

CURRICULUM VITAE – FASIL EJIGU EREGNO

PERSONAL INFORMATION

- **Name:** Fasil Ejigu Eregno
 - **Date of Birth:** 10/02/1973
 - **Sex:** Male
 - **Email:** fasil.e.eregno@uit.no / efasilejigu@yahoo.com
 - **Mobile:** +47 41488518
 - **Academic Network:** [ResearchGate](#)
 - **Current Position:** Associate Professor in Water and Environmental Engineering, at the Faculty of Engineering Science and Technology, UiT The Arctic University of Norway, Norway.
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EDUCATION

Doctor of Philosophy (PhD) (2014-2017)

- **Specialization:** Water and Environmental Engineering
- **Institution:** Norwegian University of Life Sciences (NMBU), Norway
- **PhD Thesis:** Quantitative Microbial Risk Assessment and Water Quality Modelling: On Drinking Water Sources, Recreational and Recycled Waters.

Master of Science (M.Sc.) (2011-2013)

- **Specialization:** Sustainable Water and Sanitation, Health, and Development
- **Institution:** Norwegian University of Life Sciences (NMBU), Norway
- **MSc Thesis:** Multiple Linear Regression Models for Estimating Microbial Load in a Drinking Water Source: A Case from the Glomma River, Norway.

Master of Science (M.Sc.) (2007-2009)

- **Specialization:** Hydrology
- **Institution:** University of Oslo, Norway
- **MSc Thesis:** Comparison of Hydrological Impacts of Climate Change Simulated by WASMOD and HBV Models in Different Climatic Zones. China, Ethiopia, and Norway.

Master of Science (M.Sc.) (2005-2007)

- **Specialization:** Management of Natural Resources and Sustainable Agriculture (MNRSA)
- **Institution:** Norwegian University of Life Sciences (NMBU), Norway
- **MSc Thesis:** Geographical and Hydro-geological Settings in Defining the Threshold Spacing of Shallow Hand-dug Wells: A Case Study in Northern Ethiopia.

Bachelor of Science (B.Sc.) (1995-2000)

- **Specialization:** Soil and Water Conservation (with Distinction)
- **Institution:** Asmara University, Eritrea/Mekelle University, Ethiopia
- **BSc Thesis:** The Assessment of Moisture Holding Capacity of Different Physical Soil and Water Conservation Techniques

TTI Certificate (1991-1992)

- **Specialization:** Professional studies for primary school teacher
- **Institution:** Debre-Berhan Teacher Training Institute (TTI), Ethiopia.
- One-year professional teacher-training program for primary-school teachers led to a certificate-level professional qualification for primary-school teaching.

SELECTED COURSES AND TRAINING (project management and university pedagogy)

- 2023. UiT The Arctic University of Norway, UNIPED-100 Basic pedagogical competence for higher education (200 hours). [Here](#)
- 2020-2021, UiT The Arctic University of Norway, UNIPED-600 Development programme for PhD supervisors (100 hours). [Here](#)
- 2020. Horizon 2020 proposal writing - focus: impact. [Here](#)
- 2015. NMBU Norwegian University of Life Sciences, Project management (three-day intensive class). [Here](#)
- 2014. NMBU Norwegian University of Life Sciences, [PHI401](#) Research Ethics and Philosophy of Science I (5 ECST)
- 2005. Mekelle University, Ethiopia, and Larenstein University of Professional Education, The Netherlands. [Here](#)

EMPLOYMENT HISTORY - CURRENT AND PREVIOUS

- **2019 - Present:** Associate Professor, Faculty of Engineering Science and Technology, UiT The Arctic University of Norway
 - **2018 - 2019:** Research Scientist, Norwegian Institute of Bioeconomy Research (NIBIO), Norway
 - **2018:** Researcher, Norwegian University of Life Sciences (NMBU), Norway
 - **2004 - 2005:** Graduate Assistant Lecturer, Mekelle University, Ethiopia
 - **2000 - 2004:** Soil and Water Conservation Expert & Project Coordinator, Relief Society of Tigray (REST), Ethiopia
 - **1992 - 1995:** Primary school educator, North Shoa (Meskel-Ber Primary School), Ministry of Education, Ethiopia
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PROJECT MANAGEMENT EXPERIENCE

