CURRICULUM VITAE

Guido D'URSO

PERSONAL INFORMATION*/DATI PERSONALI*

Name	D'URSO, Guido
Address	Via Università 100, Portici 80055
Telephone	081 - 2539418
Fax	
E-mail	durso@unina.it
Nationality	Italian

CURRENT POSITION: Full Professor of Agricultural Hydraulics, Irrigation and Remote Sensing, Department of Agricultural Sciences, University of Naples "Federico II"

PERSONAL HYSTORY

Start	End	Description
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	**2019**	Coordinator PhD Course on "Agricultural Sciences", Univ. of Naples Federico II
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	**2008**	Visiting Scientist at USDA-ARS Hydrology & Remote Sensing Lab., Beltsville MD, within an OECD Program, duration 2 months
2007	**2015**	Chair of the International Symposium "Remote Sensing Europe", Intern. Soc. Opt. Engin. SPIE (http://spie.org/x6263.xml)
2006	**2016**	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
01/11/2006	**today**	Appointed as **Full Professor** of Agricultural Hydraulics, Agriculture Science Faculty, University of Naples "Federico II"

24/02/2004	**24/06/2006**	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)
18/02/2004	**18/06/2004**	Representative of the Italian Government in the 8th Steering Committee of the Italy-FAO International Cooperation Project "Nile Basin Water Resources Management"
01/01/2003	**31/12/2005**	Responsible of U.E. project – D.G. XII "DEMETER" (DEMonstration of Earth observation TEchnologies in Routine irrigation advisory services)
01/09/2002	**01/09/2004**	National Coordinator of the Research Project of relevant National Interest (MIUR 2002- PRIN) "Assimilation of satellite observation and hydrological modeling in the monitoring of water resources in agriculture"
01/11/2001	**31/10/2006**	Appointed as **Associate Professor** of Agricultural Hydraulics, Agriculture Science Faculty, University of Naples "Federico II"
10/09/1999	**10/10/2008**	Executive Committee member of Intern. Symposium on Remote Sensing, (SPIE)
19/02/1997	**18/08/1997**	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"
01/11/1992	**31/10/1998**	Charged Professor "Agricultural Hydraulics" at Agricultural Faculty of Molise University for the Academic Years from 1996-99
14/04/1988	**31/10/1998**	Appointed as Research Scientist Assistant at the Agricultural Faculty of Molise University (Campobasso, Italy)
01/01/1986	**31/12/1986**	Post-graduate fellowship granted by "Fondazione Politecnica per il Mezzogiorno d'Italia", Naples University.

EDUCATION AND TRAINING

Name and type of organization providing education and training	Wageningen Agricultural University (the Netherlands)
Main subjects and professional skills related to the education awarded	**Agro-hydrology and environmental sciences, remote sensing, Geographic Information Systems**
Title and professional qualification obtained	**PhD (Phylosophy Doctor)** . in "Environmental Sciences"
Name and type of organization providing education and training	Università degli Studi di Napoli
Main subjects and professional skills related to the education awarded	**Hydraulic Civil Engineering**
Title and professional qualification obtained	**Laurea** *cum laude*

PERSONAL SKILLS

Mother language: Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
French	C1	C1	B2	B2	B2
Spanish	C1	B2	B2	B1	B1

Common European Framework of Reference for Languages

Organisational skills and expertise

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 (Annex).
His research activities are focused on three main areas:

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

Guido D'Urso has been 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/).

Concepts and operative applications have been developed for mapping crop water requirements from high-resolution multispectral images, applied in several case-studies in Argentina, in Italy and in Spain. In 2005 he has organised an international conference in Naples on Earth Observation for vegetation monitoring and water management (http://www.agraria.unina.it/CONGRESS/EOnapoli2005/).

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

2018-2021 Coordinator of ERANETMED Project 055/2017 "EO-TIME", Earth Observation Technologies for Irrigation in Mediterranean Environments

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)

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. Two main issues have been investigated: i) simplified techniques for mapping soil hydraulic characteristics; ii) integration of remote sensing techniques for the definition of upper boundary conditions.
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

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). During 1995, a partnership with different research Institute has been set-up for realising a laboratory experiment on "Scattering properties of non-vegetated terrain" at the European Microwave Signature Laboratory of Joint Research Centre in Ispra (Italy).

