CAREER RESUME

MERVYN CHARLES GORONSZY

DATE OF BIRTH: 4 September, 1941

NATIONALITY: Australia

E MAIL: ttinc2000@hotmail.com ; wwtsydney@bigpond.com

ADDRESS: 25 Sutherland Ave, Kings Langley, NSW 2147, Australia.

GENERAL: Specialist Consultant with more than thirty five years international experience in the field of water and wastewater engineering using dispersed growth and attached growth technologies with major specialization in variable volume, cyclic and sequencing batch reactor activated sludge processing since 1969.

Born in 1941, in Australia; formal degrees in Industrial Chemistry, from University of Newcastle, Australia and Chemical Engineering from University of New South Wales, Australia and post graduate studies at the University of New South Wales. Seven years experience in water and wastewater engineering in the NSW Department of Public Works; eight years experience as senior engineer with the State Pollution Control Commission in Australia (NSW). Held a tertiary working scholarship with Broken Hill Pty Limited (a major steel making and oil venture company) with his first degree.

Three years as a visiting faculty member at Vanderbilt University Nashville, USA; lectured at New South Wales Institute of Technology; honorary reader at University of Queensland, Australia and Leeds University, England. Ten years experience in the US; 11 years experience in Europe with three years experience in South East Asia. Introduced the first ICEAS plants into the US in 1985 in Tennessee under the EPA Innovative and Alternative

Grants Programme [Cleveland (31,000 m3/d) - Tullahoma (45,000 m3/d)-Union City (64,000 m3/d)]; followed by the development and introduction of CASS technology.

Conducted specialist courses on waste water treatment in USA, Australia, Scotland, England, China, Israel, Puerto Rico, El Salvador, Mexico and Ireland etc.

Published more than 150 papers in various international journals, conferences and seminars such as Journal of Water Pollution Control Federation USA, A.I.Ch.E. Symposium Series Journal USA, Institute Public Health Engineers and co-authored papers with acclaimed scientists including Wesley W. Eckenfelder, A T Watkins and N Horan.

Inventor of three major wastewater process technologies using variable volume activated sludge treatment (for BOD and biological nutrient removal) and one household wastewater treatment system using cyclic operating methodology.

Associated in numerous International Water Association (IWA) specialist committees; Sub-Committee on Oxygen Transfer Standards, Committee on Environmental Standards, American Society of Civil Engineers; Member of Joint Task Force of the Water Pollution Control Federation (Water Environment Federation) and the American Society of Civil Engineers for the preparation of WPCF-Manual of Practice-FD-13, Aeration-A Wastewater Treatment Process, a worldwide standard for Design of Wastewater plants; IWA Scientific and Technical Report on SBRs.

More than twenty five years association with international companies in the field of wastewater treatment as the managing director and president advising and managing technology on core and design issues for waste water treatment, waste solids management and treatment, environmental impact assessments and effluent reuse facilities.

Associated as a specialist wastewater treatment consultant in the following selected SBR projects and countries (partial example),

Jelutong project, Malaysia (585 MLD)
Woodman Point project, Australia (160 MLD),
Black Rock, Australia (210 MLD),
Bangkok Phase II (150 MLD)
Cork, Ireland (167 MLD)
Yen So, Vietnam (200 MLD)
Israel 25 MLD
Germany 60 MLD and 80 MLD
China 100 MLD
England 100 MLD
Czech 60 MLD
Slovenia 15 MLD
Indonesia 200 MLD
India 50 MLD

Wide range of experience in domestic and industrial wastewater treatment, including pilot and prototype plant investigations and full scale treatment, covering many types of wastewater including domestic (combined and separated systems), food processing, dairy

processing, slaughterhouse operations, poultry processing operations, textile and dye house operations, tannery (vegetable and chrome) wastewater, coffee manufacturing wastewater, perfume manufacturing wastewater, body care products wastewater, citrus and fruit juice production wastewater, wool scouring wastewater, petroleum refinery wastewater, landfill leachate wastewater, printed circuit board wastewater, steel mill operation and wastewater, paper (including paper and cardboard recycle) mill process wastewater, winery processing wastewater, brewery wastewater, rainfall run off management, effluent land disposal practices, lagoon and ponding wastewater treatment practices, animal husbandry (cattle feedlot, piggery) wastewater, septic tank wastewater, vegetable processing wastewater.

PATENTS:	USA	No.	4663044
	USA	No.	4693821
	USA	No.	4891128
	USA	No.	5013441
	USA	No.	5989428
	CANADA	No.	524910
	AUSTRALIA	No.	560510
	AUSTRALIA	No.	712 746
	SOUTH KOREA	No.	0352412
	EURASIA	No.	000912

INVENTIONS:

Invention and development of cyclically operated activated sludge process technologies that combine biological selectors with single basin sequencing batch reactor operation as multi basin modular systems for domestic applications to 585,000 m^3/d.

Invention of modular cyclic batch processing to provide continuous inflow-outflow treatment.

