

Professor Jamie Lead

Key Publications since 2001

B. K. Gaiser, A. Biswas, P. Rosenkranz, M. A. Jepson, **J. R. Lead**, V. Stone, C. R. Tyler, T. F. Fernandes (2011). Effects of silver and cerium dioxide micro- and nano-sized particles on *Daphnia magna*. *Journal of Environmental Monitoring* (accepted).

E. J. Gubbins, L.C. Batty, **J. R. Lead** (2010). Phytotoxicity of silver nanoparticles to *Lemna Minor*. *Environmental Pollution* (accepted)

I. Römer, T. A. White, K. Chipman, M. R. Viant, **J. R. Lead** (2010). Aggregation and dispersion of silver nanoparticles in *Daphnia magna* toxicology exposure media. *Journal of Chromatography* (accepted).

B. K. Gaiser, T. F. Fernandes, M. A. Jepson, **J. R. Lead**, C. R. Tyler, M.A. Baalousha, A. Biswas, G. Britton, P. A. Cole, B. D. Johnston, Y. Ju-Nam, P. Rosenkranz, T. M. Scown, V. Stone (2010). Interspecies comparisons on the uptake and toxicity of silver and cerium dioxide nanoparticles. *Environmental Toxicology and Chemistry* (accepted).

J. Fabrega, S. N. Luoma, C. R. Tyler, T. S. Galloway and **J. R. Lead** (2010). Silver nanoparticles and their behaviour and effects in natural waters. *Environment International*, 37, 517-531.

A. Hartland, I.J. Fairchild, **J.R. Lead**, A. Baker (2010). Fluorescent properties of organic carbon in cave dripwaters: effects of filtration, temperature and pH. *The Science of the Total Environment*, 408, 5940-5950.

E. Kadar, F. Simmance, O. Martin, N. Voulvoulis, S. Widdicombe, S. Mitov, **J. R. Lead** and J. W. Readman (2010). The influence of engineered Fe₂O₃ nanoparticles and soluble (FeCl₃) iron on the development toxicity caused by CO₂-induced seawater acidification, *Environmental Pollution*, 158, 3490-3497.

E. Kadar, **J. R. Lead**, S. Mitov, S. Widdicombe, J. W. Readman (2010). The influence of irradiation and aging on nano-iron versus its bulk analogue in seawater. *Geochimica et Cosmochimica Acta*, A487.

R.C. Merrifield, P. Cole, **J.R. Lead** (2010) The size related toxicity of cerium oxide nanoparticles. *Geochimica et Cosmochimica Acta*, A700.

S.C. Apte, N.J. Rogers, N. M. Franklin, **J. R. Lead**, M. A. Baalousha (2010). Why is nanoparticulate ceria toxic to algae. *Geochimica et Cosmochimica Acta*, 74, A29

M. A. Baalousha, Y. Ju-Nam, P.A. Cole, **J.R. Lead** (2010). Characterization of nanoparticle, size, shape, morphology, oxidation state and crystallinity: A multi-method approach. *Geochimica et Cosmochimica Acta*, 74, A37.

T. M. Scown, E. Santos, B. D. Johnston, B. Gaiser, M. A. Baalousha, S. Mitov, **J. R. Lead**, V. Stone, T. F. Fernandes, M. Jepson, R. van-Aerle, C. R. Tyler (2010). Effects of Aqueous Exposure to Silver Nanoparticles of Different Sizes in Rainbow Trout. *Toxicological Sciences*, 115, 521-534.

M.A. Baalousha, P. Le Costumer, I. P. Jones, **J.R. Lead** (2010). Characterisation of structural and surface speciation of commercially available cerium oxide nanoparticles. *Environmental Chemistry*, 7, 377-385.

A. Hartland, I. J. Fairchild, **J. R. Lead**, A. Baker, D. Dominguez-Villar, J. Gunn, M. A. Baalousha, Y. Ju-Nam (2010). The dripwaters and speleothems of Poole's Cavern: a review of recent and ongoing research. *Cave and Karst Science*, 36, 37-46.

J. R. Lead (2010) Manufactured Nanoparticles in the Environment. *Environmental Chemistry*, 7, 1-2.

T.M. Scown, R. Goodhead, B.D. Johnston, J. Moger, **J. R. Lead**, R. vanAerle, T. Iguchi, C. R. Tyler (2010). An assessment of cultured fish hepatocytes for screening cellular uptake and (eco)toxicity of nanoparticles. *Environmental Chemistry*, 7, 36-49.

N. J. Rogers, N. M. Franklin, S. C. Apte, G. E. Batley, **J. R. Lead**, M. A. Baalousha (2010) Physico-chemical behaviour and toxicity to algae of nanoparticulate CeO₂ in freshwater. *Environmental Chemistry*, 7, 50-60.

B. D. Johnston, T.M. Scown, J. Moger, S.A Cumberland, M.A. Baalousha, K. Linge, R. Van Aerle R., K. Jarvis, **J.R. Lead**, and C. R. (2010). Bioavailability of nanoscale metal oxides, TiO₂, CeO₂, and ZnO to fish. *Environmental Science and Technology*, 44, 1144-1151

Birgit K Gaiser, Teresa F Fernandes, Mark Jepson, **Jamie Lead**, Charles R Tyler and Vicki Stone (2010). Assessing exposure, uptake and toxicity of silver and cerium dioxide nanoparticles from contaminated environments. *Environmental Health* 8(Suppl 1):S2

J. Fabrega, J. Renshaw, **J.R. Lead** (2009). Silver nanoparticle impact on biofilm behaviour. *Environmental Science and Technology*, 43, 9004-9009

N. Alexa, H. Zhang, **J. R. Lead** (2009). Development of a miniaturized diffusive gradients in thin films (DGT) device. *Analytica Chimica Acta*, 655, 80-85.

