

***PRG PUBLICATION LIST***  
***1 APRIL 2002 TO 31 MARCH 2003***

**PAPER PRESENTED AT CONFERENCE :**

Barclay SJ and Buckley CA (2002) Establishing and managing waste minimisation clubs in South Africa. Paper presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Friedrich E And Buckley CA (2002) Life-cycle assessment as an environmental management tool in the water industry. Paper presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Biscos C, Mulholland M, Le Lann M-V, Buckley CA, Brouckaert CJ And Roustan M (2002) Water distribution network optimisation. Paper presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Ramsamy D, Naidoo V And Buckley CA (2002) Anaerobic co-digestion of high strength/toxic organic liquid effluents in a continuously stirred reactor : start-up. Paper presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Foxon KM, Buckley CA And Rozzi A (2002) Denitrifying activity measurements using an anoxic titration (phstat) bioassay. Paper presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Naidoo D, Naidoo V And Buckley CA (2002) Determination of toxicity of industrial effluents using the anita-maia titration biosensor. Paper presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Naidoo V, Rakgotho T, Du Preez M, Ohdav B And Buckley CA (2002) Anaerobic toxicity of various high strength / toxic organic liquid industrial effluents, Paper presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Gianadda P, Brouckaert CJ, Sayer R And Buckley CA (2002) Process water pinch analysis guides water reagent and effluent management - selected case studies from the chlor-alkali industry. Paper presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Pryor M, Brouckaert BM, Rajagopaul R, Mthiyane MT And Amirtharajah A (2002) Automatic brackwash filters for rural water supply : advantages and limitations. Paper presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Remigi E, Gartner M And Rozzi A (2003) Preliminary investigations on the removal of hexachlorobenzene and gamma-hexachlorocyclohexane from groundwater using a membrane bioreactor. Paper presented at 5th WISA-MTD Workshop on membrane development in waste minimisation water treatment and the process industry. Maccauveli Conference Centre, Vereeniging, South Africa. March-April.

## **POSTER PRESENTATION AT A CONFERENCE:**

Soukop MB, Preston-Whyte RA, Barclay SJ and Buckley CA (2002) Pathways of change in the management of waste minimisation. Poster presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Pillay SD Friedrich E and Buckley CA (2002) Life Cycle Assessment of a Water Recycling Plant Poster presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa May

Vorenberg D, Ramjugernath D and Buckley CA (2002) Use of overall persistence and fugacity settling time in identification and assessment of water impact potential of organic chemicals. Poster presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa . May.

Dama P, Bell J, Foxon KM and Buckley CA (2002) The anaerobic baffled reactor for sanitation in dense peri-urban settlements. Poster presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

John W, Buckley CA, Jacobs EP and Sanderson RD (2002) Synthesis and use of poly dadmac for water purification. Poster presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Pastre A, Mulholland M, Le Lann M-V, Buckley CA, Brouckaert CJ, Roustan M and Mabeer V (2002) Control of potable water chlorination. Poster presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Huang T, Brouckaert CJ, Pryor M, Docrat M and Buckley CA (2002) Application of computational fluid dynamics modelling on an ozone contactor Poster presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Brouckaert CJ, Schneider J, Mansfield M and Buckley CA (2002) Water pinch analysis as a transparent tool for the co-regulation of industrial processes. Poster presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

Foxon KM, Dama P, Bell J and Buckley CA (2002) Application of aquatic modelling to the design of an anaerobic baffled reactor for peri-urban. Poster presented at WISA Biennial Conf. & Exhib., ICC, Durban, South Africa. May.

## **CONFERENCE PROCEEDINGS :**

### **Oral Paper :**

Telukdarie A, Buckley CA And Koefoed M (2002) The importance of assessment tools in promoting cleaner production in the metal finishing industry. *Proc. Wastecon2002*, ICC, Durban, South Africa. September-October.

