

PUBLICATIONS - R M Stuetz

Journal papers

1. Stuetz R.M. (2004) Non-specific monitoring techniques to resolve intermittent pollutants problems associated with wastewater treatment and potable supply. *Water Sciences and Technology* **49** (9), 137-143
2. Stuetz R.M. and McLaughlan R.G. (2004) Impact of localized dissolved iron concentrations of the biofouling of environmental wells. *Water Sciences and Technology* **49** (2), 107-113
3. McLaughlan R.G. and Stuetz R.M. (2004) A field-based study of ferrous metal corrosion in groundwater. *Water Sciences and Technology* **49** (2), 41-47
4. Bourgeois W., Romain A.C., Nicolas J. and Stuetz R.M. (2003) The use of sensor arrays for environmental monitoring – interests and limitations. *Journal of Environmental Monitoring*, **5**, 852 - 860
5. Bourgeois W., Gardey G., Servieres M. and Stuetz R.M. (2003) A chemical sensor array-based system for protecting wastewater treatment plants. *Sensors and Actuators B* **91**, 109-116
6. Burgess J.E and Stuetz R.M. (2003) Withstanding shock loads in activated sludge treatment by pre-exposure to low H₂S concentrations. *Environmental Technology* **24**, 339-348
7. Bourgeois W., Hogben P., Pike A. and Stuetz R.M. (2003) Development of a sensor array based measurement system for continuous monitoring of water and wastewater. *Sensors and Actuators B* **88** (3), 312-319
8. Barbosa V.L. Burgess J.E., Drake K and Stuetz R.M. (2002) Activated sludge biotreatment of sulphurous wastewater emissions. *Reviews in Environmental Sciences and Biotechnology* **1** (4), 345-362
9. Burgess J.E., Colliver B.B., Stuetz R.M and Stephenson T. (2002) Dinitrogen oxide production by a mixed culture of nitrifying bacteria during shock loading and aeration. *Journal of Industrial Microbiology and Biotechnology* **29** (6), 309-313
10. Burgess J.E and Stuetz R.M. (2002) Activated sludge for the treatment of sulphur-rich wastewaters. *Minerals Engineering* **15** (11), 839-846
11. Mitchell E.J.A.K., Burgess J.E. and Stuetz R.M. (2002) Developments in ecotoxicity testing. *Reviews in Environmental Sciences and Biotechnology* **1** (2): 169-198
12. Bourgeois W. and Stuetz R.M. (2002) Use of a chemical sensor array for detecting industrial pollutants in wastewater. *Water Research* **36**: 4505-4512
13. Burgess J.E, Stuetz R.M. Morton S. and Stephenson T. (2002) Nitrification detection for nitrification toxicity early warning systems. *Water Science and Technology* **45** (4-5): 247-254
14. Jefferson B., Hurst A., Spoor G., Stuetz R.M. and Parsons S.A. (2002) A comparison of chemical methods for the control of odours in wastewater. *Process Safety and Environment Protection* **80** (2): 93-99
15. Hardy P., Burgess J.E. Morton S. and Stuetz R.M. (2001) Simultaneous activated sludge wastewater treatment and odour control. *Water Science and Technology* **44** (9): 189-196
16. Stuetz R.M. and Nicolas J. (2001) Sensor arrays: an inspired idea or an objective measurement of environmental odours. *Water Science and Technology* **44** (9): 53-58
17. Boucif N., Jefferson B., Parsons S.A. Judd S.J. and Stuetz R.M. (2001) Direct molecular hydrogen sulphide scrubbing with hollow fibre membranes. *Water Science and Technology* **44** (9): 135-142