Invention of intermittent cycle extended aeration system (abbrev. ICEAS), cyclic activated sludge system (abbrev. CASS), intermittently decanted extended aeration (abbrev. IDEA) and CYCLAZUR with biological selector configurations for domestic and industrial wastewater treatment (domestic facility sizes to 1,200,000 pe).

Invention and development of rotating drum with surface floating solids containment decanting equipment for deep basin surface skimming of treated effluent from SBRs.

Development of controlled and predictable processing for simultaneous nitrification denitrification and biological phosphorus removal and energy optimization in SBRs in multiple basin and multi module operation.

Development of in basin measurement and control of coupled ORP and respiration based operation for nutrient removal, energy optimization, filamentous sludge bulking control and interaction of sludge blanket settling velocity and biomass inventory control.

Development of co metabolism processing for full scale industrial wastewater treatment applications of perfume manufacturing and coffee manufacturing wastewaters.

Invention and development of static variable reaction environment biological selectors for use with cyclic activated sludge technologies (SBRs).
Invention of attached growth-suspended growth sequencing batch reactors.
Australian development of household wastewater treatment unit for use in building developments where reticulated sewerage is not economic, to replace septic tanks.

MEMBERSHIPS:

1. Water Environment Federation, (WEF).
2. International Water Association, former International Association on Water Quality, (IWA).
3. Australian Water and Wastewater Association, (AWWA).
4. Order of Engineer, Vanderbilt University Link

ASSOCIATIONS:

1. Member IWA (former IAWQ) Specialist Committees
   - Specialist Group on Wastewater Reclamation and Reuse.
   - Specialist Group on Activated Sludge Population Dynamics.
   - Specialist Group on Nutrient Removal Processes from Wastewaters.
   - SBR Specialist Group
   - Specialist Group on Wastewater Pre-treatment.

2. Sub-Committee on Oxygen Transfer Standards, Committee on Environmental Standards, American Society of Civil Engineers.

3. Member of Joint Task Force of the Water Pollution Control Federation and the American Society of Civil Engineers for the preparation of WPCF-Manual of Practice-FD-13, Aeration, A Wastewater Treatment Process, 1988.

ACADEMIC:

Murwillumbah High School – Intermediate Certificate, 1956.
Leaving Certificate, 1958.

B.Sc. (Tech) Industrial Chemistry, University of Newcastle, 1967.

B.E. Chemical Engineering, University of New South Wales, 1968.

Postgraduate Studies School of Chemical Engineering University of New South Wales "Residence Time Distribution Studies in a Mixed Reactor Using Non-Newtonian Liquids." 1969 – 1972.

Lecturer New South Wales Institute of Technology, Final year and Post Graduate students – Public Health Engineering, 1976 – 1982.

Post Graduate Studies School of Civil Engineering University of New South Wales "Intermittently Aerated and Decanted Activated Sludge Process." 1977 – 1983.

Visiting Faculty Member, Environmental Engineering Department, Vanderbilt University, 1983 – 1985.

Lectured in Vanderbilt University Specialist Short Courses on Wastewater Treatment, 1985, 1986, 1987, 1988, 1989.

Honorary Reader, School of Chemical Engineering University of Queensland, 1990 –

Course Leader, University of Queensland Specialist Course on Intermittently Aerated Activated Sludge Systems, Brisbane, Australia, November 1992.

Lectured in Seminars Inc. series of specialist courses on Industrial Wastewater Pre-treatment, Puerto Rico, Los Angeles, Houston, New Brunswick, Chicago, Boston, Atlanta, San Francisco, 1992.

Lectured in specialist course on Batch Reactor Technology, Leeds University, UK, 1992.

Course Leader, Specialized Course on cyclically Operated Activated Sludge Systems – A Review of Sequencing Batch Reactor Technology, Toronto, Canada, July 1993.

Honorary Reader, School of Civil Engineering, University of Leeds, 1997 –

Lectured in Aqua Enviro Specialist Seminars on Sequencing Batch Reactor Technology, Dublin, 2001.

SELECTED CONSULTING HISTORY:

Wastewater Purification for Israel (WWP) Ltd

Bisasco Pty. Limited (Australia)

Environmental Solutions International Ltd. (Australia)

Schueffl and Forsthuber Consulting (Austria)

Atal Engineering Ltd. (Hong Kong)

McKinley Paper Company (USA)

P.J. Hannah Equipment & Sales (Canada)

City of Raanana (Israel)

Aqua Enviro (England)

Eastern Environmental (Australia)

Southern Environmental (USA)

Environmental Dynamics Inc. (USA)

Transfield Pty. Ltd. (Australia)

Bathurst City Council, (Australia)

Barwon Water (Australia)

Sydney Water Ltd. (Australia)

Delcan Engineering Ltd. (Canada)

Brown and Root (England)

Nestle (Mexico)

New South Wales Department of Public Works (Australia)

Ontario Clean Water Agency (Canada)

City of Bradford – West Gwillimbury (Canada)

Regional District of Nanaimo (Canada)

Duke Point Development Corporation (Canada)

Maple Reinders Ltd. (Canada)

AQsa (El Salvador)

Mid Valley Dairy (USA)

Maple Engineering and Construction Ltd. (Canada)

Coca-Cola (Croatia, Bosnia H.)