- **2021 - Present:** Coordinator, NORAD – [NORHED II Project](#) (Budget: NOK 20 million)
 - **2003 - 2005:** Project Coordinator, Water Balance Studies, Mekelle University
 - **2000 - 2004:** Temben Project Area Coordinator, Relief Society of Tigray (REST), Ethiopia
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AREA OF RESPONSIBILITY – at the Faculty of Engineering Science and Technology, UiT The Arctic University of Norway

Teaching (course responsible)

- [BYG-3613 Centralized Wastewater Treatment System](#) (MSc level)
- [BYG-3608 Water Supply System Engineering](#) (MSc level)
- [BYG-3610 Analysis of Water Quality Parameters](#) (MSc level)
- [BYG-3612 Decentralized/On-Site Wastewater Treatment Systems](#) (MSc level)
- [TEK-8514 Health Risk Assessment](#) (PhD level)

Special syllabus course for PhD students, as the main supervisor

- 2024. UiT The Arctic University of Norway, TEK-8840: *Secondary Wastewater Treatment: processes, technologies, challenges faced in the cold climate, and alternative solutions* (10 ECTS).
- 2024. UiT The Arctic University of Norway, TEK-8840: *One Health: Theory and practices of an interdisciplinary approach* (10 ECTS).
- 2023. UiT The Arctic University of Norway, TEK-8840: *Heavy Metals in the Water Environment: source, occurrence, fate and transport* (10 ECTS).

PhD and MSc Student Thesis Supervision, and Postdoctoral Research Fellows supervision

PhD students' supervision, as the main supervisor and co-supervisor

- Aritro Banerjee (2020–2026). A Design Study of Microbial Fuel Cell System for Wastewater Treatment and Energy Recovery. Faculty of Engineering Science and Technology, UiT The Arctic University of Norway – Co-supervisor. [Status: defended](#)
- Penupothula Raju (2020 - ...). *Developing a Dynamic Water Quality Model for Assessing Seasonal Variations in Surface and Groundwater*. Faculty of Engineering Science and Technology, UiT The Arctic University of Norway - Main supervisor. [Status: Submitted](#)
- Elina Domscheit (2023 - ...). *Resource Recovery from Wastewater Streams of the Seafood Processing Industry*. Faculty of Engineering Science and Technology, UiT The Arctic University of Norway - Main supervisor.
- Jirata Shiferaw Abosse (2024 - ...) *Healthcare Wastewater: Hotspot Reservoirs for Antimicrobial Resistance Genes and Heavy Metals*, Addis Ababa University, Ethiopia – Co-supervisor.

- Richard Lizwe Steven Mvula (2024 - ...). *Evaluating Enteric Disease Risks in Solid Waste through a One Health Approach: A Case of Blantyre City*, Malawi University of Science and Technology, Malawi – Co-supervisor.
- Henry Mapwesera (2024 - ...). *Risk Characterization of Clinical Wastewater in Blantyre City and its Sub-Urban Nexus*. Malawi University of Science and Technology, Malawi – Co-supervisor.
- Asnake Kasahun Belayneh (2024 - ...). *Prevalence, molecular characterization and antimicrobial resistance profile of Salmonella in farmers, animals, vegetables and water sources from domestic and peri-domestic areas in Addis Ababa, Ethiopia: a one health approach*. Addis Ababa University, Ethiopia – Co-supervisor.