18. Bourgeois W., Burgess J. E. and Stuetz R.M. (2001) On-line monitoring of wastewater quality: a review. *Journal of Chemical Technology and Biotechnology* **76**: 337-348
19. Gostelow P., Parsons S.A. and Stuetz R.M. (2001) Odour measurement in sewage treatment - a review. *Water Research* **35** (3): 579-597.
20. Burgess J., Stuetz R.M. and Parsons S.A. (2001) Developments in odour control and waste gas treatment biotechnology. *Biotechnology Advances* **19** (1): 35-63
21. Bourgeois W. and Stuetz R.M. (2000) Measuring wastewater quality using a sensor array: prospects for real-time monitoring. *Water Science and Technology* **41** (12): 107-112
22. Stuetz R. M., Fenner R.A., Hall S.J., Stratful I. and Loke D. (2000) Monitoring wastewater odours using an electronic nose. *Water Science and Technology* **41** (6): 41-48
23. Stuetz R.M., Georges S., Fenner R.A. and Hall S.J. (1999) Monitoring wastewater BOD using a non-specific sensor array. *Journal of Chemical Technology and Biotechnology* **74** (11): 1069-1074.
24. Fenner R.A. and Stuetz R.M. (1999) The application of electronic nose technology to environmental monitoring of water and wastewater activities. *Water Environment Research* **31** (3): 282-289.
25. Stuetz R.M., Fenner R.A. and Engin G. (1999) Assessment of odours from sewage treatment works by an electronic nose, H₂S analysis and olfactometry. *Water Research* **33** (2): 453-461
26. Stuetz R.M., Fenner R.A. and Engin G. (1999) Characterisation of wastewater using an electronic nose. *Water Research* **33** (2): 442-452
27. Stuetz R.M., White M. and Fenner R.A. (1998) Use of an electronic nose to detect tainting compounds in raw and treated potable water. *Journal of Water Supply: Research and Technology -AQUA* **47** (5): 223-228
28. Stuetz R.M., Engin G. and Fenner R.A. (1998) Sewage odour measurements using a sensory panel and an electronic nose. *Water Science and Technology* **38** (3): 331-335
29. Stuetz R.M., Greene A.C. and Madgwick J.C. (1996) The potential use of manganese oxidation in treating metal effluents. *Mineral Engineering* **9**: 1253-1261
30. Stuetz R.M., Greene A.C. and Madgwick J.C. (1996) Microalgal facilitated bacterial oxidation of manganese. *Journal of Industrial Microbiology* **16**: 267-273
31. Lie Y.A., Stuetz R.M. and Madgwick J.M. (1990) Australian brown seaweed as a source of polysaccharide and inorganic elements. *Australian Journal of Biotechnology* **4**: 279-281

Conference papers - refereed

32. Barbosa V.L., Burgess J.E., Callen J.L. and Stuetz R.M. (2004) Optimization of activated sludge diffusion for hydrogen sulfide and volatile organic compounds removal. *Proceeding WEF Odor and Air Emissions Conference*, Washington State, CD-Rom 22pp
33. Stuetz R.M., Burgess J.E., Bourgeois W. and Stephenson T. (2004) Biosensing systems for monitoring aerobic wastewater treatment processes. *Proceeding European Symposium on Environmental Biotechnology* (W. Verstrate, ed.), p. 33-38, Balkema Publishers, Leiden
34. Barbosa V.L. Callen J.L., Sneath R. and Stuetz R.M. (2004) Activated sludge diffusion: Is it an effective odour treatment process. *Proceeding Enviro 04 – Odour conference*, Sydney, CD-Rom 11pp

35. Jefferson B., Georgaki S., Esquiroz A.E. and Stuetz R.M. (2003) Membrane gas absorber for H₂S removal. *Proceeding 5th International Membrane Science and Technology Conference, IMSTEC 03*, Sydney, CD-Rom 6pp
36. Stuetz R.M., Burgess J.A. and Stephenson T. (2003) Non-invasive monitoring of wastewater nitrification failure. *Proceeding AWA 20th Convention, Ozwater*, Perth, CD-Rom 8pp.
37. Barbosa V.L., Brookes A.W.R., Morton S., Burgess J.E. and Stuetz R.M. (2002) Activated sludge diffusion for cost effective treatment of odours from wastewater treatment works. *Proceeding WEF Odor and Toxic Air Emissions*, Albuquerque, 15p.
38. Jefferson B., Nazareno C., Stuetz R.M., Parsons S.A. and Judd S.J. (2002) Membrane gas adsorbers for H₂S removal – design, operation and technology integration into existing odour treatment strategies. *Proceeding WEF Odor and Toxic Air Emissions*, Albuquerque, 24p.
39. De'Ath A. and Stuetz R.M. (2001) Fungal treatment of recalcitrant organics in wastewater. In: *Ex Situ Biological Treatment Technologies* (V.S. Magar, F.M. von Fahnestock, and A. Leeson, eds.), Battelle Press, Columbus, 9pp
40. Bourgeois W., Gaugler M. and Stuetz R.M. (2001) On-line evaluation of a chemical sensor array for monitoring changes in effluent quality. *Proceeding IWA Instrumentation Control and Automation Conference*, Malmo, Vol 1, p. 271-278
41. Bourgeois W., Hogben P., Stuetz R.M., Gangler M. and Pike A. (2001) Headspace monitoring of water and wastewater using a sensor array. *Proceeding AWA 19th Convention*, Canberra, CD-Rom 8pp.
42. McLaughlan R.G., Harwood R., Hasselgrove K and Stuetz R.M. (1994) Fouling of groundwater injection/recovery systems. *25th Congress of the International Association of Hydrogeologists*, WaterDown '94, Adelaide, Vol.2-part A, p.203-208
43. Stuetz R.M., Madgwick J.C. and Gee A.R. (1993) Immobilisation of biosorbed metal ions. In: *Biohydrometallurgical Technologies* (A.E. Torma, M.L. Apel and C.L. Brierley eds.), Vol. 2, p. 85-93, Minerals, Metals and Materials Society, Pennsylvania
44. McLaughlan R.G. and Stuetz R.M. (1990) Tubewells fouling at a salinity interception scheme. In: *Waterwells: Monitoring, Maintenance, Rehabilitation* (P. Howsam ed.), p. 47-58, E and F.N. Spon, London