Barclay SJ, Buckley CA And Lundbo K (2002) The importance of training in promoting cleaner production. *Proc. Wastecon2002*, ICC, Durban, South Africa. September-October.

Ramsamy D, Rakgotho T, Naidoo V And Buckley CA (200) Anaerobic co-digestion of high strength / toxic organic liquid effluents in a batch and continuous *Proc. Wastecon2002*, ICC, Durban, South Africa. September-October.

Naidoo D, Naidoo V And Buckley CA (2002) Determination of toxicity of industrial effluents using the anita-maia titration biosensor. *Proc. Wastecon2002*, ICC, Durban, South Africa. September-October.

Binda MA, Naidoo V And Buckley CA (2002) Score system for the selection of textile chemicals and dyes in South Africa. *Proc. Wastecon2002*, ICC, Durban, South Africa. September-October.

Soukop MB, Hounscome R, Barclay SJ And Buckley CA (2002) Is waste minimisation a social sustainable tool? *Proc. Wastecon2002*, ICC, Durban, South Africa. September-October.

Barclay SJ And Buckley CA (2002) Facilitator's manual for establishing and running waste minimisation clubs in South Africa. *Proc. Wastecon2002*, ICC, Durban, South Africa. September-October.

#### **B) Posters :**

Dempster H, Barclay SJ, Blomquist PA, Buckley CA, Spankie S And Brown N (2002) Factors affecting the success of the Pietermaritzburg waste minimisation club. *Proc. Wastecon2002*, ICC, Durban, South Africa. September-October.

Maharaj D And Lundbo K (2002) Cleaner textile production project SA : Saving money and the environment through cleaner production. *Proc. Wastecon2002*, ICC, Durban, South Africa. September-October.

Naidoo V, Rakgotho T, Majiyezi S, Odhav B And Buckley CA (2002) Potential for anaerobic treatment of high strength/toxic organic liquid industrial effluents. *Proc. Wastecon2002*, ICC, Durban, South Africa. September-October.

Spankie S, Brown N, Van Daele A, Barclay SJ And Buckley CA (2002) Chemical analysis as an aid to waste minimisation in the metal finishing industry. *Proc. Wastecon2002*, ICC, Durban, South Africa. September-October.

## **OTHER PRESENTATION AT CONFERENCE**

### **A. Workshop**

Foxon K (2002) Aquasim : software for modeling aquatic systems. Pre-conference Workshops at WISA Biennial Conf.& Exhib., ICC, Durban, South Africa. May.

Buckley CA and Friedrich E (2002) Life cycle assessment - a comprehensive tool for environmental management Pre-conference Workshops at WISA Biennial Conf.& Exhib., ICC, Durban, South Africa. May.

Buckley CA (2002) Minteqa2 - aquatic chemistry speciation software. Pre-conference Workshops at WISA Biennial Conf.& Exhib., ICC, Durban, South Africa. May.

Barclay SJ and Mercer D (2002) Waste minimisation clubs : managing them for success Pre-conference Workshops at WISA Biennial Conf.& Exhib., ICC, Durban, South Africa. May.

Brouckaert CJ and Gianadda P (2002) Water pinch analysis : a tool for the rational management of water and effluent in an industrial complex. Pre-conference Workshops at WISA Biennial Conf.& Exhib., ICC, Durban, South Africa. May.

Buckley CA and Barclay SJ (2002) Waste minimisation and waste minimisation clubs. One day Workshop on waste water treatment options - the cleaner production approach, African Centre for Energy and Environment, Technology Service International Archimedes Auditorium, Rosherville, Johannesburg. July.

Buckley CA, Brouckaert CJ and Barclay SJ (2002) Waste water treatment options : the cleaner production approach. One day Workshop on waste water treatment options - the cleaner production approach. African Centre for Energy and Environment Technology, Service International Archimedes Auditorium, Rosherville, Johannesburg. July.

