



**KEMENTERIAN PENDIDIKAN, KEBUDAYAAN,
RISET, DAN TEKNOLOGI
INSTITUT TEKNOLOGI SEPULUH NOPEMBER
DIREKTORAT RISET DAN PENGABDIAN KEPADA MASYARAKAT**

Gedung Pusat Riset, Lantai Lobby Kampus ITS Sukolilo Surabaya 60111

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Nomor : **6611/IT2.IV.1/B/PN.00/2023**
Lampiran : 1 (satu) berkas
Perihal : **Informasi Pendanaan Penelitian dari The Water Research Foundation (WRF)**

Yth : Para Kepala Departemen
Kampus ITS Sukolilo
Surabaya

Sehubungan dengan dibukanya hibah penelitian dari **The Water Research Foundation** dengan 5 (lima) jenis program pendekatan One Water, maka kami menginformasikan kepada seluruh dosen dan peneliti Institut Teknologi Sepuluh Nopember (ITS) bahwa terdapat banyak peluang untuk menciptakan inovasi melalui penelitian dimaksud, dan mendapatkan pendanaannya. Program pendanaan **WRF** ini berfokus pada sektor air, dengan tujuan untuk mengatasi permasalahan siklus air secara holistik dan memberikan solusi sebagai tindak lanjutnya.

Macam-macam program pendanaan One Water **WRF** dan informasi lebih lengkapnya sebagaimana terlampir.

Dokumen dan informasi lebih lanjut dapat diakses pada link berikut: <https://www.waterrf.org/open-rfps> . Apabila memerlukan lembar pengesahan pimpinan DRPM ITS bisa dikirimkan melalui <https://linktr.ee/drpm.its> dan konfirmasi di Admin DRPM wa.me/6281333250025.

Demikian surat ini. Atas perhatiannya kami sampaikan terima kasih.



Surabaya, 05 Oktober 2023
Direktur Riset dan Pengabdian Kepada Masyarakat,

Fadlilatul Taufany, S.T., Ph.D.
198107132005011001

Tembusan Yth :

1. Wakil Rektor IV
2. Kepala Bagian Administrasi Umum dan Kearsipan Digital
3. Dekan Fakultas Teknologi Industri dan Rekayasa Sistem
4. Dekan Fakultas Teknologi Kelautan
5. Dekan Fakultas Vokasi
6. Dekan Fakultas Sains dan Analitika Data
7. Dekan Fakultas Teknik Sipil, Perencanaan, dan Kebumihan
8. Dekan Fakultas Teknologi Elektro dan Informatika Cerdas
9. Dekan Fakultas Desain Kreatif dan Bisnis Digital
10. Dekan Sekolah Interdisiplin Manajemen dan Teknologi
11. Dekan Fakultas Kedokteran dan Kesehatan

DAFTAR PENDANAAN PENELITIAN REQUEST FOR PROPOSAL (RFP) DARI THE WATER RESEARCH FOUNDATION

No	Kode Penelitian	Tema Penelitian	Sumber Informasi	Tujuan Penelitian	Deadline
1	RFP_5222_EO	Making the Case for Climate-Resilient Water Infrastructure and Supporting Strategies	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5222_EO.pdf	To develop water sector-specific guidance, including a decision-support tool on how to make a case for investments in climate-resilient stormwater, wastewater, and drinking water infrastructure, considering both structural approaches (i.e., physical assets) and non-structural approaches (e.g., codes and standards)	11/14/2023 (3:00 pm) Mountain
				To advance quantitative approaches to utility decision-making about climate resilient capital projects, as well as other approaches within the web of complex challenges facing water utilities today	
				To enhance stakeholder engagement and education by incorporating a collaborative component in the decision-support tool, enabling utilities to engage community members, utility staff, and peer agencies around climate-resilient water investments	
2	RFP_5240	Enhancing Collection Systems Integrity with Application of Emerging Assessment and Renewal Methods	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5240.pdf	This project will identify state-of-the-art emerging condition assessment methods and innovative renewal technologies. It will focus on advanced techniques from physics-based models and analytical techniques to Artificial Intelligence/Machine Learning (AI/ML) technologies with a specific focus on collection systems integrity.	11/14/2023 (3:00 pm) Mountain
3	RFP_5246	Quantifying the Performance of Source Water Protection Measures to Improve Utilities' Decision Making	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5246.pdf	To advance source water protection and watershed-level point and non-point source pollution prevention, interception, and remediation strategies and to quantify the costs and benefits by focusing on high-priority situations	11/14/2023 (3:00 pm) Mountain
				To identify and prioritize performance measures for both point and non-point source pollution that need to be applied to different protection activities to assess the economic value, return on investment, value of ecosystem services, as well as operational, water quality and quantity, and ecological outcomes	
				To develop a framework for measurement of these performance metrics at local, regional, and watershed scales	
				To provide clear and robust guidance to help utilities (a) identify targeted areas for source water protection that are relevant to their core business, (b)	