Conference papers – non-refereed

45. Stuetz R.M. (2004) Applying eNOSE systems to odour abatement monitoring. *Proceeding Enviro 04 – Odour conference*, Sydney, CD-Rom 2pp
46. Bouzalakos S., Jefferson B., Longhurst P.J. and Stuetz R.M. (2004) Comparing methods of evaluating odour control products. *Proceedings 1st UK Conference on Residual and Biodegradable Waste Management*, Harrogate, p.284-291.
47. Barbosa V.L. Abaye D., Dufol D., Callen J.L. and Stuetz R.M. (2003) Impact of H₂S activated sludge diffusion on wastewater nitrification. *Proceeding 9th IWA Conference on Design, Operation and Economics of Large Wastewater Treatment Plants*, Prague, p. 159-166.
48. Bourgeois W., Hogben P. and Stuetz R.M. A sensory upset early warning device for process stream monitoring. *Proceeding 9th International Symposium on Olfaction and Electronic Nose, ISOEN 02*, Rome, p. 198-201
49. Gostelow P., Longhurst P.J., Parsons S.A. and Stuetz R.M. (2002) Can you sample odours: what, where and how? *Proceeding CIWEM odour conference*, Hatfield, 12pp
50. Hogben P., Stuetz R.M. and Drage B. (2001) Use of a chemical sensor array and an on-line flow-cell for monitoring water quality. *Proceeding AWWA Water Quality Technology Conference*, Nashville, CD-Rom 9pp

51. Hogben P., Drage B. and Stuetz R.M. (2001) Development of an on-line sensor array system for monitoring pollutants in potable water. *Proceeding 6th International Symposium on Olfaction and Electronic Nose, ISOEN8*, Washington DC, CD-Rom 4pp
52. Stuetz R.M. and Warburton J.D. (2000) The use of chemical sensory arrays for on-line detection of VOCs in water. *Proceeding Pittcon 2000*, New Orleans, CD-Rom 2pp
53. Stuetz R.M., Fenner R.A. and Ratcliff J. (1999) Surrogate monitoring in wastewater treatment. *Proceeding 6th International Symposium on Olfaction and Electronic Nose, ISOEN99*, Tübingen, p. 341-345
54. Greene A.C., Stuetz R.M. and Madgwick J.C. (1992) The role of polymers in microbial formation of commercially useful manganese oxides. *Proceeding 10th Australian Biotechnology Conference*, Melbourne, p. 159-162

Books and Book chapters

55. Van Craeynest K. Van Langenhove H. and Stuetz R.M. (2004) AOP treatment of odours and VOCs. In: *Advanced Oxidation Processes* (S A Parsons, ed.), pp. 275-296, IWA Publishing, London
56. Stuetz R.M. (2003) Application of electronic nose technology for monitoring water and wastewater. In: *Integrated Analytical Systems* (S. Alegret, ed.), pp. 513-539, Elsevier Comprehensive Analytical Chemistry Series
57. Gostelow P., Longhurst P.J., Parsons S.A. and Stuetz R.M. (2003) *Sampling for Measurement of Odours*. IWA Scientific and Technical Report No. 17, IWA Publishing, London
58. Stuetz R.M. and Fenner R.A. (2001) Odour measurements using sensor array. In: *Odours in Wastewater Treatment: Measurement, Modelling and Control* (Stuetz R.M. and Frechen F-B, eds), pp. 179-198, IWA Publishing, London
59. Stuetz R.M., Gostelow P. and Burgess J.A. (2001) Odour perception. In: *Odours in Wastewater Treatment: Measurement, Modelling and Control* (Stuetz R.M. and Frechen F-B, eds), pp. 3-15, IWA Publishing, London
60. Stuetz R.M. and Frechen F-B. (eds.) (2001) *Odours in Wastewater Treatment: Measurement, Modelling and Control*. IWA Publishing, London, 440p
61. Fenner R.A. and Stuetz R.M. (2000) Methods of odour measurement and assessment. In: *Environmental Technologies to Treat Sulfur Pollution: Principles and Engineering*, (P. Lens and L Pols, eds.), p. 305-326, IWA Publishing, London