Hunter Valley Dairy Co-op (Australia)

Transenviro Inc. (USA)

Babcock Water Engineering Ltd. (England)

Wabag GmbH (Germany)

SFCU GmbH (Austria)

BWT GmbH (Austria)

Mannessmann GmbH (Germany)

Phillip Mueller GmbH (Germany)

Ondeo-Degremont (England)

Eurowasser GmbH (Germany)

Northumbrian Water (England)

Daitchi Development Incorporation (Korea)

Nadeau Poultry (Canada)

Cheesboro Ponds (USA)

Portage Catawba Utilities (USA)

Tullahoma Utilities (USA)

Dundee Utilities (USA)

JR Warford & Co. (USA)

GHJ International Inc. (Canada)

Zorch International Inc. (Canada)

Allied Engineering (Australia)

Idaho Potatoes Inc. (USA)

Western Australia Water Authority (Australia)

Aware Inc. (USA)

Austgen Biojet Wastewater Systems (USA/Australia)

Biojet Industries Pty. Ltd. (Australia)

Biojet International Pty. Ltd. (Australia)

Charlotte Pass Village P/L (Australia)

Transfield, Inc. (USA)

Ondeo-Degremont S.A. (France)

WA21 Alliance (Australia)

Wyeth Nutritionals (Ireland)

Kingsford Environmental Group (Hong Kong)

Kumpulan Ikhtisas Projek (M) SDN BHD (Malaysia)

Toba Pulp Lestari (Indonesia)

Sepakat Setiap Perunding Sdn Bhd (Malaysia)

Lower Murray Water (Australia)

Tenix Alliance Pty Ltd (Australia)

GS Paper and Packaging Sdn Bhd (Malaysia)

Riau Andalan Pulp and Paper, Kerinci (Indonesia)

1999 – Date **BISASCO Pty Limited, Australia.**
Wastewater Treatment Consultants.
Position: Managing Director

Specialist consulting services for project management of major activated sludge SBR treatment facilities, including design, nutrient removal, renovated water reuse, equipment selection, start up and commissioning, operation, operator training, process assessment, design audit, rehabilitation, upgrade, process modification of failed SBRs, energy optimization, contract liability assessment, mitigation of filamentous sludge bulking control and general process and operational troubleshooting.
Notable SBR facilities include Woodman Point-160,000 m^3/d (Australia), Winmallee-57,000 m^3/d (Australia), Black Rock-210,000 m^3/d (Australia), Bangkok Phase II-150,000 m^3/d (Thailand), Cork-

170,000 m3/d (Ireland) and Jelutong-585,000 m^3/d (Malaysia). Multi basin multi module facilities designed for continuous acceptance and discharge and multi decanter operation in each basin.
Appointed to advise the Government of Malaysia on the Jelutong project since June 2002 for the largest SBR facility in the world (ongoing).
Appointed as specialist consultant for the 200,000 m3/d Yen So project (Vietnam) in 2007 (ongoing).
Specialist consulting for conventional activated sludge facilities relative to major paper mill industry facilities in Indonesia [Toba Pulp and Riau Andalan Pulp and Paper (200,000 m3/d)]

1985 - 1999 **TRI TECH. INC., USA**
Specialists in Cyclic Activated Sludge Technologies.

Position: President and Chief Executive Officer

Research, Development and Marketing of Cyclic Activated Sludge Technologies. Licensor of Specialised Cyclic Activated Sludge Technologies.
Preparation of preliminary technical design proposals, costing ,etc. to establish process feasibility.
Preparation of detailed technical design proposals, flow schemes, mass balances, brief and detailed specifications, lay outs, outline drawings of process related structures, process and instrumentation drawings.
Process equipment selection and sizing.
Critical review of consultants detailed technical design and engineering documentation.
Client representation to promote specified technology and to give expert credibility to that technology.
Co-operation with client selected local consultants relative to special country costs and standards.
Engineering scale-up and design optimisation.
Design of batch reactor wastewater treatment technology and associated specialist consulting.
Design of hybrid anaerobic wastewater treatment technology.
Development of wastewater treatment methodology for selected industries.
Research and development of specialist wastewater treatment technology.
Specialist engineering for biological nitrification and denitrification and phosphorus removal in generic batch activated sludge facilities.
Design of aeration systems.
Design of biological selectors.
Design of effluent removal decanting equipment.
Project engineering and services management.
Project commissioning, operator training and plant operation.
Wastewater treatment product development.
UV catalysed treatment of residual COD.

Specialist evidence in arbitration and litigation.

1985 - 2000 **INTER TECH, INC., USA.**
Wastewater Treatment Service Corporation

Position: President

Microbiological examination of filamentous activated sludge in batch reactor systems.
Activated sludge toxicity testing.
Process data analysis.
Facility start up, commissioning and operation.
Treatment process audit and troubleshooting.
Design and conduct of wastewater treatability studies and related treatment facility design.