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				implement meaningful strategies and options based on current understanding of performance, and (c) prioritize meaningful performance measurement of interventions at the watershed scale	
4	RFP_5250	Approaches to Build Strong Partnerships and Solidify Successful Interagency Reuse Projects	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5250.pdf	Define successful interagency water reuse projects and identify the characteristics of project partnerships that strengthen reuse project planning and foster successful collaboration Develop guidance for successful interagency collaboration and a toolkit of resources for multi-agency projects	11/14/2023 (3:00 pm) Mountain
5	RFP_5256	Regionalized or Integrated Solutions for Brine Management and Recovery	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5256.pdf	Research various approaches for regionalized or integrated brine management (e.g., shared infrastructure, centralized treatment, integrated methods to reduce brine volume, and recovery of marketable high value products) Identify and provide guidance for assessing the key factors related to implementation of regional or integrated brine management solutions, evaluating opportunities based on current and future one water scenarios (including municipal, agricultural, commercial, co-produced water, and industrial sector needs) Develop regionalized or integrated brine management planning guidance	11/14/2023 (3:00 pm) Mountain
6	RFP_5259_EO	Guidance for Algaecide Application in Source Waters	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5259_EO.pdf	The objective of the project is to develop a guidance document that will help utilities optimize their algaecide application and develop monitoring protocols	11/14/2023 (3:00 pm) Mountain
7	RFP_5244	Validation of an Integrated Framework of Wastewater and Stormwater Treatment Options of CECs	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5244.pdf	Validate cost effective strategies for the management and control of constituents of emerging concern (CECs) in all water sources Provide benefit/cost guidance to utilities in determining viable treatment options at the water resource recovery facility (WRRF) or the source Address current research gaps in the One Water framework such as analytical techniques and screening tools, characterization and predictive modeling, and potential health impacts	11/21/2023 (3:00 pm) Mountain
8	RFP_5248	Integrating Nature-based Solutions and Gray Infrastructure to Optimize Treatment Performance	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5248.pdf	Summarize and advance the state of practice of integrating nature-based solutions with conventional/gray infrastructure treatment trains across different water matrices Assess water quality performance capabilities of mixed treatment trains using existing datasets, published literature values, and/or	11/21/2023 (3:00 pm) Mountain

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				<p>advanced tools such as simulation models</p> <p>Identify socio-technical opportunities and barriers for better integration, and evaluate proposed solutions for energy, chemical, and/or other operation and maintenance cost savings</p> <p>Perform a triple bottom line (or similar) analysis to holistically evaluate the tradeoffs of mixed treatment trains vs. full conventional/gray or full nature-based</p>	
9	RFP_5252	Advancing Anoxic Phosphorus Uptake for Highly Efficient Simultaneous Nitrogen and Phosphorus Removal	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5252.pdf	<p>Advance the knowledge of phosphorus (P) removal through anoxic P uptake in biological nutrient removal (BNR); this includes investigating the microbial ecology and approaches for identification of as well as the role of denitrifying polyphosphate accumulating organisms (dPAOs), denitrifying glycogen accumulating organisms (dGAOs), non-canonical PAO, and other denitrifiers that offer advantages in effective anoxic phosphorus uptake and removal with various carbon pools</p> <p>Building on research-to-date, advance the knowledge of dPAO selection and enhancing dPAO activity in practice at pilot- and full-scale</p> <p>Develop design and operational guidelines and control strategies focused on effective full-scale implementation of anoxic P uptake for simultaneous nitrogen (N) and P removal at water resource recovery facilities (WRRFs)</p>	11/21/2023 (3:00 pm) Mountain
10	RFP_5254	Evaluation and Demonstration of Biotechnological Tools and Methods for Improving Biofiltration Operation and Optimization	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5254.pdf	<p>This project aims to enhance our understanding of how microbial community structure, function, and dynamics contribute to biofiltration performance and process optimization</p>	11/21/2023 (3:00 pm) Mountain
11	RFP_5242	Residential End Uses of Water, Version 3: A Single-Family and Multi-Family Study	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5242.pdf	<p>Evaluate changes in disaggregated water uses in single-family households and a baseline for multi-family households by collecting current data from sites that statistically represent their service areas and analyzing the data to identify variations in water used by each fixture or appliance. Outdoor analysis should be limited (e.g., focus on analyzing outdoor usage with lot size and pervious areas)</p> <p>Evaluate differences and similarities between single-family and multi-family households (e.g., limited sub-categories, such as</p>	12/12/2023 (3:00 pm) Mountain