### **B. Slide Presentation**

Buckley CA, Brouckaert CJ, Mansfield M And Gianadda P (2002) Applying water pinch analysis in the South African context. Slide presentation at the Int. Seminar on Advanced Achievements in Pinch Technology and Industrial Resource Management for Energy Savings Pollution Reduction and Sustainable Development in Africa, University of Durban-Westville, Durban. November.

Gianadda P, Brouckaert CJ And Buckley CA (2002) Conceptual developments in the field of water pinch analysis - selected case studies from the chlor-alkali industry. Slide presentation at the Int. Seminar on Advanced Achievements in Pinch Technology and Industrial Resource Management for Energy Savings Pollution Reduction and Sustainable Development in Africa, University of Durban-Westville, Durban. November.

Mansfield M, Brouckaert CJ And Buckley CA (2002) Water pinch analysis at the Sappi Tugela paper mill. Slide presentation at the Int. Seminar on Advanced Achievements in Pinch Technology and Industrial Resource Management for Energy Savings Pollution Reduction and Sustainable Development in Africa, University of Durban-Westville Durban. November.

Brouckaert CJ, Buckley CA, Hanekom D and Woodhouse C (2002) Optimal location of a membrane treatment plant in a power station, Slide presentation at the Int. Seminar on Advanced Achievements in Pinch Technology and Industrial Resource Management for Energy Savings Pollution Reduction and Sustainable Development in Africa, University of Durban-Westville, Durban. November.

Buckley CA And Barclay SJ (2002) Danida cleaner production demonstration project in South Africa : textiles. Slide presentation at the Int. Seminar on Advanced Achievements in Pinch Technology and Industrial Resource Management for Energy Savings Pollution Reduction and Sustainable Development in Africa. University of Durban-Westville, Durban. November.

### **JOURNAL PUBLICATIONS:**

Naidoo V, Du Preez M, Rakgotho T, Odhav B and Buckley CA (2002) Toxicity and biodegradability of high strength/toxic organic liquid industrial effluents and hazardous landfill leachates. *Water Science & Technology* **46** (9)163-169.

Huang T-H, Brouckaert CJ, Docrat M, Pryor M and Buckley CA (2002) A computational fluid dynamics and experimental study of an ozone contactor. *Water Science & Technology* **46** (9) 87-93.

Friedrich E and Buckley CA (2002) Life cycle assessment as an environmental management tool in the production of potable water. *Water Science & Technology* **46** (9) 29-36.

Gianadda P, Brouckaert CJ, Sayer R and Buckley CA (2002) The application of pinch analysis to water regent and effluent management in a chlor-alkali facility. *Water Science & Technology* **46** (9) 21-28.

Foxon KM, Brouckaert CJ, Buckley CA and Rozzi A (2002) Denitrification activity measurements using an anoxic titration (phstat) bioassay, *Water Science & Technology* **46** (9) 211-218.

Dama P, Bell J, Foxon KM, Brouckaert CJ, Huang T, Buckley CA, Naidoo V and Stuckey D (2002) Pilot-scale study of an anaerobic baffled reactor for the treatment of domestic wastewater. *Water Science & Technology* **46** (9) 263-270.

Barclay SJ and Buckley CA (2002) Promoting sustainable industry through waste minimization clubs. *Water Science & Technology* **46** (9) 79-86.

Pillay SD, Friedrich E and Buckley CA (2002) Life cycle assessment of an industrial water recycling plant. *Water Science & Technology* **46** (9) 55-62.

Biscos C, Mulholland M, Le Lann M-V, Buckley CA, Brouckaert CJ, Bailey R and Roustan M (2002) Optimal operation of a potable water distribution network. *Water Science & Technology* **46** (9) 155-162.

Pastre A, Mulholland M, Brouckaert CJ, Buckley CA, Le Lann M-V, Roustan M, Naidoo D And Mabeer V (2002) Modelling and control of potable water chlorination. *Water Science & Technology* **46** (9) 103-108.

