

Europass CV

PERSONAL INFORMATION

Manuel Sapiano



Sex | Date of birth | Nationality

WORK EXPERIENCE

2018 - present

Chief Executive Officer

Energy and Water Agency (EWA)

Policy Development and Implementation

Chief Executive Officer of the Energy and Water Agency (EWA) within Malta's Ministry for the Environment, Energy and Enterprise. In this role, coordinates a team of experts with responsibilities for the formulation, evaluation, monitoring and implementation of national policies concerning the use of energy and water in a sustainable manner and the formulation of plans to meet National and EU energy and water resources management targets. These include Malta's River Basin Management Plan (RBMP), Flood Risk Management Plan (FRMP) and the National Energy and Climate Plan (NECP).

In 2022, was also entrusted with the structuring of an implementation arm within EWA tasked with the development of Malta's electrification (charging pillar) infrastructure.

In a European perspective, fulfils the role of Water Director for Malta, and within the Common Implementation Strategy of the EU Water Framework Directive co-chairs with the EU Commission the Working Groups on Groundwater and Water Reuse.

He coordinates EWA's identification of and participation in research and development initiatives in the energy and water sectors, mainly focusing on issues such as the water and energy demand management and use efficiency, renewable energies, groundwater resources management and policy assessment and formulation. This through project initiatives under European funding instruments such as Horizon Europe, LIFE, INTERREG and the Cross Border Cooperation Programme.

From an International context represents Malta in the Water and Energy initiatives of the Union for the Mediterranean, and the Water Initiative under the 5+5 process. Currently holds the Presidency of the Mediterranean Network of Basin Organisations - MENBO (2017 to date) and held the Presidency of the European Network - EURO-INBO during 2022. Furthermore, represents the Agency in a number of regional and international networks including the World Water Council, the World Energy Council, the Mediterranean Water Institute and the Mediterranean Energy Observatory.

Coordinates the water management of Malta's Islands for Islands initiatives, where the Agency provides support in the development of water management frameworks to Small Islands Development States.

Furthermore, is a nominated member of Malta's Climate Action Board.

2013 - 2018

Chief Policy Officer (Water)

Energy and Water Agency (EWA)

Policy Development and Implementation

Led the Water Policy Unit within EWA with responsibilities for

- the development of the National Water Management Plan and the undertaking of a National Water Conservation initiatives;
- the implementation of EU related water legislation in Malta (including the Water Framework

Directive, the Groundwater Directive and the Floods Directive), with particular reference to the formulation and implementation of Malta's 2nd River Basin Management Plan;

- the identification of national priorities for the water sector and the identification of the required funding instruments; and
- providing policy support to Government in issues related to the management of water resources and the water industry.

In this role, he also chaired the national Inter-Ministerial Committee tasked with coordinating all the national public stakeholders involved in the implementation process of the Water Framework Directive in the Maltese Islands.

Within the Common Implementation Strategy of the Water Framework Directive, fulfilled the role of Water Director for Malta. Furthermore, was nominated as one of the co-chairs with the EU Commission of the Ad Hoc Task Group on Water Reuse and since 2004 was the national representative on the CIS Groundwater Working Group.

From a regional perspective, represented Malta in the following initiatives:

- Water Strategy for the Western Mediterranean under the 5+5 process,
- Mediterranean Water Agenda under the Union for the Mediterranean, as a member of the Water Expert Group (WEG).

In the latter initiative, he actively supported the process leading to the development of a Mediterranean Water Agenda which culminated in its official endorsement in the UfM Ministerial Meeting held in Malta in April 2017. As part of the implementation of the UfM's Water Agenda is coordinated with Egypt the development of a regional strategic vision for water supply and sanitation (WASH).