Due to the availability of new active microwave sensors, during 2006 he has been participating to the AGRISAR campaign organised by DLR and ESA at the site of Demmin (Germany).

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)

SCIENTIFIC JOURNAL REFEREE ACTIVITY

- "Agricultural Water Management", Elsevier, (since 2003)
- "Journal of Hydrology" (since 2006)
- "Canadian Journal of Remote Sensing" (since 2007)
- "Advances in Water Resources" (since 2006)
- "Intern. Journal of Remote Sensing", Taylor & Francis, London (since 2004)
- "Photogrammetric Engineering and Remote Sensing", ASPRS, U.S.A. (since 2003)
- "Remote Sensing of Environment", Elsevier (since 20o5)
- "Rivista Italiana di Ingegneria Agraria" (since 2003)
- "Rivista Italiana di Telerilevamento" (since 2002).

MEMBER OF EDITORIAL BOARD

- Remote Sensing, MDPI, Switzerland
- Water, MDPI, Switzerland

Selected publications on peer-review journals in the last 5 years

1) Al-Bakri J.T., D'Urso G., Calera A., Abdalhaq E., Altarawneh M., Margane A. Remote Sensing for Agricultural Water Management in Jordan. 2023. *Remote Sensing,* 15, 1, 235; 10.3390/rs15010235
2) Vanella D., Longo-Minnolo G., Belfiore O.R., Ramírez-Cuesta J.M., Pappalardo S., Consoli S., D'Urso G., Chirico G.B., Coppola A., Comegna A., Toscano A., Quarta R., Provenzano G., Ippolito M., Castagna A., Gandolfi C. Comparing the use of ERA5 reanalysis dataset and ground-based agrometeorological data under different climates and topography in Italy. 2022. *Journal of Hydrology: Regional Studies*, 42, 101182; 10.1016/j.ejrh.2022.101182
3) Bhattarai N., D'Urso G., Kustas W.P., Bambach-Ortiz N., Anderson M., McElrone A.J., Knipper K.R., Gao F., Alsina M.M., Aboutalebi M., Mckee L., Alfieri J.G., Prueger J.H., Belfiore O.R.. Influence of modeling domain and meteorological forcing data on daily evapotranspiration estimates from a Shuttleworth–Wallace model using Sentinel-2 surface reflectance data. 2022. *Irrigation Science*, 40, 4-5, 497-513; 10.1007/s00271-022-00768-0
4) Al-Bakri J.T., D'urso G., Batchelor C., Abukhalaf M., Alobeiaat A., Al-Khreisat A., Vallee D. Remote Sensing-Based Agricultural Water Accounting for the North Jordan Valley. 2022. *Water* (Switzerland), 14, 8, 1198; 10.3390/w14081198
5) Pelosi A., Belfiore O.R., D'Urso G., Chirico G.B. Assessing Crop Water Requirement and Yield by Combining ERA5-Land Reanalysis Data with CM-SAF Satellite-Based Radiation Data and Sentinel-2 Satellite Imagery. 2022. *Remote Sensing*, 14, 24, 6233; 10.3390/rs14246233
6) D'Urso G., Bolognesi S.F., Kustas W.P., Knipper K.R., Anderson M.C., Alsina M.M., Hain C.R., Alfieri J.G., Prueger J.H., Gao F., McKee L.G., De Michele C., McElrone A.J., Bambach N., Sanchez L., Belfiore O.R. Determining evapotranspiration by using combination equation models with sentinel-2 data and comparison with thermal-based energy balance in a

