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Scientific and Industrial Research Organization

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# **Day 1 - 15 November '21**

# WATER RESOURCES MANAGEMENT

# PrimeWater Multi-User Panel Stakeholders week (15-19 Nov)

How to repurpose satellite-derived water quality data and forecasts into water industry intelligent services.

## **ABOUT THE MULTI-USER PANEL**

The purpose of the MUP is to serve as an international panel of users providing expert feedback on Earth Observation (EO)-enabled services developed or extended in the context of PrimeWater and participate in the co-generation process itself through dialogue.

#### THE OBJECTIVES OF THE MUP STAKEHOLDERS WEEK

The main objectives of this workshop will be: (a) to provide an overview and update on the services that PrimeWater can offer to participants; (b) to understand how different sectors are using EO service to address issues such as Extreme hydrological events (EHEs) and harmful algal bloom (HAB) events and (c) to discuss the added value of PrimeWater products when addressing these issues.

# **Useful links for Day 1**

- User preferences for Earth Observation services access the survey here
- Mentimeter
  - o 1<sup>st</sup> mentimeter: https://www.menti.com/3bnm8mpb28
  - o 2<sup>nd</sup> mentimeter: https://www.menti.com/vbbzh6y9gr

# **AGENDA**

## **SESSION 1**

15 November, 13:00 – 13:45 GMT

- Welcome and introduction Dr Samuela Guida, IWA
- Setting the scene *Apostolos Tzimas, EMVIS*
- Short to medium term forecasting of water quality for operational applications: opportunities and limitations *Evangelos Romas*, *EMVIS*
- Q&A with audience -all

#### Mini-break

## **SESSION 2**

15 November, 13:45 – 14:30 GMT

Moderator: Megan Coffer, US EPA

Presentations (10 minutes each):

- Spatial altimetry and applications in Pilot River/Lake Basins
  Christophe Brachet, International Network of Basin Organisations
- Preparing for upcoming hyperspectral missions: PACE and SBG,
  Stephanie Schollaert Uz, NASA
- Earth observation for water management Use cases in Brazil Henrique Reisdorfer Leite, LACTEC

Q&A with audience (10 minutes)

#### Mini-break

# **SESSION 3**

15 November – 14:30 – 15:15 GMT

Introduction to survey "User preferences for Earth Observation services" - Lara Agnoli and Nikos Georgantzis, BSB





Christophe BRACHET, graduated in 1988 from Ecole Centrale de Paris, has more than 25 years of postgraduate experience in Integrated Water Resource Management, hydrology – including spatial altimetry, large hydraulic infrastructures, climate change adaptation and flood risk management. Mr Brachet is currently the Deputy General Manager of International Office for Water (OiEau), namely Deputy General Secretary of International Network of Basin Organisations (INBO). He joined OiEau / INBO in 2010 after having been detached by the French Ministry of Foreign Affairs from 2003 to 2010 as advisor to the Niger Basin Authority in Niamey, then to the Congo River basin organization in Kinshasa. He was previously Head of the water and environment department at ISL engineering company.



#### Stephanie Schollaert Uz, NASA

Stephanie Schollaert Uz is the Applied Sciences Manager at NASA Goddard Space Flight Center where she leads activities to advance the practical application of NASA data and science, connecting researchers across the Earth Sciences Division with end users, developing external partnerships, and fostering innovative uses of Earth observations for societal benefit. As part of this effort, she leads a team that convenes six working groups with scientists and stakeholders around Food Security, Air Quality & Health, Climate & Environmental Health, Disasters, Mission Applications, and the Chesapeake Bay. Her research focuses on the response of marine and aquatic ecosystems to physical forcing through the use of satellite data, in situ measurements, model output and statistical reconstructions. She is the Principal Investigator on a new project exploring ways to apply remote sensing to identify water quality issues for aquaculture in the Chesapeake Bay. These and many other Applied Sciences activities inform NASA's upcoming missions, i.e. PACE, scheduled to launch in 2023, a potential Surface Biology and Geology mission recommended by the 2017 Decadal Survey of Earth Science and Applications from Space. She has a Ph.D. in Atmospheric and Oceanic Sciences from the University of Maryland, an M.S. in Physical Oceanography from the Graduate School of Oceanography at the University of Rhode Island and B.S. from the U.S. Naval Academy, where she majored in Oceanography and minored in French.



## **Henrique Reisdorfer Leite, Lactec**

Henrique Reisdorfer Leite is a researcher at Lactec, one of the biggest technology innovation centers in Brazil, and he is also the representative in the country for the German company EOMAP, whose focus is EO technologies and applications for water management.