Mar 1993 - Feb 1995 **TRANSENVIRO, INC., USA.**

Specialist Wastewater Engineering Corporation

Position: Director of Engineering Research and Development

Contracted support from Inter Tech, Inc. and Tri Tech, Inc.
General marketing and promotion of cyclic activated sludge systems.
Technical training and general education of sales agents.
International sales and marketing.
Generation and execution of engineering policy.
Project management.
Project commissioning and operator training.

1989 - Mar 1993 **Position:** Director of Engineering Research and Development, Company Director and 50% Shareholder

Contracted support from Inter Tech, Inc. and Tri Tech, Inc.
General marketing of cyclic activated sludge systems.
Technical training and general education of sales agents.
International sales and marketing.
Generation and execution of engineering policy.
Project management.
Project commissioning and operator training.

1985 - 1989 **TRANSFIELD, PTY. LTD., AUSTRALIA.**

Position: Executive Vice President, Engineering

Contracted support through Inter Tech Inc. and Tri Tech Inc. for:

- Invention and Development of Cyclic Activated Sludge System (CASS).
- Specialist environmental engineering consulting relative to nutrient removal processing in cyclic activated sludge systems.
- Preparation of process and equipment patents.
- Sales and marketing support activities.

- Generation and execution of engineering policy. Project management, commissioning and support activities.

1982 - 1985 **VANDERBILT UNIVERSITY, NASHVILLE, TENNESSEE, USA.**

Position: Visiting Faculty Member, Environmental Engineering Department

Research programs, in association with Distinguished Professor W W Eckenfelder, on a variety of wastewater engineering topics.
Studies into the mechanisms responsible for bulking sludge in activated sludge systems for both high and low strength wastewaters.
Development of engineering solutions designed to minimise the occurrence of bulking sludge.
Studies on cost effective operation of conventional activated sludge plants using very limited oxygenation controlled by oxidation reduction potential.
Development of design models for complete mix and conventional activated sludge plants incorporating degradable fraction of influent solids, active fraction of biomass and biosorption effects.
Studies on bio sorption (enzymatic transfer of soluble organics) and its applicability to more effective wastewater treatment plant design and operation.
Determination of oxygen transfer efficiency of diffused aeration equipment in mixed liquor using off gas, chemical and hydrogen peroxide associated techniques.
Preparation and analysis of scale-up techniques for diffused aeration systems.
Specialist consultant for preparation and analysis of evidence for litigation proceedings relative to various wastewater treatment installations in the U.S.
Treatability studies on various toxic pollutants and high strength organic wastes re full scale plant design.

1982 - 1985 **AWARE INC. NASHVILLE, TENNESSEE, USA.**

Position: Consultant

Specialist water and wastewater process engineering services.

1981 - 1984 **AUSTGEN BIOJET WASTEWATER SYSTEMS, AUSTRALIA/USA.**

Position: Consultant - Inventor

Research, development, process design, installation and operational details for Intermittent Cycle Extended Aeration System (abbrev. ICEAS-Australian Patent 560510).

Specialist engineering services for adaptation of Australian abbrev. ICEAS technology to US conditions.

1975 - 1984 **CONSULTANT TO:**

Biojet Industries, Pty Ltd. Sydney Australia
Biojet International Pty Ltd. Sydney Australia
Colzar Holdings Pty Ltd. Sydney Australia

Innovator of variable volume activated sludge technology to specific intermittent cycle extended aeration system (abbrev. ICEAS) configuration.

Research and development of Intermittent Cycle Extended Aeration System (abbrev. ICEAS)

Facility process design, installation start-up, testing, troubleshooting, etc. of Intermittent Cycle Extended Aeration System (abbrev. ICEAS).

1976 - 1982 **STATE POLLUTION CONTROL COMMISSION, SYDNEY, AUSTRALIA.**

Position: Senior Investigating Engineer

1975 - 1976 **Position:** Senior Technical Services Officer

Planning and supervision of a multi-disciplinary staff with expertise in hydrology, engineering, statistics, computer techniques, microbiology, water and water pollution scientific fields. Investigations of an applied research nature, on pollutional effects on receiving waters and on treatment processes, to provide information and guidelines for the implementation of water pollution control legislation in New South Wales.

Principal involvement included:

- Laboratory treatability studies on specific wastes in order to establish kinetic data: - animal manure wastes, cake and bakery wastes, abattoir wastes, tannery (chrome and vegetable) wastes, citrus juice wastes, dairy wastes, septic tank effluent and sludge wastes.

- Design of and assessment of designs for industrial and municipal wastewater treatment facilities.

- Preparation of license conditions for approved works which discharge wastes to receiving waters. Assessment of monitoring data related to renewal of licenses for these works.

- Studies on circumstances which affect sludge settling in the activated sludge process.