Ujang Z And Buckley CA (2002) Water & wastewater management for developing countries : present reality and strategy for the future. *Water Science & Technology* **46** (9) 1-9.

Bell J and Buckley CA (2003) Treatment of a textile dye in the anaerobic baffled reactor. *Water SA* **29** (2) 29-134.

#### **ARTICLES IN BOOK :**

Pollution Research Group, University of Natal, Durban, (2002) Project helps to minimise waste and save companies millions. *Partners in Development*. 13 (2), 7.

Soukop M (2002) Social sustainability: what how and why? *Chemical Technology*. 53 4-7.

Friedrich E (2003) The environmental life cycle assessment as a holistic environmental tool - part 1. *Chemical Technology*. 9-11.

#### **A REPORT :**

Friedrich E And Buckley CA (2002) The use of life cycle assessment in the selection of water treatment processes. Water Research Commission Report No 1077/1/02 .

Barclay SJ And Buckley CA (2002) Waste minimisation guide for the textile industry : a step towards cleaner production. Volume I: background information overview of waste minimisation environmental pressures. Water Research Commission Report No TT 139/00.

Barclay SJ And Buckley CA (2002) Waste minimisation guide for the textile industry : a step towards cleaner production. Volume II: self-assessment worksheets. Water Research Commission Report No TT 140/00.

Brouckaert CJ and Buckley CA (2002) The application of computational fluid dynamics to water and wastewater treatment works. Water Research Commission Report No 648/1/02.

Pillay VL and Buckley CA (2003) Evaluation and optimisation of a crossflow microfilter for the production of potable water in rural and peri-urban areas. Water Research Commission report No 662/1/03.

#### **A Thesis :**

Friedrich E (2002) The Use of Environmental Life Cycle Assessment for the Production of Potable Water, Msc.Eng. Thesis, School Chem. Eng., Univ. Of Natal, Durban.

Schwikkard GW (2002) An investigation of advanced oxidation processes in water treatment. Ph.D. Thesis, School Chem. Eng., Univ. Of Natal, Durban..

Bell J (2002) Treatment of Dye Wastewaters in the Anaerobic Baffled Reactor and Characterisation of the Associated Microbial Populations, Ph.D. Thesis, School Chem. Eng., Univ. Of Natal, Durban.

Govender M (2002) Investigation of a Proton Exchange Membrane Fuel Cell. MSc.Eng. Thesis, School Chem. Eng., Univ. Of Natal, Durban.

Thambiran N. (2003) An Investigation of Waste Minimisation Club for the Metal Finishing Industry. MSc. Eng. Thesis, School Chem. Eng., Univ. Of Natal, Durban.

Gianadda P (2003) The Development and Application of Combined Water and Materials Pinch Analysis to a Chlor-Alkali Plant. Ph.D. Thesis, School Chem. Eng., Univ. Of Natal, Durban.

Reiner M (2003) Industrial Waste Minimisation In South Africa : A Case Study in the Textile and Metal Finishing Sector. MSc.Eng. Thesis, School Chem. Eng., Univ. Of Natal, Durban.

Schneider JPZ (2003) The Application of Water Pinch Analysis at AECI Bioproducts. MSc.Eng. Thesis, School Chem. Eng., Univ. Of Natal, Durban.

VORENBERG D (2003) Thermodynamic Environmental Fate Modeling. MScEng. Thesis, School Chem. Eng., Univ. Of Natal, Durban.

Soukop M (2003) The Establishment of a Methodology for Initiating and Managing Waste Minimisation Clubs. B.Soc.Sci.(Hons) Thesis, Dept. School Life and Env. Sci., Univ. Of Natal, Durban.

Govender R (2003) Design and Development of a Crossflow Microfiltration System for Industrial Solid-liquid Separation. M.Tech. Thesis, ML Sultan Technikon, Durban.