Henrique is an aquatic remote sensing specialist with over six years of experience in water management projects. He works to spread the usefulness of EO based solutions for water management applications in Brazil, mostly but not exclusively for hydropower.



## **Megan Coffer, US EPA**

Megan Coffer is a postdoctoral ORISE fellow at the U.S. EPA Office of Research and Development in Durham, NC. She received her Ph.D. in Geospatial Analytics from North Carolina State University in May 2021 and also holds a M.S. in Atmospheric Science from North Carolina State University and a B.S. in Mathematics from Meredith College. Her research uses satellite remote sensing technologies to study aquatic ecosystems, including monitoring cyanobacterial blooms in inland lakes and reservoirs and mapping seagrass extent along the coast.

# **Presenters from PrimeWater Consortium**



#### Samuela Guida, IWA

Dr Samuela Guida is the IWA Strategic Programmes and Engagement Manager. She is responsible for coordinating IWA Strategic Programmes as well as projects, initiatives, and Communities of Practice related to the programmes. She is also responsible for the identification of and engagement with key global and regional partners who are aligned with IWA's strategic goals and for coordinating and supporting the functioning of IWA members' groups — working closely with member engagement team, regional offices, communications team, and other key staff at IWA. She has an academic background in Industrial Biotechnology and a Master's Degree from the University of Padova in Italy. In 2020, she obtained her PhD from Cranfield University (Water Science Institute, UK) with a Thesis on the removal and recovery of nutrients (ammonium and phosphorus) from wastewater through the ion exchange (IEX) process at demonstration scale.



#### **Apostolos Tzimas, EMVIS**

Apostolos Tzimas is the Managing Director of EMVIS SA (http://emvis.gr/). He has a deep knowledge of the water sector with particular focus on water infrastructure planning, development and management, working closely with public and private sector water bodies. In the field of water resources management, he provides specialized consultancy services and advisory work to competent central and regional authorities for issues related to the implementation of EU water related legislation. He is acting as technology purveyor in digital transformation projects in the water sector. He has co-ordinated the EU funded Research & Innovation project SPACE-O (http://www.space-o.eu/). Currently he is the coordinator of the EU flagship project for international cooperation of EU Copernicus PRIMEWATER (https://www.primewater.eu/) and **IFOS** (http://emvis.gr/index.php/ifos) funded by Innovation Norway. He is active member of authoritative professional associations (IWA, CIWEM, ISWA, IEMSS) and Technology Platforms (Water Europe).



#### **Evangelos Romas, EMVIS**

Evangelos Romas is a researcher in the field of hydraulic and hydroecological modelling. He is Head of the Research and Development unit of EMVIS SA with significant experience in 3D hydrodynamic and water quality models for surface water bodies, process simulation, automated calibration and data assimilation techniques, using satellite imagery and in-situ monitoring datasets. He has deep knowledge of major programming stacks and database systems, and professional experience in developing and applying customized ICT solutions in the field of water resources for the implementation of Environmental and Water related Directives. In recent EU-funded collaborative projects (SPACE-O, PrimeWater, IFOS), he has coordinated the architectural design and development of an operational platform for real-time forecasting of water quality characteristics in inland and coastal water bodies.



Lara Agnoli, BSB

Lara Agnoli is Associate Professor of Wine Marketing and Economics at the Burgundy School of Business in Dijon, France. She holds a Ph.D. in Wine Economics and Rural Development from the University of Florence, Italy. Her research activity is mainly focused on the analysis of consumers and customers' decision-making process, choices and behaviours.



#### **Nikos Georgantzis, BSB**

Nikos Georgantzis studied Economics at the University of Piraeus and he has an MPhil from the University of Wales (UC Swansea) and an MA and PhD from the European University Institute (Florence, Italy). He is Professor of Experimental Economics and Director of the Wine and Spirits Business Lab at the School of Wine and Spirits Business, (Burgundy School of Business) in Dijon, France. He is a founding member of the academic Spinoff, Experimentia Consulting SL, which has been awarded two nation-wide prizes (2003 and 2006) for business creation proposals. For over 10 years, he has been the director of two PhD programs (Castellón and Granada) and has been a visiting professor in various universities (Crete, Cyprus, Paris II, Economics U. in Bratislava, Chapman, Autónoma de Colombia, U. Nacional in Bogotá, etc.). He has acted as a principal investigator for over 20 research projects funded by national and private organizations in Spain, the UK, France and the EU. Research interests range over a broad spectrum of topics, including Wine Economics, Economic Psychology, Microeconomics, Industrial Organization, Behavioural Economics, Labour Economics, Environmental Economics and International Economics, among others.