- Studies on the efficacy of maturation ponds as a final stage of sewage treatment, including hydraulic studies using tracer techniques to formulate pond design criteria which maximises plug flow hydraulics. A dispersion model was fitted to describe die-off and mixing.

- Specific studies on important rivers and estuaries in order to set realistic water quality objectives in keeping with a policy of optimal beneficial use of those waters. Studies included the assessment of eutrophication potential of certain rivers stressed by progressive development. Incorporated system mathematical modelling, re-aeration, algal growth potential and urban run-off studies.

- Tracer studies to assess the impact on estuarine water quality of specific wet weather inputs (i.e. sewer overflow and urban run-off).

- The preparation of guidelines for the use of package wastewater treatment plants.

- Evaluation of the quality of effluent from all municipal sewage treatment works in New South Wales, assessment of these works regarding the need for augmentation.

- Evaluation of performance criteria for package treatment systems.

- Review of chlorination practice as a means of disinfection.

- Preparation of guidelines for the disposal of wastewaters by land application.

- Tracer studies to evaluate the residence and dispersion of pollutants discharged by a major steelmaking complex and their effect on water quality in Port Kembla Harbour.

- Studies on the nature of sediments in a previously polluted estuary (Parramatta River).

- Preparation of industrial effluent discharge criteria.

- Formulation of specific water quality monitoring programs (event oriented).

- Preparation of guidelines for the management of wastes from intensive animal production.

- Assessment of water pollution associated with coal mining areas in New South Wales.

- Formulation of the classification of all waters in New South Wales in accordance with beneficial uses of those waters.

- Determination of effective design practice to minimise sewer overflow events.

- Evaluation of appropriate nutrient removal technology for discharges to sensitive receiving waters.

- Studies on transient behaviour of plug flow and intermittently aerated activated sludge systems - model development.

- Development of stratified aerated lagoon treatment systems for tannery wastes, animal wastes, wool scour wastes.

- Troubleshooting in municipal and industrial wastewater treatment systems, recommendations re augmentation programs.

- Assessment of regional sewage treatment strategies including assessment of major submarine out fall proposals.

- Development of guidelines for high and low rate effluent land disposal systems.

- Development of criteria and guidelines for disposal and re-use of treated effluents.

- Biological nitrification-denitrification studies in full scale activated sludge systems.

- Assisting industry with specific treatment problems, e.g. winery and stillage waste treatment and/or disposal in the Murrumbidgee Irrigation Area, animal waste collection and treatment, tannery waste treatment, wool scour waste treatment.

- Application of cyclically aerated activated sludge systems as a means of controlling sludge bulking for the treatment of highly degradable wastewaters.

- Studies on biosorption using aerobic and anoxic activated sludge for domestic wastewater treatment in conventional plug flow systems.

- Biological phosphorus removal in full-scale systems.

1974 - 1975 Management of the Commission's Water and Wastewater Laboratory

Published Reports:

- Processes for the control of pollution in New South Wales.

- Guidelines for the use of package sewage treatment works.

- The impact of wet weather conditions on the water quality of the Lane Cove River.

1968 - 1975 NEW SOUTH WALES DEPARTMENT OF PUBLIC WORKS, SYDNEY, AUSTRALIA.

Position: Research Chemical Engineer

Design of systems for water treatment (flocculation, sedimentation, filtration, softening, chlorination, fluoridation, iron removal) of municipal and institutional water supplies combined with experience in preparation of specifications, tendering contractual and plant acceptance procedures. From 1969 to 1975 applied research on plant and wastewater treatment involving both plant and laboratory scale experimentation.

Water Treatment:

- Studies on inlet arrangement of rectangular settling tanks as related to settlement efficiency and hydraulic residence time distributions. Effects of temperature variation included.

- Studies on the treatment of waters of high turbidity using polymer flocculation aids. Removal of colour in low turbidity waters.

- Pilot scale studies on tube and plate (lamella) sedimentation.

- Studies on mixing in long pipelines for fluoridation of municipal water supplies.

- Examination of ideal mixing conditions in municipal swimming pools to establish equivalent turnover periods for various inlet, outlet and filtration arrangements.

Wastewater Treatment:

- Setting up of testing facilities, at a 7500 m^3/d trickling filter works, for unit optimisation studies:

    - The evaluation of sewage treatment processes and the assessment of industrial waste discharges for combined treatment.

    - Design and start-up of municipal wastewater treatment facilities, rectification of malfunctioning systems.

    - Studies on low rate trickling filtration in order to determine basic loading criteria and parameters which most affect the biological process, including nitrification studies.

    - Studies on super rate trickling filtration using ordered geometrical plastic packing for the treatment of raw comminuted and primary settled sewage.

    - Studies on the thickening of primary sludge during sedimentation by sequenced sludge withdrawal, and its effect on the efficiency of heated anaerobic sludge digestion.

    - Studies on the rheological characteristics of sewage sludge (for the design of sludge pumping systems).

    - Evaluation of sand filtration of secondary sewage effluent, including up flow filtration, for tertiary treatment.

    - Evaluation of the Banks pebble bed clarifier for the alleviation of overloaded secondary settlement tanks.