MSc students at UIT - main supervisor

- Onur Itir (2023). *Fornyelse av Skjoldastraumen vassverk - et samfunnsøkonomisk perspektiv / Renewal of Skjoldastraumen water treatment plant - a socio-economic perspective* – (MSc thesis, UIT The Arctic University of Norway)
- Cecilie Skogvold (2024). *Pollution in Road Tunnel Wash Water Runoff in Narvik* - (MSc thesis, UIT The Arctic University of Norway)
- Li Tong (2025). *Evaluering av Forvaltningspraksis av Mindre Avløpsanlegg i Narvik Kommune, Norge / Evaluation of the Governance Practices of Onsite Wastewater Treatment Systems in Narvik Municipality, Norway, Norway* - (MSc thesis, UIT The Arctic University of Norway).
- Huseyin Teke (2025). *Effektive metoder for å redusere lekkasjer i Ullensvang kommunes vannforsyningsnett* - (MSc thesis, UIT The Arctic University of Norway).
- Adrian Fagerjord (2025). *Electrokinetic remediation of fish farm sludge* - (MSc thesis, UIT The Arctic University of Norway).
- Martin T. Bjønnes (2025). *Vurdering av vannforsynings sikkerhet med hensyn til vannkildekvalitet, behandlingsnivå og distribusjonssystemer / Water Supply Safety Assessment Considering Water Source Quality, Treatment Level, and Distribution Systems* - (MSc thesis, UIT The Arctic University of Norway).
- Bjørn Magnus Berg (2026). *Assessing the Hydraulic Impact of Sea-Level Rise on Coastal Drainage Systems - A Modelling Approach for Northern Norway's Coastal Communities*

Postdoctoral Research Fellow supervisor – [NORHED II Project](#)

- Berhanu Yitayew, PhD (2025-2026). *Modelling the Transmission Dynamics of Antimicrobial Resistance from a “One Health” Perspective in Urban and Peri-urban settings of Addis Ababa, Ethiopia*. Addis Ababa University.
- Willard Mbewe, PhD (2026-2027). *Modelling the link of One Health elements in Malawi/Blantyre*. Malawi University of Science and Technology.
- Berhanu Abera, PhD (2025-2016). *One Health in the Urban and Suburban Nexus of Addis Ababa: Developing Evidence-Based Intervention Strategies for Zoonotic Disease and Environmental Health Risk through Modelling*. Addis Ababa University.

Research (Research Projects Engagement at UiT)

- [Arctic Melt Solutions: Adaptation in Action Project](#) (Interreg Aurora, New project 2026, UiT is Lead Partner in Norway)
- [OppSlam project](#) (FHF-funded)
- [One Health Project](#) (Coordinator, funded by NORAD)
- [ENFORCE Project](#)
- [BRIDGE Project](#)
- [PEERS Project](#)

Other Responsibilities

- Environmental Laboratory Management: responsible for the development and management of laboratory activities supporting teaching and research in water and environmental engineering.
 - Develop curriculum and facilitate the [MSc Program in Water and Wastewater Technology](#)
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TEACHING EXPERIENCE

- **Norwegian University of Life Sciences (NMBU) (2014-2018)**
 - THT280 On-Site Wastewater Treatment
 - TPS210 Engineering Fluid Mechanics
 - THT201 Rapid Methods for Assessing Environmental Parameters
 - **Mekelle University, Ethiopia (2004-2005)**
 - Water Harvesting Technologies
 - Soil and Water Management
 - Introduction to Soil Science
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EXAMINATION & REVIEWING

- **PhD Dissertation Opponent & Examiner**
 - [University of Oulu, Finland \(2024\)](#)
 - [Chalmers University of Technology, Sweden \(2025\)](#)
 - **Reviewer for Scientific Journals**
 - Science of the Total Environment
 - Journal of Hydrology
 - Journal of Water Research
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COMMISSIONS OF TRUST AND PROFESSIONAL SERVICE

- **2024:** Programme Committee Member, IWA 6th International Conference for Water Safety, Uruguay

- **2022:** Main Organizer, IWA WHO Water Safety Conference, Norway
- **2018 - Present:** Management Committee Member, IWA Specialist Group for Water Safety Planning

FELLOWSHIPS, AWARDS, AND PRIZES

- **2014-2017:** PhD Research Fellowship, Norwegian University of Life Sciences (NMBU)
- **2014:** Award for Excellence – Highly Commended Paper, International Journal of Climate Change Strategies and Management

MEMBERSHIPS

- **2014 - Present:** Member, International Water Association (IWA)

PUBLICATIONS

Book Chapter

Langergraber, G., Regelsberger, M., Fasil Ejigu Eregno, Heistad, A. (2019). Design approach for treatment wetlands (Chapter 3). In G. Langergraber, G. Dotro, J. Nivala, A. Rizzo, & O. R. Stein (Eds.), Wetland technology: Practical information on the design and application of treatment wetlands (Chapter 3). [IWA Publishing](#).

