

Water challenges for a changing world

HOME Water JPI Implementation Mapping & Agenda Joint Calls Alignment International Cooperation Resources

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EDITORIAL

Relevant speakers and a large public of stakeholders attended the first annual international conference of the Water Joint Programming Initiative (JPI) held in Rome on the 19th May 2016. During the event, the new version of the Water JPI Strategic Research and Innovation Agenda ([SRIA 2.0](#)) was presented and its implementation and the benefits from international cooperation were discussed. Three round-table discussions animated by speakers representing water public utilities, ministries, research centres, private foundations, EU and international water-related platforms and networks covered the identified water research priorities in the SRIA, its implementation, and the benefits of international cooperation to jointly tackle the grand challenge of achieving sustainable water systems in the world. New ideas for transforming the Water JPI SRIA in concrete and practical actions, structuring the necessary cooperation and accelerating the solutions development were identified and will be explored in the future.



Information on the 23 projects funded within the first two joint calls of the Water JPI and other EU water research and innovation projects was provided during the conference poster session.

The conference video and presentations are published at this [link](#).

PROGRESS ON WATER JPI ACTIVITIES

KICK-OFF MEETING OF THE WATERWORKS2014 PROJECTS

The 16 transnational collaborative projects recommended for funding within the joint call launched by the first ERANET-Cofund supporting the Water JPI held their kick-off meeting in Rome on 18 May 2016. The call focused on the theme "*Research and Innovation for Developing Technological Solutions and Services for Water Systems*", a topic that partially covers the five priority themes described in the Strategic Research and Innovation Agenda (SRIA) of the Water JPI.

ACWAPUR aims at developing techniques, steering tools and management guidelines to prevent leaching of pathogens, inorganic nutrients and organic pollutants to underlying aquifers during artificial recharge processes.

BiorG4WastewaterVal+ proposes bioorganic novel approaches for food processing waste water treatment and valorization and will present the Lupanine case study.

DESERT addresses the use of non-conventional water sources in agriculture as a component of effective water conservation strategies.

DOMINO aims at developing novel fiber optic sensors (FOS) for the monitoring of dikes and debris flows, that could eventually be used to prevent disasters and manage the related emergency.

IMDROFLOOD aims at improving drought and flood early warning, forecasting and mitigation using real-time hydroclimatic indicators and making use of currently available information sources on meteorological, hydrological and remote sensing data to generate new information relevant for flood and drought risk management.

INXCES will develop new innovative technological methods for risk assessment and mitigation of extreme hydroclimatic events and optimization of urban water-dependent ecosystem services at the catchment level, for a spectrum of rainfall events.

IRIDA will create a mixed model where isolated actual evapotranspiration (ET) and soil moisture measurements, obtained in the representative areas within a plot, can be correlated with actual ET results obtained by means of low-resolution methods.

MEPROWARE proposes a novel methodology for the promotion of treated wastewater reuse for Mediterranean crops. The core of the proposed methodology is the evaluation of the yield and quality of crops under variable levels of water and nutrient supply, by adapting the nutrient quantities to the phenological needs and coupling it with crops water requirements under three different local climate conditions.

MUFFIN will focus on multi-scale urban flood forecasting systems to achieve higher resolutions and better descriptions of the urban environment in order to prevent pluvial urban flooding.

Pioneer_STP aims at assessing the impact of the integration of (4) innovative Unit Technological Solutions (UTS) (comprising in total 9 technologies), nowadays developed at lab- or pilot-scale, targeted to energy recovery and nutrients removal/recovery, into a Sewage Treatment Plant (STP). Each UTS will be characterised not only in terms of efficiency but also concerning their environmental (LCA, Risk), economic (LCC) and energetic impacts.

PROGNOS will develop an integrated approach that couples High Frequency (HF) data to dynamic models to forecast short-term changes in lake state, and thus inform management decisions to safeguard the ecosystem services that lakes provide.

SIM aims at developing an operational tool for real-time forecast of irrigation water requirements to support parsimonious water management in case of actual or forecasted drought period. The system will be a prototype version of a world wide web platform (smart device), that will support users in parsimonious irrigation water management from basin authority to single farm.

STEEP STREAMS aims at researching structural innovative solutions and design criteria reliable to mitigate the impacts of flash floods and debris flows especially in presence of intense woody material transport, typical of mountain catchments.

TH:E.R.BIO.R focuses on the development, implementation and diffusion of technologies to improve energy efficiency in wastewater treatment plants (WWTPs) using a fully off-grid solar-assisted heat pump (SHP) system, applicable Europe-wide but centred on the Mediterranean region in order to provide solutions for the tourism sector.

Watintech proposes a combination of concepts of sewer mining with urban run-off treatment in decentralized treatment facilities to enhance the

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recovery of valuable resources including water, methane (heat, energy) and value-added chemicals, either extracting or producing them from the fluxes inside a sewage pipe.

