowship granted by the Italian National Research Council and carried out at the DLO-Staring Centrum, Dept. Water Management Arid Zones, Wageningen (the Netherlands) on "Integration of remote sensing and hydrological simulation models in irrigation management"

1988 Appointed as Research Scientist Assistant at the Agricultural Faculty of Molise University (Campobasso, Italy)

1986 Post-graduate fellowship granted by "Fondazione Politecnica per il Mezzogiorno d'Italia", Naples University.

MAIN RESEARCH ACTIVITIES

Guido D'Urso has coordinated several international research projects in the field of remote sensing for water management, as documented by publications on scientific journal, congress proceedings and specialized books.

His research activities are focused on three main areas:

a) *Development of Earth Observation interpretation techniques for water management and land surface processes*

Actively involved since early '90s in the study of techniques for the interpretation of Earth Observation data for water management in agriculture and spatial analysis of hydrological processes. Improved observation techniques and analyses of the reflectance behaviour of vegetated surfaces have been investigated for a better estimation of land surface parameters, such as Leaf Area Index, and water balance terms, i.e. evapotranspiration. New generation sensors, i.e. with hyper-spectral and multi-angular capabilities, have been exploited for the estimation of Leaf Area Index by means of numerical inversion of models describing the radiative transfer processes in canopies; he has been participating to the ESA-SPARC campaigns for the CHRIS/Proba satellite (<http://io.uv.es/projects/SPARC20004/>).

Within this research activity, he has been participating and coordinating several projects, namely:

2019- Coordinator International Project " ERANETMED3 Progetto 055/2017 EO-TIME "Earth Observation Technologies for Irrigation in Mediterranean Environments"

2019- Research Unit Responsible Project funded by Italian Ministry of Research and University, Program 2017, INTeGrated Computer modeling and monitoring for Irrigation Planning in ITaly – INCIPIT 2013-2016 Responsible Research Unit Univ. Naples for the Project funded by Italian Ministry of Research and University, Program 2010-2011, "Traditional agricultural landscapes in Italy: multi-disciplinary and multi-scale assessment for the development of an integrated model for landscape planning and management", prot. 2010 LE4NBM

2010-2013 Scientific Coordinator of IRRISAT Project: Satellite-based Irrigation Advisory Service; funded by Rural Development Program 2007-2013, Campania Region, Head Unit: Remote Sensing Laboratory for Environmental Hazard Monitoring (RESLEHM) at University of Salerno (D.D. n.44 del 14.06.2010)- <http://www.irrisat.it/>

2010-2012 National Coordinator of Project funded by Italian Ministry of Research and University, Program 2008, "Assessment of mass and energy fluxes for the irrigation management of mediterranean tree crops", Prot. 2008 CR84NF

2006-2008 National Coordinator of the Research Project "Earth Observation and hydrological modelling for the study of crop water stress in the Mediterranean regions", financed by Italian Min. Research and University (MiUR), 2006, Prot. 2006070033;

2000-2004 Team Leader the research project su "Determination of properties of terrestrial vegetation and assimilation in hydrological and bio-geochemical models", financed by the Italian Space Agency (Call Fundamental Research Year 2000; contract I/R/073/01)

1999-2001 Team Leader for the Research Project "Climatical and antropogenic effects on hydrological processes" financed by Italian Min. Research and University (MiUR), 1999, Nat. Coordinator Prof. A.Brath, University of Bologna

1999-2000 National Coordinator of the research project "Vegetation characterisation by means of spectral indices from MERIS-ENVISAT", financed by the Italian Space Agency (Call Fundamental Research Year 1999; prog. n.169/99)

He has started in 2006 the first "spin-off" company of the University of Naples "Federico II", called "ARIESPACE s.r.l." (www.ariespace.com). Ariespace' mission is the development and implementation of remote sensing techniques for land and water management and environmental monitoring.

b) Distributed agro-hydrological models for water management and irrigation

The research activity in this topic has been focused on the analysis of soil hydrological processes by means on numerical simulation models for the management of water resources of regional areas. One major interest has been the development of methodologies for the collection of input data, which is often a limiting factor for the application of distributed models of soil water flow over large areas. The resulting improvement in the reliability of results from distributed agro-hydrological models has allowed the inclusion of these procedures in decision support systems for water management in agriculture.

