



Mark William McCormick

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Swiss and United States nationalities

Divorced, 2 children

May 4, 1965

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ENVIRONMENTAL ENGINEER & DATA SCIENTIST

PROFESSIONAL PROFILE

A manager and technician with applied R&D, data science, engineering, consulting, academic, project development, customer facing, and international experience. Wide ranging career progressing from hands-on tasks to current project management and complex data analysis capacities. Recognized creativity, reliability, polyvalence, dynamism, analytic capacity, and ability to quickly understand the work objectives. English (mother tongue) and French (DALF C2).

EMPLOYMENT

- Consultant in the environmental sector**, Lausanne region Since September, 2023
– Technical assistance, data analysis, project development in the areas of wastewater treatment, solid waste treatment and solar energy.
- Intern**, EPFL, Laboratory of Environmental Biotechnology (LBE), Lausanne February to August, 2023
– ETL, Cleanup and analysis using machine learning methods of data collected during bioreactor operation.
- Doctoral candidate**, University of Lausanne, Department of Information systems (DESI), 2017-2022
Chargé de recherche: January - March 2019, January - May 2020, January - April 2021, and July - August 2022
– Analysis and interpretation of numerical data acquired during pilot testing of a complete biomass torrefaction plant, an anaerobic food waste digester, and a fixed bed bioreactor for municipal wastewater treatment. Assessment of wastewater treatment plant operations based on analysis of SCADA system data. Conception and techno-economic evaluation of a process to treat and to add value to whey.
- Engineer, project manager**, Energy PyroSwiss SA, Cossonay March 2019 - January 2022
– Feasibility assessment and Front-End Engineering Design studies in the areas of municipal solid waste-to-energy, wastewater treatment and solar energy capture.
- Website manager**, SCCER BIOSWEET, c/o Paul Scherrer Institute (PSI), Villigen April - December 2018
– Maintenance of the program website. Content creation for a monthly electronic newsletter.
- Scientific collaborator**, Haute école d'ingénierie et de gestion (HEIG-VD), Yverdon-les-Bains June 2011 - March 2018
– Collaboration, management, and initiation of applied research projects in the fields of renewable energy and the environment. Management of laboratory and on-site studies and large-scale pilot projects. Project set-up and supervision of students and interns during practical studies. Laboratory techniques.
- Technical assistant**, Ozone.ch Sàrl, Boudry February - April 2011
– Provision of advice, quotations, repair, and calibration to support sales of water treatment equipment.
- Bio & Process Engineer**, Niton Engineering Suisse SA, Bernex December 2009 - February 2010
– Collaboration on project development in the fuel ethanol sector: feasibility study, technical audit, relations with partners in Europe and the United States.
- Environmental Engineer**, Hydro-Concept Sàrl, Yverdon-les-Bains September 2007 - November 2009
– Collaboration on preliminary and detailed studies for projects in the fields of civil and hydraulic engineering, and renewable energy. Coordination and technical support during project execution.
- Assistant technique**, Ozone.ch Sàrl, Boudry April - August 2007
– Provision of advice, quotations, repair, and calibration to support sales of water treatment equipment.

MADEP S.A., Scientific collaborator, Bevaix August 2004 - December 2006

- Collaboration on prototype trials for operational qualification, development of application methods, technical improvement, and preparation of documents for use in sales and support of the Terrafors® bioreactor for environmental applications. Collaboration on the conception, quotation, installation, and operational monitoring of bioreactors (1 m³) for aquifer and soil decontamination. Laboratory techniques.

Technical assistant, Ozone.ch Sàrl, Boudry July 2004

- Provision of advice, quotations, repair, and calibration to support sales of water treatment equipment.

Consultant, pharmaceutical formulation, IpsenPharma SA, Sant Feliu de Llobregat, Spain April-June 2004

- Conception and fabrication of formulations of active substances for pre-clinical evaluation.

Assistant, formulation development, Debio Recherche Pharmaceutique S.A., Martigny Oct 2000 – Nov 2003

- Conception and fabrication of controlled release formulations of active substances for pre-clinical evaluation. Review of intellectual property and scientific literature. Contribution to the improvement of laboratory methods and to equipment selection.

Consultant in water and environment, University of Namibia, Windhoek July 1999 - May 2000

- Collaboration with stakeholders on research, data analysis, and writing of a national strategy for water demand management. Collaboration on research, data analysis, and writing of report on national biomass energy use strategy for the ministry of mines and energy of the republic of Namibia. Collaboration on the production of a water pollution guide financed by the republic of Namibia.

Fulbright scholar (US government grant), Windhoek Municipality, Namibia July 1998-July 1999

- Collaboration with the department of Infrastructure, Water and Technical Services on a feasibility study of a system to treat and add value to the solid and liquid wastes generated by an industrial zone. Transformation of a plug-flow digester to an up-flow anaerobic sludge blanket digester.

Engineer trainee, Schlumberger Ltd., Dowell, Bossier City, Louisiana, USA January – July 1998

- Design and site work in the context of training to take responsibility for provision of technical services during oil and gas well construction and production.

Analyst, QC department, Cell Genesys, Inc., Foster City, California, USA January- July 1995

- Collaboration on the development of quality control assays to support the GMP production of therapeutic proteins. Laboratory techniques.

Research Associate, Baxter Healthcare, Hyland Biotechnology, Hayward, California July 1992 – Nov. 1993

- Optimization and validation of GMP methods for the purification and formulation of therapeutic proteins in the Biotechnology Group-Purification Department. Ultrafiltration, chromatography, laboratory techniques.

EDUCATION

- Doctor of Science, Information Systems, University of Lausanne, Switzerland, 2022
- Master of Science, Environmental Engineering, Pennsylvania State University, United States, 1997
- Bachelor of Science, Biochemistry, University of California, Davis, United States, 1992

INFORMATION TECHNOLOGY

- Python, Keras, ETL, Machine learning models (MLP, CNN, LSTM, Decision Tree), NumPy, Pandas, SciPy, Scikit-learn, Matplotlib, Bash, LaTeX, WordPress, HTML, AutoCAD, Aspen Plus, ArcGIS, STAN, RetScreen, EPANET, Microsoft Office (Excel, Powerpoint, Word ...).

CERTIFICATION

- Certified Project Management Professional (PMP), Project Management Institute (PMI)
- Certified Associate in Python Programming (PCAP), Certified software tester (ISTQB-CTFL)

INTERESTS

- hiking, history, vegetable gardening, town (commune) councilor, nutrition, salsa