    - Studies on the activated sludge process, kinetics, nitrification, denitrification, sludge settlement characteristics to enable the establishment and maintenance of stable biological systems. Particular emphasis placed on extended aeration systems,

laboratory and plant scale, operated as cyclically aerated fed-batch systems.

- Development of suitable process and operational criteria for cyclically aerated systems to maximise biological denitrification and to inhibit the production of biomass of poor settleability associated with low alkalinity waters.

- Design of prototype 1000 m^3/d cyclically aerated deep rectangular configuration fed batch activated sludge system (Intermittently decanted extended aeration).

- Determination of specific criteria for surface skimming effluent decantation in fed batch cyclically aerated systems.

- Studies on mixing phenomena in stirred tanks for both Newtonian and non-Newtonian fluids.

- Assessment of oxygen transfer efficiency of aeration equipment in activated sludge systems.

Publication and Reports Unpublished

An evaluation of the Banks pebble bed clarifier.

Upward flow sand filtration of sewage works effluents.

A study of low and high rate biological filtration for domestic wastewater treatment.

A study of sludge thickening by programmed sludge withdrawal and its effect on anaerobic sludge digestion at Bathurst wastewater treatment works.

A study of the Pasveer intermittent extended aeration process including nitrification and denitrification.

Effluent withdrawal studies for the prototype 4000 person extended aeration unit constructed at Bathurst wastewater treatment works.

Published

Basic rheological considerations of liquids as applied to sewage sludge.

1959 - 1966 **BROKEN HILL PROPRIETARY LTD, NEWCASTLE, AUSTRALIA.**

Position: Staff Trainee to Graduate

Quality control laboratory analyses, by both wet and dry methods, of raw materials, by-products, gases and finished products associated with a major integrated tonnage oxygen steelworks. Water analyses and plant scale efficiency studies of gas cleaning operations such as gas scrubbers, cyclones and electrostatic precipitators. Pilot scale pyrometallurgical research on the production of low carbon ferro-

manganese in a fuel fired rotary furnace. Model studies on vortex mixing for the dissipation of exothermic heat generated during the production of ferro-silicon. Investigation to determine on the feasibility of calcium carbide production, using a shaft furnace and shell torrodial burner.

Familiarisation with the many operations which together constitute a steelworks complex the most important being open hearth and basic oxygen steel production, blast furnace operation, tonnage oxygen production, coke ovens and by-products production, sinter plant operation and blast furnace gas cleaning and interrelated air and water pollution aspects.

SELECTED TECHNICAL PAPERS:

1. Development of the Pasveer extended aeration process in New South Wales. Co-authored with J. A. Batty, and R. G. Clarke, Shire and Municipal Record. 66, 608, November 1974.

2. The use of package sewage treatment plants in New South Wales. Co-authored with J. J. Wright. Proc. Symposium on Packaged Wastewater Treatment at the University of New South Wales, Editor D. Barnes, 27 January 1977.

3. Intermittent operation of the extended aeration process for small systems. Proc. 50th Water Pollution Control Federation Conference, Philadelphia, 1977 and published in Journal of Water Pollution Control Federation, 51, 2, 274, 1979.

4. Intermittent extended aeration design principles. Shire and Municipal Record. 70, 7 332, 1978.

5. Operation and management of small wastewater treatment plants. Co-authored with D. Barnes and F. Wilson. Proc. Australian Water and Wastewater Conference, Canberra, September 1977 and published in Shire and Municipal Record, 1978.

6. Single vessel activated sludge treatment for small systems. Process Biochemistry 13, 6, 19, 1978 and 13, 7, 16, 1978.

7. Treatment of wastewater from caravan parks. Co-authored with D. Barnes. Proc. Australian Water and Wastewater Association Summer School, Hobart, 1978; Published in Municipal Engineering in Australia, 5, 2, 23, 1978.

8. Pasveer channel design principles. Water, 5(4), 22-25, 1978.

9. Single vessel intermittently operated activated sludge for nitrification-denitrification. Proc. 51st Water Pollution Control Federation Conference, Anaheim, 1978.

10. Intermittent single vessel or conventional continuous activated sludge - economic considerations. Proc. 52nd Water Pollution Control Federation Conference, Houston, 1979.

11. Problems of liquid waste disposal from animal sale yards. Co-authored with D. Barnes. Proc. International Association on Water Pollution Research Conference, Hamilton, New Zealand, 15-18 May 1979 and published in Progress in Water Technology 1979 - "The Agricultural industry and its Effects on Water Quality".

12. Studies on the efficacy of polishing ponds in New South Wales. Co-authored with J. D. Brown, D. T. Lacey and J. J. Wright. Proc. International Association on Water Pollution Research Conference, Melbourne, Australia, October 1978 - "Developments in land methods of wastewater treatment and utilisation" and published in Progress in Water Technology, 1979.