This research activity has seen the involvement in several projects, such as:

2006-2011 Research Unit Head at UniNA for AQUATER project: "Decision Support Systems to Manage Water Resources at Irrigation District Level in Southern Italy using Remote Sensing Information". Ministry Agriculture, C.R.A.- http://aquater.entecra.it/index_gb.html

2006-2008 Team Leader for the University of Napoli Federico II and Coordinator of Italian test-site for the U.E. D.G.XII "PLEIADES": Participatory multi-Level EO-assisted tools for Irrigation water management and Agricultural Decision-Support (GOCE; Contract Number 037095); Coord. Prof. A. Calera Belmonte, University Castilla-La Mancha, Albacete (Spain);

2002-2005 Team Leader for the University of Napoli Federico II and Coordinator of Italian test-site for the U.E. D.G.XII "DEMETER": DEMonstration of Earth observation TEchnologies in Routine irrigation advisory services (Contr. EVG2-2001-00042); Coord. Prof. A. Calera Belmonte, Università Castilla-La Mancha, Albacete (Spain)

2002-2004 National Coordinator of the Research Project "Assimilation of Earth observation data and hydrological models for monitoring water resources in agriculture", financed by Italian Min. Research and University (MiUR), 2002, Cod. 2002074191

1997-1999 Research Project U.E.-D.G.XII "ASTIMwR, Application of Space Technologies for the Management of Water Resources (Contract n° ENV4-CT96-0366), Coordinator Geosys S.L. (Madrid).

c) In-situ and remote active microwave sensing of agricultural land surfaces

The analysis of the soil dielectric behaviour and its relationship with the water content has been investigated -either in laboratory and in the field- by using in-situ techniques, such as the Time-Domain Reflectometry, and remote sensing, i.e. the Synthetic Aperture Radar from orbiting platforms (ERS-1 and SIR-C missions). Experimental activities have been carried out in coincidence of MAC-Europe'91 campaign and within the EC-project EV5V-CT94-0446, in collaboration with the Polytechnic of Milan (I).

Within this research activity, he has been involved in the following projects:

2010-2012 Research Unit Head at UniNA for Italian Space Agency Project "Use of COSMO-SkyMed SAR data for LANDcover classification and surface parameters retrieval over agricultural sites" (COSMOLAND), Coordinator CNR-ISSIA, accordo n. I/051/09/0

2002-2004 Team Leader of the research project "Soil moisture mapping and data assimilation from ASAR imagery for catchments and river basins in Sardinia", financed by the Italian Space Agency (Call Fundamental Research Year 2001; Contr. ASI I/R/167/01)

1996-1998 Research project "Analysis of field measurements of soil water content and surface parameters from SAR", financed by the Italian Space Agency (Call Fundamental Research Year 1996; Contr. ASI ARS 96-145)

1994-1996 Research Project U.E.-D.G.XII "Spatial and Temporal Soil Moisture Mapping from ERS-1 and JERS-1 SAR data and Macroscale Hydrological Modelling, (Contr. EV5V-CT94-0446); Coordinator Prof. De Troch F., University of Gent (Belgium)

SCIENTIFIC JOURNAL REFEREE ACTIVITY

Remote Sensing of Environment, Elsevier (dal 2009); Irrigation science, Springer (dal 2009); Canadian Journal of Remote Sensing (dal 2007); Journal of Agricultural Engineering (dal 2007), Italian Society of Agricultural Engineering; Journal of Hydrology, Elsevier (dal 2006); Advances in Water Resources (dal 2006); Intern. Journal of Remote Sensing, Taylor & Francis, (dal 2004); Agricultural Water Management,

Elsevier, (dal 2003); Photogrammetric Engineering and Remote Sensing, U.S.A. (dal 2003); Rivista Italiana di Ingegneria Agraria (dal 2003); Rivista Italiana di Telerilevamento (dal 2002).