



**Christine Saab, Ph.D.**

Assistant Professor

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## Biography

Dr. Christine Saab has a degree in Civil Engineering (Public Works) from the Lebanese University (2014). She also holds a master's degree in civil engineering (2015) and a Ph.D. in Civil Engineering, specializing in water (2018), both from Lille University, France and the Lebanese University. Dr. Saab also earned a qualification of Senior Lecturer (2022), from National Council of Universities, France. She joined the Department of Civil and Environmental Engineering at Notre Dame University (NDU)-Louaize in September 2018. Her research interests include water quality monitoring using remote sensing technologies, development of advanced approaches for water pollution control, and risk assessment. She is also working on applying machine learning techniques in the field of water quality monitoring.

## Peer-reviewed Journals

- Saab, C., Shahrour, I., & Chehade, F. H. (2020). Risk Assessment of Water Accidental Contamination Using Smart Water Quality Monitoring. *Exposure and Health*, 12(2), 281-293. <https://doi.org/10.1007/s12403-019-00311-1>
- Saab, C., Farah, E., Shahrour, I., Chehade, F. H., & Ounaies, S. (2018). Use of the Smart Technology for Water Quality Control: Feedback from Large-Scale Experimentation. *Analog Integrated Circuits and Signal Processing*, Springer, 96(2), 327-335. <https://doi.org/10.1007/s10470-018-1143-3>

## Peer-reviewed Conference Proceedings

- Saab, C., & Zéhil, G. P. (2023, July). About Machine Learning Techniques in Water Quality Monitoring. In 2023 Fifth International Conference on Advances in Computational Tools for Engineering Applications (ACTEA) (pp. 115-121). IEEE. DOI: [10.1109/ACTEA58025.2023.10193911](https://doi.org/10.1109/ACTEA58025.2023.10193911).
- Saab, C., Farah, E., Shahrour, I., & Chehade, F. H. (2017). Field Study of Real-Time Water Quality Control. *WIT Transactions on Ecology and the Environment*, 216, 237-248, WIT Press. DOI: [10.2495/WS170231](https://doi.org/10.2495/WS170231).
- Saab, C., Shahrour, I., & Chehade, F. H. (2017, September). Smart technology for water quality control: Feedback about use of water quality sensors. In 2017 Sensors Networks Smart and Emerging Technologies (SENSET), (pp. 1-4), IEEE.

## Presentations and Seminars

- First workshop on the Contribution of Computational Fluid Dynamics to Sustainable and Smart Cities, Lille University, France, December 2, 2024, "Smart water systems: leveraging advanced technologies for sustainable management".
- Notre Dame University – Louaize (NDU), Faculty of Engineering, Department of Civil and Environmental Engineering, Lebanon, July 14, 2023, "Machine Learning in Water Quality Monitoring", Seminar on "Surrogate Modeling and Machine Learning in Engineering".
- Beirut Water Week, Lebanon, 6<sup>th</sup> edition, 27-29 March 2017, "Smart Water: Large scale demonstrator of the online water quality control".
- Xperium Lilliad Learning Center Innovation, University of Lille, France, Fall 2016, Smart city within SunRise project.
- Aquacity Forum, Lille Grand Palais, France, 15 & 16 June 2016, SunRise Smart Water Networks: Feedback and First Impacts, "Smart drinking water networks: Detection of microbial and chemical contaminations".
- AFPS-IFSTAR, 9<sup>th</sup> National Colloquy, Marne-la-Vallée, Paris, France, 30/11- 02/12/2015: Salloum, N., Saab, C., Abdel-Massih, D.Y., Cornou, C., Al Bittar, T., Jongmans, D., El Haber, E., Lopez-Caballer, F. (2015). Modélisation probabiliste de la réponse sismique d'un sol spatialement hétérogène.

## Exhibitions, Competitions and Creative Work

### Local

- Sixth annual exhibition for graduation projects in the Order of Engineers and Architects, Tripoli, North Lebanon, August 14, 2014. Certificate of participation and excellence.

### International

- Qualification as a senior lecturer from the National Council of Universities, France, February 2022, for the section 60 (Mechanics, Mechanical Engineering, Civil Engineering).
- 9<sup>th</sup> Doctoral Day, Mechanics, Civil Engineering, Energetics and Materials, Ecole des Mines de Douai, France, June 30, 2016, JDD 2016, ED SPI, "Réseaux d'eau intelligents. Contrôle en temps réel de la qualité de l'eau: Application à la détection précoce de la contamination accidentelle". Poster presentation.