

Henry MacKeown

Henry MacKeown | Graduate School of Environmental Science | University of Exeter

000000000000

henry.mackeown@exeter.ac.uk | 01392 263300 | 01392 263300 | 01392 263300 | 01392 263300 | 01392 263300 | 01392 263300 | 01392 263300 | 01392 263300 | 01392 263300

WORK EXPERIENCE

- 2020- 2-year Research Grant
2022: **Developing and improving an innovative method for continuous sampling of coastal waters, using passive samplers, for the determination of emerging contaminants by chromatography-mass spectrometry.**
Department of Chemistry and Industrial Chemistry – University of Genoa.
Development of LC-MSMS methods for emerging contaminants. Preparation and use of passive samplers: laboratory calibrations, marine deployments, sampler extraction and analysis.
- 2016- 3-year PhD in Environmental Chemistry and Water Treatment
2019: **Assessment of trihalomethane and haloacetic acid formation potential reduction by drinking water treatment processes: Application on iodide and bromide impacted waters.**
Laboratoire Avancé de Spectroscopie pour les Interactions la Réactivité et l'Environnement (LASIRE) – Lille University.
GC-MS method development for disinfection by-products, chlorination tests, analysis of drinking water from industrial partners, scientific communications (conferences, publications and DOC2C workshops). 64 h of teaching assistance for laboratory practical work and supervision of master students on laboratory projects.
- 2015- 8-month M2 internship
2016: **Study of the degradation of Acid Red 14 by Polyphosphate-Accumulating-Organisms in a Sequence-Batch-Reactor.**
Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa (FCT-UNL), Portugal.
Start-up, feeding and monitoring of a 2-L biological reactor in the lab.
- 2014: 18-week M1 internship
Research and Development in aquaculture water treatment: improving the performance of oxygen injection platforms and nitrification bioreactors.
Acui-T, Nantes, France.
R&D on the performance of injection platforms for aeration. Start-up and optimisation of a nitrification reactor pilot on a semi-recycled fish farm.

SKILLS

Skills:

- Scientific:
Preparation and use of POCIS samplers, laboratory work, spectrophotometry (UV-Vis), GC-MS, LC-MSMS, research and synthesis of information, chemometrics (basics).
- Computer science:
Microsoft Office, Chromatography softwares (XCalibur, TraceFinder, MassHunter), QGIS, R-based software CAT.
- Other skills:
Teamwork, training of interns, B driving licence.

Languages:

- English:
native speaker
- French:
native speaker
- Italian:
B2 level
- German:
A2 level

➤ **4 publications:**

H. MacKeown, B. Benedetti, M. Di Carro, and E. Magi. 2022. 'The Study of Polar Emerging Contaminants in Seawater by Passive Sampling: A Review'. *Chemosphere*, March, 134448. <https://doi.org/10.1016/j.chemosphere.2022.134448>.

H. MacKeown, E. Magi, M. Di Carro, and B. Benedetti. 2022. 'Unravelling the Role of Membrane Pore Size in Polar Organic Chemical Integrative Samplers (POCIS) to Broaden the Polarity Range of Sampled Analytes'. *Analytical and Bioanalytical Chemistry*, January. <https://doi.org/10.1007/s00216-021-03832-4>.

H. MacKeown, J. Adusei Gyamfi, M. Delaporte, K. V. K. M. Schoutteten, L. Verdickt, B. Ouddane, and J. Criquet. 2021. 'Removal of Disinfection By-Product Precursors by Ion Exchange Resins'. *Journal of Environmental Chemical Engineering* 9 (1): 104602. <https://doi.org/10.1016/j.jece.2020.104602>.

H. MacKeown, J. Adusei Gyamfi, K. V. K. M. Schoutteten, D. Dumoulin, L. Verdickt, B. Ouddane, and J. Criquet. 2020. 'Formation and Removal of Disinfection By-Products in a Full Scale Drinking Water Treatment Plant'. *Science of The Total Environment* 704 (February): 135280. <https://doi.org/10.1016/j.scitotenv.2019.135280>.