Additionally he coordinated EWA's Water Policy Unit's participation in EU funded projects. Project initiatives included a LIFE Integrated Project to support the implementation of Malta's 2nd River Basin Management Plan, the undertaking of a National Water Conservation Campaign, and the optimisation of hydrological monitoring infrastructure funded under the EU Cohesion Fund. Further projects include the Consume-Less and Castwater Projects funded under the INTERREG –Mediterranean Programme which focused on sustainable tourism water demand, and the AQUARES project under the INTERREG-EUROPE programme which dealt with the development of water reuse policies. Other relevant projects include MORISO focusing on groundwater protection funded the INTERREG Italia-Malta Programme, MARSOL focusing on managed aquifer recharge funded the EU's FP7 programme, a project (ERDF-346) financed by the European Regional Development Fund focusing on subsurface groundwater discharge and the FREEWAT project focusing on the development of groundwater numerical models funded under the H2020 programme.

During this period has also participated in TAIEX missions related to the Circular Economy Package in Morocco, and on the implementation of the Water Framework Directive in Serbia. Has also collaborated with the World Bank Group's Water Scarce Cities Initiative, participating in regional conferences in Morocco (2016) and Beirut (2017). In 2015 also participated in the 1st Peer Review Process supporting the review of the river basin planning process of the Autorita di Bacino dei fiumi dell'Alto Adriatico in Venice (Italy), whilst in 2018 participated in a similar peer review exercise with the Latvian Water Authorities.

In his role he also acted as a focal point for the Energy and Water Agency EuroGeoSureys (EGS), where the Agency represents Malta in the field of groundwater resources.

2002 - 2013

Senior Analyst (Hydrogeology)

Malta Resources Authority (MRA)

Environmental and Economic Regulation of Water Resources

Responsible for the national process for the implementation of the Water Framework (Dir 2000/60/EC) and the (new) Groundwater Directive (Dir 2006/118/EC). Actively involved in the formulation of the groundwater related aspects of the Article 3 (Definition of the River Basin District), Article 5 (Characterisation), Article 8 (Monitoring) Reports as well as Malta's 1st River Basin Management Plan, as required by the Directive. During 2007, participated in a Twinning-Light Project with the French Ministry of the Environment aimed at developing a Programme of Measures for the Maltese River Basin District.

Since 2004, National Representative on the following Working Groups of the Common Implementation Strategy of the Water Framework Directive:

- Working Group 'C' Groundwater
- Working Group on the Environmental Objectives.

Participated actively in the formulation of guidance documents published by these Working Groups. These include guidance documents on groundwater monitoring, groundwater status and trend assessment, exemptions to the environmental objectives and the Mediterranean Groundwater Report.

In 2011 participated in an EU Mission to the Yellow River in China as part of the EU-China RBMP Process following an invitation by China's Ministry of Water Resources. The scope of this mission was to support the development of the China-Europe collaboration for river basin management by identifying potential collaboration opportunities.

Participated also in 2002 in a research project led by the International Atomic Energy Agency which aimed to utilise natural isotopes for an improved understanding of the hydrogeology of the Maltese islands. Moreover, during 2008 coordinated a further research project which utilised natural isotopes as tracers of nitrate pollution. This project was funded under the Technical Assistance programme of the Common Agricultural Policy and was led by the British Geological Survey.

Involved in the Environmental Regulation of Groundwater Resources in the Maltese Islands. Participated and analysed various EIA and EPS reports for major proposed (potentially polluting) developments.

Responsible for co-ordinating MRA's participation in two INTERREG Projects; Interreg IIIA Italia Malta – INWATERMAN (Management of water resources in arid and semi-arid insular environments and the re-use of treated effluent), Interreg IIIB Archimed - WATER-MAP (Development and utilisation of Vulnerability Maps for the monitoring and management of groundwater), an FP-7 (CLIMATEWATER) and two FP-6 (MELIA and SAFEWATER) Projects. Participated in the following EU Projects: BaSeLiNe [(EVK1-CT-1999-00006) - Natural baseline quality in European Aquifers: a basis for aquifer management]; WASAMED [(ICA3-CT-2002-10013) - Water saving in Mediterranean Agriculture].

1997 - 2002

Consultant

Water Services Corporation (WSC)

Research and Development

Provision of consultancy services to the Water Services Corporation on groundwater management issues in the period leading to Malta's accession to the European Union. During this period was specifically involved in various projects including:

- (i) The Delineation of Nitrate Vulnerable Zones (according to Directive 91/676/EEC) in the Maltese islands;
- (ii) The Delineation of Groundwater Vulnerability Maps for the Sea Level Aquifer systems in the Maltese islands; and
- (iii) A comprehensive analysis of the Corporation's groundwater monitoring networks and methodologies.