Technical reports

62. Stuetz R.M., Scott M. and Parsons S.A. (2004) *Network on Real-Time Monitoring of Water and Wastewater Quality*. Final report for EPSRC Grant (GR/R41064), 5p
63. Stuetz R.M., Parsons S.A. and Longhurst P.J. (2003) *Network on the Control and Prevention of Odour Emissions*. Final report for EPSRC Grant (GR/R07585), 6p
64. Stephenson T. Judd J.J. Parsons S.A., Stuetz R.M., Longhurst P.J., Cartmell E., Jeffrey P and Jefferson B. (2003) *Water and Wastewater Process Engineering: From Nanoscale to Megascale*. Final report and extension for EPSRC Grant (GR/N00487), 12p
65. Parsons S.A., Stuetz R.M. and Judd S.J. (2003) *Novel Treatability Test for Organic Contaminants*. Final report for JERI Grant (GR/M91778), 6p
66. Stuetz R.M. (2003) *On-line Monitoring of Wastewater BOD using a Sensor Array*. Final report for EPSRC Grant (GR/M94748), 6p

67. Gostelow P., Longhurst P.J., Parsons S.A. and Stuetz R.M. (2002) *Review of Odour Sampling and Measurement*. Final Report for EB Milton Keynes Ltd (subsequently ShanksFirst), 71p
68. Stuetz R.M. and Madgwick J.C. (1994) *Immobilisation of Cu, Zn, Co and Ni in Bioformed Manganese Oxides*. Final report for BHP Research, 158p
69. McLaughlan R.G., Knight M.J. and Stuetz R.M. (1993) *Fouling and Corrosion of Groundwater Wells*. Final report for Land and Water Resources Research and Development Corporation, 171p

Editorships

70. Matia L., Burlingame G., Bruchet A., Khiari D., Stuetz R. M., Suffet I.H. and Ventura F. (eds.) (2004) *Selected Proceeding of the International Conference on Off-flavours in the Aquatic Environment VI, September 2002*. *Water Sciences and Technology* **49** (9)
71. Parsons S.A., Stuetz R.M., Jefferson, B. and Edwards, M. (eds.) (2004) *Selected Proceeding of the International Conference on Scaling and Corrosion in Water and Wastewater Systems, Cranfield University, March 2003*. *Water Sciences and Technology* **49** (2)
72. Stuetz R.M. and Parsons S.A. (eds.) (2003) *Taste and Odours in Drinking Water. Reviews in Environmental Sciences and Bio/technology*
73. Stuetz R.M. (ed.) (2003) *Selected Proceeding of the 1st IWA International Young Researchers Conference, Cranfield University, September 2002*. *Water Sciences and Technology* **48** (3) 150p
74. Stuetz R.M. (ed.) (2003) *Proceeding 1-day Conference on Taste and Odours in Drinking Water, Cranfield University, 65p*
75. Stuetz R.M. (ed.) (2002) *Proceeding 1-day Conference on Odour Management and Treatment, Odour 2, Cranfield University, 72p*
76. Stuetz R.M. (ed.) (2000) *Proceeding 1-day Conference on Odour Measurement and Modelling, Odour 1, Cranfield University, 61p*
77. Stuetz R.M. and Boon A. (eds.) (2000) *Selected Proceeding of the CIWEM-IAWQ International Conference on Control and Prevention of Odours in the Water Industry, London, September 1999*. *Water Science and Technology* **41** (6) 183p

Other Articles

78. Gostelow P. and Stuetz R.M. (2004) Odour sampling and measurement: review. *Water* (March), pp. 107-113
79. Gostelow P., Stuetz R.M. and Parsons S.A. (2003) Odour modelling is not just dispersion modelling. *Water and Wastewater Treatment* (September), pp. 18-19
80. Georgaki S., Jefferson B. and Stuetz R.M. (2002) Comparing common ground. *Water and Wastewater Treatment* (September), pp. 25-26
81. Stuetz R.M. (2001) Using sensor arrays for on-line monitoring of water and wastewater quality. *American Laboratory* (January), pp.10-26
82. Burgess J.E. and Stuetz R.M. (2000) Activated sludge for odour abatement. *Water* **21** (December), pp. 57-59
83. Burgess J.E. and Stuetz R.M. (2000) Choosing the right deodorant. *Water and Wastewater Treatment* (September), pp. 35-38
84. Stuetz R.M. (2000) On-line sensors for water and wastewater treatment. *Water Services* (July), pp. 27-28
85. Gostelow P and Stuetz R.M. (2000) Measuring and modelling nuisance odours from wastewater treatment. *WETnews* (May), pp. 41-42