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				condos, townhomes, and apartments)	
12	RFP_5237	Ozone Nanobubbles (NBs) Technologies for Water Treatment	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5237.pdf	The overall objective of this project is to assess and evaluate the potential application of ozone nanobubbles (NBs) for water treatment	11/14/2023 (3:30 pm) Mountain
13	RFP_5243	Advancing the Disinfection of Wet Weather-Driven Sewer Overflows: Best Practices and Case Studies	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5243.pdf	<p>To improve receiving water quality by fostering widespread adoption of disinfection practices and technologies, when needed, at strategic locations throughout sewersheds and at potential peak wet-weather flow management points within water resource recovery facilities (WRRFs) and stormwater treatment systems</p> <p>To identify cost-effective solutions and develop a user-friendly guidance document to add to a utility's decision toolbox for combined sewer overflow (CSO) and sanitary sewer overflow (SSO) mitigation strategies</p>	11/14/2023 (3:30 pm) Mountain
14	RFP_5247	Case Studies for Successful Watershed and Sewershed Monitoring and Decision Making	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5247.pdf	Provide a comprehensive/robust compendium of case studies on management, economic, policy, and regulatory approaches showcasing an understanding of methods (including artificial intelligence [AI]), parameters, and drivers that impact ecosystem health at the watershed and sewershed scale	11/14/2023 (3:30 pm) Mountain
15	RFP_5257	Advancing Nature-Based Solutions by Assessing Long-Term Performance of Natural and Engineered Media	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5257.pdf	This project will help utilities better understand the optimum media or engineered media combinations needed to remove particular constituents of concern (CECs) (e.g., per- and polyfluoroalkyl substances (PFAS), pharmaceuticals, etc.), as well as more common water quality measures such as nutrients and metals, using nature-based solutions (NbS) across different water matrices	11/14/2023 (3:30 pm) Mountain
16	RFP_5239	Optimizing Sensor Networks and Advanced Sensing Techniques for Enhanced Collection Systems Management	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5239.pdf	<p>To advance the optimization of the layout of sensor networks and sensing techniques in collection systems to enhance One Water management</p> <p>To improve data analytics, forecasting, modeling, and intelligent platform/dashboard environments to help with operations for a range of flow conditions and control schemes, preventive and in-time maintenance of collection systems, and optimization of capital improvement programs</p>	11/21/2023 (3:30 pm) Mountain

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17	RFP_5241	Technology and Innovation for Assessing Operability and Full-Closure of High-Consequence Valves	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5241.pdf	This project will evaluate existing maintenance approaches for high-consequence valves, provide guidance on the evaluation of the approaches for valve assessment and maintenance (including the application of artificial intelligence (AI)), and inform an exploration of new maintenance approaches	11/21/2023 (3:30 pm) Mountain
18	RFP_5245	Unlocking the Advantages of Internally Stored Carbon for Nutrient Removal	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5245.pdf	Identify knowledge gaps and advance fundamental scientific knowledge related to biological nutrient removal (BNR) driven by internally stored carbon	11/21/2023 (3:30 pm) Mountain
				Identify and quantify benefits of achieving BNR via internally stored carbon, including comparisons of performance in systems with enrichment of carbon-storing biomass versus those without carbon-storing biomass enrichment	
				Synthesize findings into an application guidance document for design and operations	
19	RFP_5249	Integrating Energy Data Into Water Utility Operations: Energy Management Challenges and Best Practices	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5249.pdf	Establish a proposed universal approach for identifying/developing strategies and best practices with supporting system components involved in optimizing utility operations using energy data (i.e., power monitors, sensors, sensor data, communications, centralized data storage and management, data analytics, process decision modeling and controls, correlation of data sets, data collection parameters, administrative ownership, and management, etc.)	11/21/2023 (3:30 pm) Mountain
20	RFP_5251	Advancing the Understanding of Nitrous Oxide Emissions Through Enhanced Whole-Plant Monitoring and Quantification	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5251.pdf	Provide accurate whole-plant N ₂ O emissions estimates for several water resource recovery facilities (WRRFs) that employ commonly used treatment processes, by employing continuous online monitoring for a minimum one-year period	11/21/2023 (3:30 pm) Mountain
				Develop guidance on process conditions that lead to high N ₂ O formation risk at the facilities, by monitoring other process conditions alongside N ₂ O production	
21	RFP_5253	Maximizing the Value of Natural Assets and Green Infrastructure at the Watershed Scale	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5253.pdf	Outline the benefits of natural asset management system and solutions for utilities and water resource managers	11/21/2023 (3:30 pm) Mountain
				Incorporate assessment metrics into natural assets, which will provide a more complete accounting framework that can be scaled up to watershed and community levels, including initial capital investment and long-term impacts	

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				Enhance accounting and monetization framework for natural assets and green infrastructure so that an effective approach to natural asset management has the confidence of utilities, government, funders, and financial/economic managers and regulators	
22	RFP_5255	Developing a Greenhouse Gas Emissions Library for Unit Processes by Water Utilities and Decentralized Systems	https://www.waterrf.org/sites/default/files/file/2023-09/RFP_5255.pdf	<p>Develop a standardized approach for the water sector to determine baseline greenhouse gas (GHG) emissions according to common unit processes and evaluate the impact of process/operational changes to their systems</p> <p>Establish a “GHG Emissions Library” with a basic framework in place that allows future updates as GHG emissions data from unit processes become more available</p>	11/21/2023 (3:30 pm) Mountain