We-NEED will develop new management strategies to assist in the sustainable use of two key components of the GW resource: pumping wells, used to obtain water for drinking purposes, and natural springs, typically employed for crop irrigation as well as for recreational use.

The projects [presentations](#) and abstracts are published on the Water JPI website.

FIRST STEP OF THE 2016 JOINT CALL

The Water JPI joint call 2016 on “*Sustainable management of water resources in agriculture, forestry and freshwater aquaculture sectors*” has finalised its first step, which involved the submission of pre-proposals. The joint call is at a stage where the eligibility check of the applicants has been carried out by the funding partner organisations and the pre-proposals are being remotely evaluated by experts, according to the call announcement guidelines. In line with the call schedule, the applicants will be notified of all the outcomes until the first weeks of July, before the second step of the joint call is opened for the submission of full proposals to the consortia that passed the eligibility check and the first step of the evaluation.

WEBINAR FOR WATER RESEARCHERS

The European Innovation Partnership (EIP) on Water and the Water JPI are offering a half day webinar for researchers in the water area to help them engage more effectively with stakeholders and end-users of research, development and innovation initiatives. More information is published on the [on-line](#) EIP Water market place. Registrations will be also available at <http://www.waterjpi.eu/>.

RESEARCH HIGHLIGHTS

Stakeholder participation in long term planning of water infrastructure

A paper of Roovers and van Buuren (2016) explores ways to deal with the problematic nature of stakeholder participation in long-term planning within modern water infrastructure asset management, presenting a typology with four types of possible styles for asset management which also gives rise to specific forms of stakeholder participation: (1) *monofunctional* - asset manager realizes the main function of its assets and manages them with only an eye on the principle core function of the asset; (2) *integrated* - asset manager realizes an integral approach of its assets, and manages them with this integral approach in mind; (3) *accommodating* - asset manager realizes the main function of its assets but accommodates other functions as well; and (4) *learning* - asset manager is responsible for the main function of its assets, but invites stakeholders to participate, intertwine other functions and to manage, explore and develop the system jointly.

Based upon the comparative case analyses, Roovers and van Buuren drew some conclusions. First, according to long-term planning, a specific style of asset management and stakeholder participation can be chosen. When a more anticipating strategy is used to deal with uncertainties, a more learning asset management style seems appropriate. When a more complexity-reducing strategy is used, a more closed and exploiting style seems appropriate.

A second conclusion drawn by authors implies that effective public asset management might combine an early learning style in the preparatory phase of investments - to anticipate on long term uncertainties and to create more public value – with a more closed style later on, while implementing measures following these public values within time and budget.

Lastly, connecting the long term perspective with short term measures or initiatives can stimulate stakeholders to participate. Taking short term measures urges stakeholders to participate, either to minimize impacts on their own interests, or to connect their own interests with these short term measures. But taking short term measures also minimizes the room for a learning asset management style and for an anticipating strategy for long-term uncertainties. Too much urgency leaves stakeholders no time to define their own agenda and to synchronize it with the agenda of the asset manager. As asset management focuses on the life-cycle of assets and needs to be connected with organizational goals, public asset management seems to ask for a permanent and institutionalized dialogue between asset manager and stakeholders. [To know more](#)

DROPLETS

Five policy conditions to improve water management

Adaptive co-management' could help water managers cope with future shocks and unpredictability brought by climate change, according to a recent study which identifies five conditions for policies that would create an enabling environment for this management approach, which include the need to account for water's ecological functions, and for stakeholders to learn from each other.

Co-management brings together communities of resource users and managers (which may include government) to collectively manage resources. Power is, therefore, shared between all stakeholders with more rights at a local level. Adaptive management allows participants in a co-management system to adapt to change through 'learning-by-doing'. Policymakers should introduce objectives to encourage joint learning, and recognise that social learning is necessary in the face of uncertainty. [To know more](#)

Constructed wetlands boost biodiversity

Areas saturated with water such as swamps, peat bogs and marshes are natural purifiers of water, as the aquatic plants growing there can remove toxic substances, nutrients, microorganisms and offer a low-cost effective alternative to traditional waste water treatment. [To Know more](#)

European Pollutant Release and Transfer Register

The [E-PRTR 2014](#) is a dataset including details of 91 substances released to air, water, land and wastewater from 2007 to 2014. This online register, recently published by the European Commission and the European Environment Agency (EEA), gives information on releases and transfers of pollutants from industrial installations in 33 European countries: EU-28; plus Iceland, Liechtenstein, Norway, Switzerland and Serbia. Also data for Croatia are included for the first time and relate to 2014. The full [E-PRTR dataset](#) is also available for download from the EEA website.