california irrigated vineyard. 2021 *Remote Sensing*, 13, 18, 3720; 10.3390/rs13183720
7) Pelosi A., Terribile F., D'Urso G., Chirico G.B. Comparison of ERA5-Land and UERRA MESCAN-SURFEX reanalysis data with spatially interpolated weather observations for the regional assessment of reference evapotranspiration. 2020 *Water* (Switzerland), 12, 6, 1669; 10.3390/W12061669
8) Raffini F., Bertorelle G., Biello R., D'Urso G., Russo D., Bosso L. From nucleotides to satellite imagery: Approaches to identify and manage the invasive pathogen Xylella fastidiosa and its insect vectors in Europe. 2020 *Sustainability* (Switzerland), 12, 11, 4508; 10.3390/su12114508
9) Bolognesi S.F., Pasolli E., Belfiore O.R., De Michele C., D'Urso G. Harmonized landsat 8 and sentinel-2 time series data to detect irrigated areas: An application in Southern Italy. 2020 *Remote Sensing*, 12, 8, 1275; 10.3390/RS12081275
10) Pelosi A., Villani P., Bolognesi S.F., Chirico G.B., D'Urso G. Predicting crop evapotranspiration by integrating ground and remote sensors with air temperature forecasts. 2020. *Sensors* (Switzerland), 20, 6, 1740; 10.3390/s20061740
11) Teobaldelli M., Cona F., Stinca A., Saulino L., Anzano E., Giordano D., Migliozzi A., Bonanomi G., D'Urso G., Mazzoleni S., Saracino A. Improving resilience of an old-growth urban forest in Southern Italy: Lesson(s) from a stand-replacing windstorm. 2020. *Urban Forestry and Urban Greening*, 47, 126521; 10.1016/j.ufug.2019.126521
12) Allevato E., Saulino L., Cesarano G., Chirico G.B., D'Urso G., Falanga Bolognesi S., Rita A., Rossi S., Saracino A., Bonanomi G. Canopy damage by spring frost in European beech along the Apennines: effect of latitude, altitude and aspect. 2019. *Remote Sensing of Environment*, 225, 431-440; 10.1016/j.rse.2019.03.023
13) Pasqualotto N., D'Urso G., Bolognesi S.F., Belfiore O.R., Van Wittenberghe S., Delegido J., Pezzola A., Winschel C., Moreno J. Retrieval of evapotranspiration from sentinel-2: Comparison of vegetation indices, semi-empirical models and SNAP biophysical processor approach. 2019. *Agronomy*, 9, 10, 663; 10.3390/agronomy9100663
14) Marta A.D., Chirico G.B., Bolognesi S.F., Mancini M., D'Urso G., Orlandini S., De Michele C., Altobelli F. Integrating sentinel-2 imagery with Aquacrop for dynamic assessment of tomato water requirements in southern Italy. 2019. *Agronomy*, 9, 7, 404; 10.3390/agronomy9070404
15) Berger K., Atzberger C., Danner M., D'Urso G., Mauser W., Vuolo F., Hank T. Evaluation of the PROSAIL model capabilities for future hyperspectral model environments: A review study. 2018. *Remote Sensing*, 10, 1, 85; 10.3390/rs10010085
16) Vanino S., Nino P., De Michele C., Falanga Bolognesi S., D'Urso G., Di Bene C., Pennelli B., Vuolo F., Farina R., Pulighe G., Napoli R. Capability of Sentinel-2 data for estimating maximum evapotranspiration and irrigation requirements for tomato crop in Central Italy. 2018. *Remote Sensing of Environment*, 215, 452-470; 10.1016/j.rse.2018.06.035
17) Severino G., D'Urso G., Scarfato M., Toraldo G. The IoT as a tool to combine the scheduling of the irrigation with the geostatistics of the soils. 2018.*Future Generation Computer Systems*, 82, 268-273; 10.1016/j.future.2017.12.058
18) Chirico G.B., Pelosi A., De Michele C., Falanga Bolognesi S., D'Urso G. Forecasting potential evapotranspiration by combining numerical weather predictions and visible and near-infrared satellite images: An application in southern Italy. 2018. *Journal of Agricultural Science*, 156, 5, 702-710; 10.1017/S0021859618000084

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

Salerno, 10/05/2023