Fasil Ejigu Eregno, Adam M. Paruch, Trond Mæhlum, and Jaime Nivala. (2019). Designing wetlands for specific applications: "Treatment for pathogen removal". In G. Langergraber, G. Dotro, J. Nivala, A. Rizzo, & O. R. Stein (Eds.), Wetland technology: Practical information on the design and application of treatment wetlands (Chapter 4). [IWA Publishing](#).

Reports

Haaland, Ståle Leif, Marianne Bechmann, Bjørnar Eikebrokk, **Fasil Eregno**, Inga Greipsland, Arve Heistad, Adam Paruch et al. "Forurensingsanalyse av drikkevannskilden Jordalsvatnet med vanntilsigsområde." [NIBIO Rapport \(2018\)](#).

Tryland, Ingun, Aina Charlotte Wennberg, Christian Vogelsang, Torulv Tjomsland, Anna-Lena Beschomer, **Fasil Eregno**, Lucy Robertson, Mette Myrmel, and Øyvind Østensvik. "Effekt av endret værmønster på hygienisk badevannskvalitet og kvalitet på sjømat i Indre Oslofjord." ([NIVA, 2016](#)).

Journal Articles

Nyengere, J., Mbewe, W., Malalu, L., Tholo, H., Njala, A. L., Sembo, T., Kumpolota, S. W., Mvula, R. L., Chisenga, C., & Kanyika-Mbewe, C. (2026). Geospatial modelling for zoonotic disease hotspot identification within a One Health framework: a systematic review. One Health Outlook, 8(1), 7. <https://doi.org/10.1186/s42522-026-00194-8>

Raju, P., Eregno, F. E., Calay, R. K., Raju, P., Chinta, D. P., & Shaik, T. B. (2026). Prediction models for assessment of diurnal and seasonal variation of water quality in a semi-perennial canal applicable for drinking and irrigation water management. Journal of Environmental Management, 403, 129170. <https://doi.org/10.1016/j.jenvman.2026.129170>