Good standards in European bathing water

The annual [European bathing water quality report](#), recently published by the European Environment Agency (EEA) and the European Commission, proves that European legislation and national water policies as well as 40 years of investments in the sewerage system, better wastewater treatment and the reduction of pollution have led to substantial results. Figures show an increase in 2015, with 96 % of sites meeting the minimum quality requirements set out in the EU's Bathing Water Directive. [To know more](#)

Pathways project report published by the Irish EPA

The Environmental Protection Agency of Ireland has recently published the "[Pathways Project](#)" Report (Contaminant movement and attenuation along pathways from the land surface to aquatic receptors). As part of the EPA Research Programme 2014–2020, the *Pathways Project* investigated pathways of contaminant transport in Irish catchments, and developed a national suite of *Catchment Management Support Tools* (CMSTs). Project findings demonstrate that, in order to identify critical sources areas, hydrological and hydrogeological processes and pressures from land use must be integrated to develop a good basis for assessing the impacts of land use on water quality. [To Know more](#)

Increasing Resource Efficiency in Wastewater Treatment Plants

The results of the [study on Increasing Resource Efficiency in Wastewater Treatment Plants](#), by a group of researchers at Dublin City University have been published by the Irish EPA as part of its Research Programme 2014–2020. In order to audit and benchmark the resource efficiency of Irish wastewater treatment plants (WWTPs), including the use of life-cycle analysis (LCA) and energy analysis, a multi-pronged approach has been adopted. In particular ten representatives of Irish WWTPs were audited in detail.

OPPORTUNITIES

Indo-European innovation joint call for proposals on bioeconomy

The objective of the INNO INDIGO calls for proposals is to support high quality research, development and innovation projects, involving partners from Europe and India within the framework of the INNO INDIGO Partnership Programme (IPP). Under the innovation call, joint R&D projects in the field of bioeconomy designed for innovative products, services or processes of important economic and societal value are eligible for funding. Deadline for proposals is 31 August. [To Know more](#)

IWC masters scholarships launched for future water leaders

The International WaterCentre (IWC) has launched scholarships for international high level candidates for full-time study of the MIWM (Master of Integrated Water Management) program. The International WaterCentre (IWC) provides education and training, applied research and knowledge services to implement a whole-of-water cycle approach and develop capacity in integrated water resource management. 2017 IWC masters scholarships include one full tuition scholarship for future water leaders from North America, Europe or Asia. Closing date: 1 August 2016. [To know more](#)

LIFE programme: open call for climate action project proposals

The European Commission has recently launched the 2016 call for proposals for climate action projects under LIFE (the financial instrument for the environment). The action grants support to three types of projects (Traditional projects; Integrated Projects; Technical Assistance Projects) aimed at reducing greenhouse gas emissions, adapting to the impacts of climate change, and enhancing climate governance and information. Deadline for submissions: September 2016. [To Know more](#)

How to get a European patent

The 16th edition of the Guide for Applicants on "How to get a European Patent" has been published by the European Patent Office (EPO). This guide has been designed in order to provide stage by stage inventors, companies and their representatives with an outline of the required procedures applying for a European patent. [To Know more](#)

Innovation deals for a circular economy

The European Commission has launched a call for Expressions of Interest (EOI) on Innovation Deals for a Circular Economy. Up to five Expressions of Interest will be selected to become Innovation deals. Applicants should outline their innovations and identify where they think EU regulatory frameworks are causing a blockage in getting their innovation to market. Closing date: 15 September 2016. [To Know more](#)

UPCOMING EVENTS



FP4BATIW final conference

The final conference of the project FP4BATIW will take place in Barcelona on 13-14 July 2016 and is focused on "*Fostering partnerships for the implementation of best available technologies for water treatment & management in the Mediterranean*". The event is structured around roundtables and parallel sessions where leading experts, industrials, government officials and representatives of civil society will discuss about the directions and flow of water technologies in the Mediterranean countries. [To Know more](#)

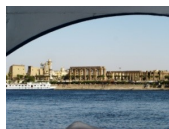


XXIX Nordic hydrological conference

The event to be held in Kaunas (Lithuania) on 8-10 August will discuss the role of hydrology towards water resources sustainability. [To know more](#)

Wastewater Egypt forum

"National, regional and international water treatment strategies from a circular economy perspective" is the title of the Wastewater Egypt Forum 2016 to be held in Cairo on next 29-30 August. The main objectives of this event addressed to wastewater industry are: to address challenges of wastewater treatment, to develop wastewater capacity and to identify the



relevant solutions to solve them. Senior representatives from the National Organisation for Potable Water & Sanitary Drainage, WABAG, the Arab Water Council, the International Water Technology Association and many more will join this event to discuss new projects and latest treatment technologies. [To know more](#)



World Water Week

The World Water Week in Stockholm (28 August-2 September) is the annual focal point for the globe's water issues. This year the theme of this conference organized by the Stockholm International Water Institute is water for sustainable growth. [To know more](#)



adnatur

Final event of the ADNATUR project

The principal aim of this project funded by the LIFE+ programme has been the assessment, demonstration and validation of the efficacy of an innovative and environmentally friendly technology based on natural products. The final event of the project will be in Brussels on 15 September. For information on the event: roberto.farina@enea.it.

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