

## + Michael Lawrence

Senior Scientist



### + QUALIFICATIONS

- PhD, University of Queensland
- MSc, University of British Columbia
- BSc (Hons), University of New England
- Drinking Water Quality Management Systems Lead Auditor (Exemplar Global, formerly RABQSA)
- Chartered Chemist (CChem)

### + AFFILIATIONS

- Member, Australian Water Association
- Member, Royal Australian Chemical Institute
- Adjunct Research Fellow, Advanced Water Management Centre, University of Queensland

### + CAREER OVERVIEW

With over 10 years' experience across water quality research and regulation, Michael has developed expert skills in drinking water management. As a drinking water quality management systems auditor, and having nearly five years' experience assessing drinking water quality management plans in Queensland, Michael is uniquely placed to assist drinking water providers in all aspects of applying the Australian Drinking Water Guidelines and implementation of management plans to ensure the delivery of safe drinking water. In addition, Michael can assist in planning scientifically robust water quality sampling programs across natural and built environments.

### + EMPLOYMENT PROFILE

2014—present  
Senior Scientist  
Bligh Tanner, Brisbane

2013—2014  
A/Manager, Drinking Water Regulation  
Queensland Water Supply Regulator,  
Department of Energy and Water Supply,  
Brisbane

2010—2013  
Principal Scientist, Drinking Water  
Quality  
Queensland Water Supply Regulator,  
Department of Energy and Water Supply,  
Brisbane

2008—2009  
Postdoctoral Research Fellow  
Advanced Water Management Centre,  
University of Queensland

### + AREAS OF EXPERTISE

- Drinking water quality management
- Recycled water quality management
- Drinking water audits
- Development of operational procedures
- Water quality investigations
- Water sampling program design
- Water quality research
- Regulatory compliance

2007  
Postdoctoral Scientist  
Institute for Marine Sciences, University  
of California, Santa Cruz, USA

## PROJECT EXPERIENCE

### + DRINKING WATER MANAGEMENT AUDITS

- Non-Regulatory Audit Logan City Council
- Non-Regulatory Audit Douglas Shire Council
- Non-Regulatory Audit Maranoa Regional Council

### + CUSTOMER SERVICE STANDARDS

- Goondiwindi Regional Council

### + DRINKING WATER QUALITY MANAGEMENT PLAN REVIEWS

- Livingstone Shire Council
- Central Highlands Regional Council
- Goondiwindi Regional Council

### + DRINKING WATER MANAGEMENT REPORTS

- Douglas Shire Council Chlorine-Free Trial

### + COMMUNICATIONS

- Logan City Council website communication materials

### + SCIENTIFIC REVIEWS

- Independent scientific review of proprietary stormwater quality devices

## SELECTED PUBLICATIONS

Escher B.I., Lawrence, M., Macova, M., Mueller, J.F., Poussade, Y., Robillot, C., Roux, A., Gernjak, W. (2011) **Evaluation of Contaminant Removal of Reverse Osmosis and Advanced Oxidation in Full-Scale Operation by Combining Passive Sampling with Chemical Analysis and Bioanalytical Tools.** Environmental Science and Technology 45(12), 5387-5395 DOI: 10.1021/es201153k.

Ort, C., Lawrence, M.G., Rieckermann, J., Joss, A. (2010) **Sampling for Pharmaceuticals and Personal Care Products (PPCPs) and Illicit Drugs in Wastewater Systems: Are Your Conclusions Valid? A Critical Review.** Environmental Science and Technology 44(16), 6024-6035 DOI: 10.1021/es100779n.

Lawrence, M.G. (2010) **Detection of anthropogenic gadolinium in the Brisbane River plume in Moreton Bay, Queensland, Australia.** Marine Pollution Bulletin 60(7), 1113-1116.

Ort, C., Lawrence, M.G., Reungoat, J., and Mueller, J.F. (2010) **Sampling for PPCPs in wastewater systems: A comparison of different sampling modes and optimization strategies.** Environmental Science & Technology 44(16), 6289-6296. DOI: 10.1021/es100778d.

Ort, C., Lawrence, M.G., Reungoat, J., Eaglesham, G., Carter, S., and Keller, J. (2010) **Determining the fraction of pharmaceutical residues in wastewater originating from a hospital.** Water Research 44(2), 605-615. DOI: 10.1016/j.watres.2009.08.002.

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Lawrence, M.G., Poussade, Y., Keller, J. (2010) **Removal of magnetic resonance imaging contrast agents in advanced water treatment plants.** Water Science and Technology 61(3), 685-692 DOI: 10.2166/wst.2010.885

Lawrence M.G., Kamber B.S. (2006) **The behaviour of the Rare Earth Elements during Estuarine Mixing - Revisited.** Marine Chemistry, 100, 147-161. DOI: 10.1016/j.marchem.2005.11.007.

Lawrence M.G., Jupiter, S.D., Kamber, B.S. (2006) **Aquatic Geochemistry of the Rare Earth Elements and Yttrium in the Pioneer River Catchment, Australia.** Marine and Freshwater Research, 57, 725-736.