- Raju, P., Eregno, F. E., Calay, R. K., Raju, P., & Shaik, T. B. (2026). A smart water quality companion for farmers: predicting canal suitability for aquaculture and livestock using validated machine learning models and web based tool. *Frontiers in Environmental Science*, 14, 1879710. <https://doi.org/10.3389/fenvs.2026.1879710>
- Tegegne, B. M., Eregno, F. E., Haaland, S. L., Gebreegziabher, G. G., Alemayehu, S., Assayehegn, E., Asgedom, A. G., & Birhane, E. (2026). Spatiotemporal assessment of nutrient pollution and water quality in Lake Hashenge, Ethiopia. *Lake and Reservoir Management*, 1-22. <https://doi.org/10.1080/10402381.2026.2666592>
- Abosse, J. S., Megersa, B., Zewge, F., Haaland, S., & Eregno, F. E. (2025). A One Health Perspective on the Prevalence and Antimicrobial Resistance of *Campylobacter* in Ethiopia: A Systematic Review and Meta-Analysis. *The Microbe*, 100633. <https://doi.org/10.1016/j.microb.2025.100633>
- Abosse, J. S., Asefa, S., Teketel, Z., Abdeta, D., Wolde, B., & Eregno, F. E. (2025). Water Pollution and Cattle Health Risks in the Akaki River Catchment, Central Ethiopia: Implications for One-Health. *Frontiers in Water*, 7, 1642296. <https://doi.org/10.3389/frwa.2025.1642296>
- Abraham, A., Mtewa, A. G., Chiutula, C., Mvula, R. L. S., Maluwa, A., Eregno, F. E., & Njalam'mano, J. (2025). Antimicrobial Use and Manure Management Among Pig and Poultry Farmers in Malawi. *Antibiotics*, 14(11), 1141. <https://doi.org/10.3390/antibiotics14111141>
- Chiutula C, Mtewa AG, Abraham A, Mvula RLS, Maluwa A, Eregno FE, Njalam'mano J. (2025). Assessment of Heavy Metal Accumulation in Wastewater–Receiving Soil–Exotic and Indigenous Vegetable Systems and Its Potential Health Risks: A Case Study from Blantyre, Malawi. *International Journal of Environmental Research and Public Health*. 2025; 22(11):1614. <https://doi.org/10.3390/ijerph22111614>
- Raju P, Eregno FE, Calay RK, Raju PR, Shaik TB. (2025). Biosorption of Iron-Contaminated Surface Waters Using *Tinospora cordifolia* Biomass: Insights from the Gostani Velpuru Canal, India. *Water*. 2025; 17(20):3020. <https://doi.org/10.3390/w17203020>
- Tegegne, B. M., E. Birhane, F. E. Eregno, S. L. Haaland, S. Alemayehu, T. T. Gebretsadik and A. G. Asgedom (2025). "Temperature-dependent performance of dual-layer capping for nutrient control in Lake Hashenge sediments." *Lake and Reservoir Management* **41**(3): 222-238.
- Mvula, R. L. S., A. N. Barnes, J. Njalam'mano, F. E. Eregno and W. Kadewa (2025). "A systematic review of enteric pathogens in solid waste disposal sites and surrounding environments." *Scientific African* **30**: e02994.
- Abraham, A., A. G. Mtewa, C. Chiutula, R. L. S. Mvula, A. Maluwa, F. E. Eregno and J. Njalam'mano (2025). "Prevalence of Antibiotic Resistance Bacteria in Manure, Soil, and Vegetables in Urban Blantyre, Malawi, from a Farm-to-Fork Perspective." *International Journal of Environmental Research and Public Health* **22**(8): 1273.
- Mvula, R. L. S., Y. M. Banda, M. A. Njunju, H. M. Tholo, C. Chisenga, J. Nyengere, J. Njalam'mano, F. E. Eregno and W. Kadewa (2025). "Mapping Illegal Dumping Sites in a Low-Resource Region Using GIS and Remote Sensing: The Case of Blantyre City, Malawi." *Urban Science* **9**(7): 254.
- Thakur, S., Calay, R.K., Mustafa, M.Y., Eregno, F.E., Patil, R.R. (2025). *Importance of Substrate Type and Its Constituents on Overall Performance of Microbial Fuel Cells*. *Current Research in Biotechnology*.
- Abosse, J.S., Megersa, B., Zewge, F., Eregno, F.E. (2024). *Healthcare Waste Management and Antimicrobial Resistance: A Critical Review*. *Journal of Water and Health*.
- Banerjee, Aritro; Calay, Rajnish Kaur; Eregno, Fasil Ejigu. (2022). Role and Important Properties of a Membrane with Its Recent Advancement in a Microbial Fuel Cell. *Energies* 2022. ISSN 1996-1073.