13. Measurement and analysis of the effects of storm water on the Lane Cove River estuary. Co-authored with P. Bell, J. D. Brown and D. T. Lacey. Proc. Hydrology Symposium, Institution of Engineers, Perth Australia, September, 1979.

14. Road pavement drainage as a source of pollution. Co-authored with J. D. Brown, D. T. Lacey and D. Barnes. Proc. Australian Road Research Board Symposium, Sydney, Australia, May 1979.

15. Nature of pollutants in road pavement drainage. Co-authored with D. Barnes, J. D. Brown and D. T. Lacey. Proc. Australian Road Research Board Symposium, Sydney, Australia, May 1979.

16. Continuous single vessel activated sludge treatment of dairy wastes. Co-authored with D. Barnes. Proc. 87th National American Institute of Chemical Engineers Meeting, Boston, August, 1979; Published in Water, A.I.Ch.E. Symposium Series, 76, 271-277, 1979.

17. Sequentially operated biological systems for bulking sludge control. Co-authored with D. Barnes. Process Biochemistry, 15, 7, 42-48, 1980.

18. Intermittent biological waste treatment systems - Process considerations. Co-authored with D. Barnes and R. L. Irvine: Proc. 73rd American Institute of Chemical Engineers Meeting, Boston, 1980 and published in Water A.I.Ch.E. Symposium Series, 77, 129-136, 1980.

19. Oxygen utilisation rates for continuous feed intermittently decanted activated sludge wastewater treatment plants. Co-authored with D. Barnes. Environmental Technology Letters, 1, 335-244, 1980.

20. Continuous intermittent wastewater treatment systems for municipal and industrial effluents. Co-authored with D. Barnes, Journal Institute Public Health Engineers, 8, 20-25, 1980.

21. Nitrification-denitrification in intermittently aerated activated sludge systems and batch systems. Co-authored with R. L. Irvine, presented at the invitation of the United States Environmental Protection Agency International Seminar on Control of Nutrients in Municipal Wastewater Effluents, San Diego, September, 1980.

22. Intermittently operated activated sludge systems - Australian Practice. Seminar presented at University of California at Davis, 19 September 1980.

23. Non-odorous management and disposal of tannery wastes. Co-authored with P. McNally and J. J. Wright. Proc. Australian Water and Waste Association Conference Perth, April, 1981.

24. Low cost monitoring of wastewater treatment plant effluents. Co-authored with D. Barnes, P. J. Bliss, T. Tan. Shire and Municipal Record 124-128, June, 1981.

25. Nitrogen control in intermittently decanted and aerated activated sludge systems. Co-authored with D. Barnes. Process Biochemistry, 17, 35-41, 1982.

26. Cyclically aerated sludge systems for municipal and industrial wastewater treatment. Seminar presented at Georgia Institute of Technology, 1 October 1982.

27. The treatment of domestic wastewaters from small to medium size communities. Co-authored with W. W. Eckenfelder, Proc. Wastewater Treatment Symposium Bogota, Columbia, 10-13 October 1983.

28. Intermittent wastewater treatment systems. Co-authored with D. Barnes and R. Clarke, Chapter 8 in Oxidation ditches in wastewater treatment, Pitmans, London and Marchfield, Mass., 1983.

29. Intermittent biological treatment systems. Seminar presented at University of Notre Dame, 12 October, 1984.

30. Control of sludge bulking in a carbohydrate wastewater using a biosorption contactor. Co-authored with W. W. Eckenfelder and T. H. Flippin. Proc. 39th Industrial Waste Conference, Purdue University, 1984.

31. Flexible modelling of the activated sludge system, theoretical and practical aspects. Co-authored with W. W. Eckenfelder, invited comment IAWPR Conference, Amsterdam, 1984.

32. Activated sludge - State of the Art. Co-authored with W. W. Eckenfelder and T. P. Quirk, Critical Reviews in Environmental Control, CRC Press, Vol. 15, Issue 2, 1985.

33. Comprehensive activated sludge process design, Co-authored with W. W. Eckenfelder and A T Watkins, in Mathematical Models in Biological Wastewater Treatment, Elsevier Press, 1985.

34. Sludge bulking control for highly degradable wastewaters using the cyclic activated sludge system. Co-authored with W. W. Eckenfelder and J. E. Cevallos. Proc. 40th Purdue Industrial Waste Conference Purdue University, 1985.

35. A design approach for plug-flow activated sludge plants treating municipal wastewaters. Co-authored with W. W. Eckenfelder, Proc. Water Pollution Control Federation Conference, Kansas City, October 1985.

36. Design considerations for cyclically operated activated sludge systems treating domestic wastewater. Proc. 41st Annual Industrial Waste Conference, Purdue University, 1986.

37. Floc-loading biosorption criteria for the treatment of carbohydrate wastewaters. Co-authored with W. W. Eckenfelder. Proc. 41st Annual Industrial Waste Conference, Purdue University, 1986.

38. The optimisation of nitrification and denitrification in plug-flow activated sludge systems treating municipal waste streams. Co-authored with P. T. Jarrett and W. W. Eckenfelder. Proc. American Society Civil Engineering Conference, Colorado, 1986.