EDUCATION AND TRAINING

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1995 - 1997

Master of Science

University of Malta

▪ Hydrology, Hydrogeology

Dissertation: Aspects on Groundwater Protection. A Case Study: The Mean Sea Level Aquifer in Malta.

1992 - 1995

Bachelor of Science

University of Malta

▪ Physics, Chemistry

Dissertation: Geochemical Anomalies in Globigerina Limestone and the Soll Facies

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PERSONAL SKILLS

Mother tongue(s)

Maltese, English

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
Replace with name of language certificate. Enter level if known.					
Italian	C1	C1	C1	C1	C1

Replace with name of language certificate. Enter level if known.

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

- Short Courses**
- Isotope Hydrology – International Atomic Energy Agency, Joanneum Research Centre (Vienna, Graz - Austria) – 2002,
 - Application of Isotope Techniques in Hydrology – International Atomic Energy Agency (Budva – Montenegro) – 2007.
 - Sustainable use of Water on Mediterranean Islands – University of Munster - 2003
- Computer skills**
- Groundwater Modelling
 - Groundwater quality management software
 - GIS
- Driving licence** B, C1

ADDITIONAL INFORMATION

Publications

- Mangion, J., Sapiano, M. 2005. Meeting the Demand – Enhancing the Availability of Water Supplies in Malta, in International Conference of the LIFE – 3rd Countries Project: *Development and implementation of an integrated system for the control and monitoring of the urban wastewater treatment plants in Cyprus*.
- Mangion, J., Sapiano, M. 2005. Theoretical timeframes required for the remediation of groundwater in line with the achievement of the environmental objectives of the Water Framework Directive, in: *Report – Water Framework Directive Workshop, IFOK, Berlin, Germany*.
- Sapiano, M. 2006. Assessing the Impact of Different Water Policy Options in Agriculture, in Karam et al (eds), *Integration of Water Saving Options and Policies, Options Mediterraneennes*, CIHEAM, Valenzano, Italy.
- Mangion, J., Sapiano, M., 2006. Malta Water Resources Review. Food and Agriculture Organisation of the United Nations. Rome, Italy.
- Mangion, J., Sapiano, M. 2007. The Mean Sea Level Aquifer – Malta and Gozo, in: Edmunds et al. (eds), *Natural Groundwater Quality*. Blackwell Publishing, Oxford, United Kingdom.
- Attard, G., Sapiano, M., 2008. The evolution of Water Culture in Malta, in proceedings of the 1st MELIA Conference, *Options Mediterraneennes*, CIHEAM, Valenzano, Italy.
- Sapiano, M. 2008. Measures for facing Water Scarcity and Droughts in Malta. *European Water* 23/24: 79-86.
- Corbelli, V., Manos, B., Patrikaki, O., Polemio, M., Sapiano, M., and Voudouris, K. 2008. Aquifer vulnerability maps and decision support systems for the sustainable management of groundwater resources in the Mediterranean area, *Geophys. Res. Abstracts*, EGU, 10, 6903.
- Stuart, M.E., Maurice, L., Heaton, T.H.E., Sapiano, M., Micallef Sultana, M., Gooddy, D.C. & Chilton, P.J. 2010. Groundwater residence time and movement in the Maltese islands – A geochemical approach. - *Applied Geochemistry*, 25, 609-620.
- Heaton, T.H.E., Stuart, M.E., Sapiano, M. & Micallef Sultana, M. 2012. An isotope study of the sources of nitrate in Malta's groundwater. - *Journal of Hydrology*, Vols. 414/415, 244–254.
- Sapiano, M., Schembri, M., Brincat, C. 2013. State of water resources in Mediterranean Islands, in *MEDIWAT, Sustainable management of environmental issues related to water stress in Mediterranean islands*, Final conference proceedings.
- Sapiano, M., Schembri, M., Brincat, C. 2013. Assessing the environmental impact of artificial recharge by highly polished treated effluent on an unconfined aquifer system, in *MEDIWAT, Sustainable management of environmental issues related to water stress in Mediterranean islands*, Final conference proceedings.
- Viola, F., Sapiano M., et al. 2014. The State of Water Resources in Major Mediterranean Islands *Water Resources*, 41 (6), 639-648
- Coppola, E., Sapiano, M., Schembri, M., Szidarovsky, F. 2015. Application of Optimization Models and Decision Support Systems in Drought ; in *Handbook of Drought and Water Scarcity*, Francis & Taylor.
- Sapiano, M., Schembri, M., Debattista, H., Theuma, N. 2017 Integrating numerical models in River Basin Management Plans : The FREEWAT Project. *WIT Transactions on Ecology and the Environment* 220, 227-238
- Rodríguez-Escales, Paula, et al. "A risk assessment methodology to evaluate the risk failure of managed aquifer recharge in the Mediterranean Basin." *Hydrology and Earth system sciences* 22.6 (2018): 3213-3227.
- Dillon, P., Stuyfzand, P., Grischek, T. et al. Sixty years of global progress in managed aquifer recharge. *Hydrogeol J* 27, 1–30 (2019). <https://doi.org/10.1007/s10040-018-1841-z>
- Polemio, M.; Sapiano, M.; Santaloiao, F.; Basso, A.; Dragone, V.; De Giorgio, G'; Limoni, P.; Zuffianò, L.; Mangion, J.; Schembri, M. (2019). A hydrogeological study to support the optimized management of the main sea level aquifer of the island of Malta. *Rendiconti Online della Società Geologica Italiana*. 47. 85-89. 10.3301/ROL.2019.16.