- Das, Subhashis; Calay, Rajnish K; Chowdhury, Ranjana; Nath, kaustav; Eregno, Fasil. Product Inhibition of Biological Hydrogen Production in Batch Reactors. [Energies 2020; Volum 13 \(6\). ISSN 1996-1073.](#)
- Eregno, F.E., and Heistad, A., 2019. On-site treated wastewater disposal systems – The role of stratified filter medias for reducing the risk of pollution. [Environment International. 124: 302-311.](#)
- Eregno, F.E., Tryland, I., Tjomsland, T., Kempa, M. and Heistad, A., 2018. Hydrodynamic modelling of recreational water quality using Escherichia coli as an indicator of microbial contamination. [Journal of Hydrology.](#)
- Eregno, F.E., Tryland, I., Myrmel, M., Wennberg, A., Oliinyk, A., Khatri, M. and Heistad, A., 2018. Decay rate of virus and faecal indicator bacteria (FIB) in seawater and the concentration of FIBs in different wastewater systems. [Microbial Risk Analysis. 8: 14-21.](#)
- Eregno, F. E., Moges, M., and Heistad, A., 2017. Treated Greywater Reuse for Hydroponic Lettuce Production in a Green Wall System: Quantitative Health Risk Assessment. [Water, 9\(7\): 454.](#)
- Moges, M.E., Todt, D., Eregno, F.E. and Heistad, A., 2017. Performance study of biofilter system for on-site greywater treatment at cottages and small households. [Ecological Engineering, 105: 118-124.](#)
- Eregno, F. E., Tryland, I., Tjomsland, T., Myrmel, M., Robertson, L., & Heistad, A. (2016). Quantitative microbial risk assessment combined with hydrodynamic modelling to estimate the public health risk associated with bathing after rainfall events. [Science of The Total Environment, 548–549, 270-279.](#)
- Tryland, I., Braathen, H., Wennberg, A.C., Eregno, F.E. and Beschorner, A.-L., 2016. Monitoring of β -d-Galactosidase Activity as a Surrogate Parameter for Rapid Detection of Sewage Contamination in Urban Recreational Water. [Water, 8\(2\): 12.](#)
- Tryland, I., Eregno, F.E, Braathen, H., Khalaf, G., Sjølander, I. and Fossum, M., 2015. On-Line Monitoring of Escherichia coli in Raw Water at Oset Drinking Water Treatment Plant, Oslo (Norway). [International Journal of Environmental Research and Public Health, 12\(2\): 1788-1802](#)
- Moges, M.E., Eregno, F.E. and Heistad, A., 2015. Performance of biochar and filtralite as polishing step for on-site greywater treatment plant. [Management of Environmental Quality: An International Journal, 26\(4\): 607-625.](#)
- Eregno, F. E., Nilsen, V., Seidu, R., & Heistad, A. (2014). Evaluating the Trend and Extreme Values of Faecal Indicator Organisms in a Raw Water Source: A Potential Approach for Watershed Management and Optimizing Water Treatment Practice. [Environmental Processes, 1\(3\), 287-309.](#)
- Eregno, F.E., Grøndahl-Rosado, R.C., Nilsen, V., Seidu, R., Heistad, A. and Myrmel, M., 2014. Multiple Linear Regression Models for Estimating Microbial Load in a Drinking Water Source: Case from the Glomma River, Norway. [Vann, 49\(3\): 335-350.](#)
- Eregno, F. E., Xu, C.-Y., & Kitterød, N.-O. (2013). Modelling hydrological impacts of climate change in different climatic zones. [International Journal of Climate Change Strategies and Management, 5\(3\), 344-365.](#)

Conference Presentations

[EUGLOH](#) - European University Alliance for Global Health, Multidisciplinary and International Workshop on "Water, Environment and Global Health", Nov 2024, Université Paris-Saclay (UPSaclay), Paris, France: **Oral presentation**: Health Risk Assessment and Management Framework for Different Water Systems.

IWA conference on a sustainable solution for small water and wastewater treatment systems, 22-26 October 2017, La Cité Nantes, France, **Oral presentation** - Treated Domestic Greywater Reuse and Associated Health Risks - Integrated with Green Wall Structure for Hydroponic Lettuce Production

EWA conference on Water management: Challenges in a cold climate, Spitsbergen, Norway, 25-27 June 2016, **Oral presentation** - Hydrodynamic modelling of microbial water quality at the recreational beaches using *E. coli* as an indicator of faecal contamination."

3rd OpenWater2015 symposium, ILRI campus Addis Ababa, Ethiopia, September 14-17, 2015, **Oral presentation** - Hydrodynamic Modelling Approach Combined with Quantitative Microbial Risk Assessment at Recreational Water after Heavy Rainfall Event

IWA Nutrient Removal and Recovery: Moving innovation into practice, Gdansk, Poland, May 18 – 21, 2015, participant.

12th Urban Environment Symposium, Forskningsparken Oslo, Norway, June 1-3, 2015, **Oral presentation** - GEMSS Hydrodynamic Modelling Approach to Assess the Risk of Microbial Contamination of Recreational Water after Heavy Rainfall Event

Six International Conference on Environmental Sciences and Technology, Houston, USA, June 25–29, 2012, **Oral presentation** - Modelling Hydrological Impact of Climate Change in Different Climatic Zones.