➤ **1 publication in progress:**

H. MacKeown, U. Von Gunten, J. Criquet: 'Iodide sources in the aquatic environment and its fate during oxidative water treatment – A critical review'. **Under Major Revision.**

➤ **7 other communications (posters and oral presentations during conferences):**

Oral communication – H. MacKeown, C. Scapuzzi, M. Di Carro, E. Magi, B. Benedetti: 'Screening emerging contaminants in the Ligurian Sea using passive samplers: Getting the most of POCIS'. *12th International Passive Sampling Workshop and Symposium, November 2021 (online)*

Poster – H. MacKeown, B. Benedetti, C. Scapuzzi, M. Di Carro, E. Magi: 'Comparison of different membrane configurations in polar organic chemical integrative samplers: influence on the sampling rate of emerging contaminants.' *23rd International Symposium on Advances in Extraction Technologies (ExTech), June-July 2021 (online)*

Oral communication – H. MacKeown, J. Adusei Gyamfi, K. Schoutteten, D. Dumoulin, L. Verdickt, B. Ouddane, and J. Criquet: 'Evaluating the capacity of a drinking water treatment plant to remove the disinfection by-product precursors'. *17th International conference on chemistry and the environment, Jun 2019, Thessaloniki, Greece*

Poster – H. MacKeown, B. Ouddane, J. Criquet: 'Evaluation de la capacité de filières de potabilisation à réduire le risque de formation de sous-produits de désinfection'. *Journées Information Eaux, Oct 2018, Poitiers, France*

Oral communication – B. Benedetti, M. Baglietto, H. MacKeown, C. Scapuzzi, M. Di Carro, E. Magi. 'Detection of trace emerging contaminants in seawater by POCIS: optimization of the sampler processing to enhance the accuracy of the LC-MS/MS analysis'. *2nd European sample preparation e-conference, March 2022 (online)*

Oral communication – H. MacKeown, J. Gyamfi, M. Delaporte, K. Schoutteten, L. Verdickt, B. Ouddane, and J. Criquet: 'Elimination de la matière organique par résines échangeuses d'ions'. *Journées Information Eaux, APTEN, Oct 2020, Poitiers, France*

Poster – H. MacKeown, J. Criquet: 'Fate of iodide in oxidative water treatment'. *Water Disinfection, By-products and Health, Jul 2019, Mount Holyoke College, South Hadley, United States*

OTHER ACADEMIC CONTRIBUTIONS

➤ Teaching and lecturing:

One-time lecture (online) in 2020 and 2021 for M1 SMaP students (Master of Science and Engineering in Environmental Science, focusing on Sustainable Management of Pollution (ISA Lille)), on my career path and research topics.

➤ Reviewing contributions:

6 completed reviewer assignments: 3 for Science of the Total Environment, 1 for Environmental Science & Technology, 1 for Environmental Pollution and 1 for Journal of Environmental Sciences.

EDUCATION

➤ Studies:

2016-2019: **PhD, Theoretical, Physical, Analytical Chemistry.** Lille 1 University, Lille, France.

2013-2016: **MSc, Sustainable Management of Pollution (international degree).** Lille Catholic University, ISA Lille, France.

2012-2013: **BS 3 in Science and Technology. Major: Biology. Career: Environmental Sciences.** Lille Catholic University, ISA Lille/FLST, France.

2010-2012: **2-year undergraduate Biological Engineering university course, specialising in the Environment.** University Institute of Technology of Caen, France.

➤ Additional training courses:

8-12 november 2021: **School of Chemometrics _ Experimental Design.** Department of Pharmaceutics (University of Genoa).

20-24 september 2021: **School of Chemometrics _ Multivariate Analysis.** Department of Pharmaceutics (University of Genoa).

EXTRACURRICULAR ACTIVITIES

➤ *Sports:*

Tennis, running, long walks in the Ligurian mountains and forests.

➤ *Other hobbies:*

European History (Ancient Greece, Ancient Rome), reading fantasy novels, learning foreign languages.

REFERENCES

- Baghdad Ouddane, Professor, Lille University, +33 (0)3 20 43 44 81, baghdad.ouddane@univ-lille.fr
- Julien Castelin, Teacher/Coordinator, ISA Lille, +33 (0)3 28 38 48 01, julien.castelin@junia.com