Publications

Sammut G, Sinagra E, Sapiano M, Helmus R, de Voogt P. Perfluoroalkyl substances in the Maltese environment - (II) sediments, soils and groundwater. *Sci Total Environ*. 2019 Sep 10;682:180-189. <https://doi.org/10.1016/j.scitotenv.2019.04.403>. Epub 2019 Apr 27. PMID: 31121344.

Sapiano, M. (2020). Integrated Water Resources Management in the Maltese Islands. *Acque Sotterranee - Italian Journal of Groundwater*, 9(3). <https://doi.org/10.7343/as-2020-477>

De Filippis, G.; Pouliaris, C.; Kahuda, D.; Vasile, T.A.; Manea, V.A.; Zaun, F.; Panteleit, B.; Dadaser-Celik, F.; Positano, P.; Nannucci, M.S.; Grodzynski, M.; Marandi, A.; Sapiano, M.; Kopač, I.; Kallioras, A.; Cannata, M.; Filiali-Meknassi, Y.; Foglia, L.; Borsi, I.; Rossetto, R. Spatial Data Management and Numerical Modelling: Demonstrating the Application of the QGIS-Integrated FREEWAT Platform at 13 Case Studies for Tackling Groundwater Resource Management. *Water* 2020, 12, 41. <https://doi.org/10.3390/w12010041>

Calleja, E., Sapiano, M., Cutajar, A. - Strengthening the climate resilience of Wied il-Fiddien through ecological restoration. In *Parks Malta* (2021). Valleys : discovering Malta & Gozo's watercourses their value to society.

Lotti F, Borsi I, Guastaldi E, Barbagli A, Basile P, Favaro L, Mallia A, Xuereb R, Schembri M, Alexander MJ, Sapiano M (2021) Numerically enhanced conceptual modelling (NECoM) applied to the Malta mean sea level aquifer. *Hydrogeol J* 29:1517–1537. <https://doi.org/10.1007/s10040-021-02330-2>

Barbagli, A., Guastaldi, E., Conti, P. et al. Geological and hydrogeological reconstruction of the main aquifers of the Maltese islands. *Hydrogeol J* 29, 2685–2703 (2021). <https://doi.org/10.1007/s10040-021-02406-z>

Demichele, F.; Micallef, F.; Portoghese, I.; Mamo, J.A.; Sapiano, M.; Schembri, M.; Schüth, C. Determining Aquifer Hydrogeological Parameters in Coastal Aquifers from Tidal Attenuation Analysis, Case Study: The Malta Mean Sea Level Aquifer System. *Water* 2023, 15, 177. <https://doi.org/10.3390/w15010177>

Contributing Author:

European Commission, 2007. Guidance on Groundwater Monitoring, Common Implementation Strategy for the Water Framework Directive, DG Environment, Brussels.