Birgit K Gaiser, Teresa F Fernandes, Mark Jepson, **Jamie Lead**, Charles R Tyler and Vicki Stone (2009). Assessing exposure, uptake and toxicity of silver and cerium dioxide nanoparticles from contaminated environments. *Environmental Health* (in press)

J. Fabrega, J. Renshaw, S.R. Fawcett, **J.R. Lead** (2009). Silver nanoparticle impact on bacterial growth: effect of pH, concentration and organic matter. *Environmental Science and Technology*, 43, 7285-7290.

R. F. Domingos, M. A. Baalousha, Y. Ju-Nam, M. Reid, N. Tufenkji, **J. R. Lead**, G. G. Leppard, K. J. Wilkinson (2009). Characterizing manufactured nanoparticles in the environment - multimethod determination of particle sizes. *Environmental Science and Technology*, 43, 7277-7284.

Susan A Cumberland, **J. R. Lead** (2009). Separation of silver nanoparticles and humic substances by flow field flow fractionation. *Journal of Chromatography A* (in press).

A. Manciulea, A. Baker, **J. R. Lead** (2009). A fluorescence quenching study of the interaction of Suwannee River fulvic acid with iron oxide nanoparticles. *Chemosphere*, 1023-1027.

P. J. Alvarez, V. Colvin, **J. R. Lead**, V. Stone (2009). Research Priorities to Advance Eco-responsible Nanotechnology. *ACS Nano*, 3, 1616-1619.

A. Hartland, I. J. Fairchild, **J. R. Lead** (2009). Colloids in karstic percolation waters: Implications for the interpretation of trace element variations in speleothems. *Geochimica et Cosmochimica Acta*, 73, A498-A498.

C. Gaebel, **J.R. Lead**, J.H. Tellam, J.C. Renshaw (2009). Nanoscale films on aquifer material surfaces. *Journal of Contaminant Hydrology*, 108, 46-53.

T.M. Scown, R. van Aerle, B.D. Johnston, S. Cumberland, **J.R. Lead**, R. Owen, C.R. Tyler (2009). High doses of intravenously administered titanium dioxide nanoparticles accumulate in the kidneys of rainbow trout but with no observable impairment of renal function. *Toxicological Sciences*, 109, 372-380.

S. Batchelli, F.L.L. Muller, M. A. Baalousha and **J. R. Lead** (2008). Size fractionation and optical properties of colloids in an organic-rich estuary (Thurso, UK). *Marine Chemistry* (in press)

Y. Ju-nam and **J.R. Lead** (2008) Manufactured Nanoparticles and Natural Aquatic Colloids: An Overview of their Chemical Aspects, Interactions and Potential Environmental Implications. *The Science of the Total Environment*, 400, 396-414.

A. De Momi and **J. R. Lead** (2008). Behaviour of natural aquatic nanoparticles in a split-flow thin-cell (SPLITT) system. *Science of the Total Environment*, 405, 317-323.

M. A. Baalousha, A. Manciulea, S. A. Cumberland, K. Kendall and **J. R. Lead** (2008). Aggregation and surface properties of iron oxide nanoparticles; influence of pH and natural organic matter. *Environmental Toxicology and Chemistry*, 27, 1875-1882.

S. J. Klaine, P.J.J. Alvarez, G. E. Batley, T. F. Fernandes, R. D. Handy, D. Lyon, S. Mahendra, M. J. McLaughlin and **J. R. Lead** (2008). Nanomaterials in the Environment: fate, behaviour, bioavailability and effects. *Environmental Toxicology and Chemistry*, 27, 1825-1851.

S. Diegoli, A. L. Manciualea, S. Begum, I. P. Jones, **J. R. Lead** and J.A. Preece. (2008) Interactions of charge stabilised gold nanoparticles with organic macromolecules. *Science of the Total Environment*, 402, 51-61.

J.J. Fordsmand, P.H. Krogh and **J.R. Lead** (2008). Nanotechnology in eco-toxicology. *Integrated Environmental Assessment and Management*, 4, 127-129.

R. Handy, F. von der Kammer, M. Hasselov, **J.R. Lead**, R. Owen, M. Crane (2008). The environmental toxicity and chemistry of nanoparticles: challenges for ecotoxicity testing and risk assessment. *Ecotoxicology*, 17, 287-314.

Edited book

J.R. Lead and E. Smith (eds). *Environmental and Human Health Impacts of Nanotechnology*. John Wiley and Sons, Chichester, 2009.

Chapters in books

1. **J.R. Lead** and E. Smith (eds). *Environmental and Human Health Impacts of Nanotechnology*. John Wiley and Sons, Chichester, 2009
2. MA Baalousha, Y. Ju-Nam, **J.R. Lead**. Natural colloids and manufactured nanoparticles in aquatic and terrestrial systems In: *Treatise on Water Systems* (F. Frimmel, Ed). Elsevier publishing. In press.
3. M.A. Baalousha and **J.R. Lead** (2009). Overview of nanoscience in the environment. In: *Environmental and Human Health Impacts of Nanotechnology* (publication date September 2008). J.R. Lead and E. Smith (eds). Blackwell publishing.
4. M.A. Baalousha, **J.R. Lead**, F. Vd Kammer, T. Hoffman (2009). Natural colloids and nanoparticles in aquatic and terrestrial environments. In: *Environmental and Human Health Impacts of Nanotechnology* (publication date September 2008). J.R. Lead and E. Smith (eds). Blackwell publishing.

Environmental Chemistry, Guest editor of special issue ('Research Front') focussing on manufactured nanoparticles. Issue published January 2009.