

## Dr Stuart Khan

BSc (Hons) (1996), PhD (2003)

Research Fellow, Centre for Water and Waste Technology, UNSW (since June 2005 - present)

### Employment History

|                               |                                   |             |
|-------------------------------|-----------------------------------|-------------|
| Research Fellow               | University of Wollongong          | 2004 - 2005 |
| Post-doctoral Research Fellow | University of North Carolina, USA | 2002 - 2003 |
| Research Assistant            | University of New South Wales     | 1996 - 1997 |
| Research Assistant            | DOW Chemicals, Altona             | 1992        |

### Expertise

Dr Khan is a leading Australian researcher on trace organic chemical contaminants in water. He has extensive advanced analytical instrumentation training and experience in organic analysis including:

- GC: experience with a broad range of gas chromatography applications and a variety of detectors including flame ionisation (FID), electron capture (ECD) and mass spectral (MS) detectors.
- HPLC: experienced with a variety of high performance liquid chromatography applications. Detectors include UV/Vis, fluorescence and tandem mass spectrometry (MS-MS).
- MS: extensive experience with quadrupole and ion-trap mass selective detectors manufactured by Agilent, Finnigan, Shimadzu and Varian. Has worked with electron impact (EI), chemical ionisation (CI), atmospheric pressure chemical ionisation (APCI) and electrospray ionisation (ESI). Has used single and tandem (MS-MS) mass spectral applications including both triple-quad and ion-trap instruments.
- NMR: experience with <sup>1</sup>H and <sup>13</sup>C nuclear magnetic resonance (NMR) applications. He has operated 200, 400 and 600 MHz instruments and has training and experience in the interpretation of spectra.

Dr Khan also has experience with modelling chemical contaminants in aqueous systems and an undertaking risk assessment for chemical contaminants in water, wastewater and recycled water systems.

### Selected Publications

1. Khan, S. J., Weinberg, H. S. and Bedford, E. C. (2006) Aqueous-phase aminolysis: Approach for the analysis of epoxides in water. *Analytical Chemistry*, 78(8), 2608-2616.
2. Khan, S. J. and Gerrard, L. E. (2006) Stakeholder communications for successful water reuse operations. *Desalination*, 187, 191-202.
3. Weber, S., Khan, S. J. and Hollender, J. (2006) Human risk assessment of organic contaminants in reclaimed wastewater used for irrigation. *Desalination*, 187, 53-64.
4. Khan, S. J. and Ongerth, J. E. (2005) Occurrence and removal of pharmaceuticals at an Australian sewage treatment plant. *Water*, 32(4), 80-85.
5. Khan, S. J., Wintgens, T., Sherman, P., Zaricky, J. and Schäfer, A. I. (2005) A performance comparison of individual and combined treatment modules for water recycling. *Environ. Prog.*, 24(4), 1-9.
6. Mastrup, M., Schäfer, A. I. and Khan, S. J. (2005) Predicting fate of the contraceptive pill in wastewater treatment and discharge. *Water Sci. Technol.*, 52(8), 279-286
7. Khan, S. J., Wintgens, T., Sherman, P., Zaricky, J. & Schäfer, A. I. (2004) Removal of hormones and pharmaceuticals in the Advanced Water Recycling Demonstration Plant in Queensland, Australia. *Water Sci. Technol.*, 50(5), 15-22.
8. Ongerth, J. E. and Khan, S. J. (2004) Drug residuals: How xenobiotics can affect water supply sources. *J. Am. Water Works Assoc.*, 96(5), 94-101.
9. Khan, S. J. and Ongerth, J. E. (2004) Modelling of prescription pharmaceutical residues in Australian sewage based on quantities of use and fugacity calculations. *Chemosphere*, 54(3), 355-367.
10. Khan, S. J. and Ongerth, J. E. (2002) Estimation of pharmaceutical residues in primary and secondary sewage sludge based on quantities of use and fugacity modelling. *Water Sci. Technol.*, 46(3), 105-113.

### Publications over last 5 years

Peer-reviewed research publications: 14

Conference publications: 25

Books and book chapters: 7