European Commission, 2007. Mediterranean Groundwater Report, Common Implementation Strategy for the Water Framework Directive, DG Environment, Brussels.

European Commission, 2008. Guidance on Groundwater Status and Trend Assessment, Common Implementation Strategy for the Water Framework Directive, DG Environment, Brussels.

European Commission, 2008. Guidance Document on Exemptions to the Environmental Objectives. Common Implementation Strategy for the Water Framework Directive, DG Environment, Brussels.

Sapiano, M. (co-author) 2013. *MORISO Monitoring of the underground water resources, interventions to control marine intrusions and reduction in pollution from agricultural activities*. Final Publication.

Sapiano, M. (co-author) 2015. *SWMED Sustainable domestic water use in the Mediterranean Regions*. Final Publication.

Conferences

2nd Mediterranean Water Forum, organised by the Mediterranean Water Institute, Murcia (Spain) 25th -27th November 2014. (speaker)

4th EU Water Conference, organised by the European Commission, Brussels (Belgium) 23rd – 24th March 2015 (speaker)

42nd IAH Congress organised by the International Association of Hydrogeologists, Rome (Italy), 13th – 18th September 2015. (speaker)

9th International Symposium on Managed Aquifer Recharge, Mexico City (Mexico), 20th – 24th June 2016. (speaker)

43rd IAH Congress organised by the International Association of Hydrogeologists, Montpellier (France), 25th – 29th September 2016. (speaker)

44th IAH Congress organised by the International Association of Hydrogeologists, Dubrovnik (Croatia),

25th – 29th September 2017 (speaker)

3rd Mediterranean Water Forum, organised by the Mediterranean Water Institute, Cairo (Egypt), 23rd – 24th January 2018

8th World Water Forum, organised by the World Water Council, Brasilia (Brazil) , 19th – 22nd March 2018

45th IAH Congress organised by the International Association of Hydrogeologists, Daejeon (South Korea), 9-15th September 2018 (speaker)

5th EU Water Conference, organised by the European Commission. Vienna (Austria), 20-21 September 2018 (Speaker)

10th International Symposium on Managed Aquifer Recharge, Madrid (Spain). 20-24 May 2019 (Speaker)

Flowpath 2019, National Meeting on Hydrogeology, Milan (Italy). 12-14 June 2019 (Speaker)

17th Europe-INBO International Conference for the Implementation of the European Water Directives, Lahti (Finland), 17-20th June 2019 (speaker)

Cairo Water Week 2019, Responding to Water Scarcity, Cairo (Egypt), 20-24th October 2019 (speaker)

48th IAH Congress organised by the International Association of Hydrogeologists, Brussels (Belgium), 6-10th September 2021 (speaker)

Flowpath 2021, National Meeting on Hydrogeology, Naples (Italy). 6-8th December 2021 (Speaker)

4th Mediterranean Water Forum, organised by the Mediterranean Water Institute, Valletta (Malta), 6-8th December 2021 (speaker)

Cairo Water Week 2022, Water at the Heart of Climate Action, Cairo (Egypt), 16-19th October 2022 (speaker)

19th Europe-INBO International Conference for the Implementation of the European Water Directives, Valletta (Malta), 8-10th December 2022 (speaker)

International Conference, Groundwater – Key to the Sustainable Development Goals, Paris (France), 18-20th May 2022 (speaker)

International Interdisciplinary Conference on Land Use and Water Quality, Agriculture and the Environment Maastricht, the Netherlands, 12-15 September 2022 (speaker)

20th Europe-INBO International Conference for the Implementation of the European Water Directives, Annecy (France), 26-29th September 2022 (speaker)