86. Stuetz R.M. (1999) Sniffing out trouble – use of an electronic nose in water and effluent monitoring. *WETnews* (April), pp. 34-35
87. Stuetz R.M. and Fenner R.A (1998) Electronic nose technology – a new tool in odour management. *Water Quality International* (July/August), pp. 15-17

Manuscripts – In press

88. Hogben P., Drage B. and Stuetz R.M. (2003) Electronic sensor systems for taste and odour monitoring. *Reviews in Environmental Sciences and Bio/Technology*
89. Barbosa V.L., Dufol D., Callen J., Sneath R. and Stuetz R.M. (2004) Hydrogen sulphide removal by activated sludge diffusion. *Water Sciences and Technology* **50** (4)
90. Bouzalakos S., Jefferson B., Longhurst P.J. and Stuetz R.M. (2004) Developing methods to evaluate odour control products. *Water Sciences and Technology* **50** (4)
91. Georgaki S., Jefferson B. and Stuetz R.M. (2004) A comparison of the different absorption processes for odour abatement. *Water Sciences and Technology*
92. Jefferson B., Palmer A., Jeffrey, P., Stuetz R.M. and Judd S.J. (2004) Grey water characterisation and its impact on the selection and operation of technologies for urban reuse. *Water Sciences and Technology* **50** (2)

Journal papers - Submitted

93. Butcher J., Jeffrey P and Stuetz R.M. User influences on knowledge structuring on the Internet: literature survey and case study of a global network of water professionals. *Hydroinformatic* (February, 2004)
94. De'Ath A., Longhurst P., Burgess J.E. and Stuetz R.M. Strategies to resolve intermittent problems, associated with wastewater treatment and potable supply – a review. *Reviews in Environmental Sciences and Bio/Technology* (September, 2002)
95. Barbosa V.L., Burgess J.E., Callen J. and Stuetz R.M. Performance of activated sludge diffusion for biological treatment of sulphurous emissions. *Water Research* (October 2002)
96. Stuetz R.M, Burgess J.E., Ampen N. and Stephenson T. Preventing nitrification failure by N₂O detection. *Water Research* (November 2001)

Conference papers - Submitted

97. Stuetz R.M. and Bourgeois W. Application of non-specific gas sensors for detecting odour abatement process failure. Paper submitted to the European Conference on Environmental Odour Management, Cologne, 17 – 19 November, 2004

Invited Presentations

1. Biosensing systems for monitoring aerobic wastewater treatment processes. Keynote – *European Symposium on Environmental Biotechnology*, Oostende, 25 – 28 April, 2004
2. Sampling for odour measurement. *Enviro 04 – Odour Conference Workshop on Sampling for Odour Measurement*, Sydney, 29 March – 1 April, 2004
3. Applying non-specific sensors to online water pollution monitoring. *CRC-WQT - Online Water Quality Monitoring Workshop*, Sydney Water, 23 – 24 February, 2004
4. Application of specific and non-specific gas sensors for wastewater monitoring. *Intersect Faraday Workshop - Intelligent Sensing Programme*, London, 8 July, 2003

5. Biosensing systems for WWTPs based on specific and non-specific gas sensors. COST 624 WG4 Workshop – *Biosensors in WWTPs*, Milan, 10 – 11 June, 2002
6. Activated sludge biotreatment of sulphurous wastewater emissions. EURO Summer School – *The Sulphur Cycle in Environmental Biotechnology*, Wageningen, 12 – 17 May, 2002
7. Non-invasive monitoring of wastewater for nitrification failure. SWIG Workshop - *Novel Sensors*. North West Water, 19 February, 2002
8. Future sensor technologies for distribution monitoring. SWIG Workshop – *Water Distribution Monitoring*. Bretby Conference Centre, 26 April, 2001
9. Monitoring water quality using a sensor array. IIR Conference – *New Technologies and Processes for Improved Water Quality*, London, 30 – 31 January, 2001
10. Use of sensor array technology for water quality monitoring. SWIG Workshop - *Remote Sensing and Non-invasive Measurements*. Yorkshire Water, 23 February, 2000
11. Development of an electronic monitoring system for measuring odour release from sewage works. SWIG Workshop – *Odour and Tastes*, Cambridge Technology Park, 16 May, 1996