39. A critical evaluation of microbial product formation in biological processes. Co-authored with W. W. Eckenfelder, invited comment IAWPRC Conference, Rio de Janeiro, 1986.

40. Computer aided control of nitrogen removal in small activated sludge wastewater treatment plants. Co-authored with W. W. Eckenfelder, invited comment IAWPRC Conference, Rio de Janeiro, 1986.

41. Cyclic activated sludge systems for municipal wastewater treatment. Proc. New England Water Pollution Control Association Conference, Boston, January, 1987.

42. Sludge bulking control in cyclically operated activated sludge systems. Proc. California Water Pollution Control Association Conference, San Diego, April, 1987.

43. Anaerobic pre-treatment of high strength wastewater's using a reactive growth support media. Co-authored with W. W. Eckenfelder. Proc. 42nd Annual Industrial Waste Conference, Purdue University, 1987.

44. Nitrogen removal and sludge bulking control in cyclic activated sludge systems. Proc. 61st Ohio Water Pollution Control Conference, Akron, June, 1987.

45. Appropriate technology for municipal sewage treatment for small to medium size communities. Proc. International Symposium on River Pollution Control and Management, Shanghai, China, October, 1987.

46. Floc-load as a design and operating parameter for the control of sludge bulking. Co-authored with W. W. Eckenfelder. Proc. Water Pollution Control Federation Conference, Philadelphia, USA. October 1987.

47. Floc-load as it relates to enzymatic transfer of soluble substrate and sludge bulking control. Co-authored with W. W. Eckenfelder. Wat. Sci. Tech., 20, 11/12, 481-484, 1988.

48. Biological nutrient removal with sludge bulking control in a batch activated sludge system. Co-authored with J. White. Wat. Sci. Tech., 21, 1731-1734, 1989.

49. Activated sludge treatment of high COD food processing wastes. Co-authored with J. White. Proc. Food Processing Waste Conference, Atlanta, USA October, 1988.

50. Nutrient removal and sludge bulking control in a cyclic activated sludge system. Proc. Australian Water and Wastewater Association Conference, Canberra, Australia, March, 1989.

51. Batch reactor treatment of dairy wastewaters. Proc. 44th Industrial Waste Conference, Purdue University, 1989.

52. Cyclically operated activated sludge for nutrient removal and sludge bulking control. Co-authored with J. White. Proc. International Conference on Water and Wastewater, Beijing, China, July 11-15, 1989.

53. Selector design for high COD wastewaters - A Case History. Proc. Industrial Wastes Symposium, Water Pollution Control Federation Conference. San Francisco, USA, 1989.

54. CASS: State-of-the-art batch reactor treatment of dairy wastes. Proc. Food Processing Waste Conference, Atlanta, USA, November 1989.

55. Treatment of printed circuit board wastewaters using activated sludge selector technology. Co-authored with P. Walter. Proc. Hazmacon Conference, Anaheim, California,, 17-19 April 1990.

56. Nutrient removal from a nitro guanidine wastewater using batch reactor technology. Co-authored with I. Sangster. Proc. 45th Industrial Waste Conference, Purdue University, 1990.

57. Simplified biological phosphorus removal in a fed-batch reactor without anoxic mixing sequences. Proc. of International Association of Water Pollution Research and Control, Biological Nutrient Removal Conference (BNR 1), Bendigo Australia, 8-12 July, 1990.

58. Biological phosphorus removal in a fed-batch reactor without anoxic mixing sequences. Co-authored with D. Rigel. Proc. Water Pollution Control Federation Conference. Washington D.C., 7-11 October, 1990 and published in Research Journal WPCF, 63, 3, 248-258, 1991.

59. High rate nitrogen removal from a nitro guanidine wastewater. Co-authored with Y. Bian, I. Sangster and K. Hatfield, Proc. Water Pollution Control Federation Conference. Washington D.C., 7-11, 1990.

60. Coupled phosphorus and nitrogen removal in a fed-batch reactor without anoxic mixing sequences. Proc. International Association of Water Pollution Research and Control International Symposium, Biological approach to sewage treatment process: Current status and perspectives. Perugia, Italy 15-17 October, 1990.

61. The treatment of high strength wastewaters using sequenced selectors in a fed-batch reactor. Proc. Food Industry Environmental Conference. Atlanta, Georgia, 11, November 1990.

62. Nitrogen removal from a nitro guanidine wastewater. Co-authored with Ying Bian. Proc. Australian Water and Wastewater Association Conference. Perth, Australia, 17-22 March 1991.

63. Treatment of a fragrance manufacturing wastewater - A case history. Co-authored with J. Costello. Proc. 46th Industrial Waste Conference, Purdue University, 1991.

64. Fragrance manufacturing wastewater treatment in a cyclic activated sludge system. Proc. 23rd Mid-Atlantic Industrial Waste Conference. University of Pittsburgh, 1991.

65. Treatment of a perfume manufacturing wastewater by co-metabolism with an alcohol substrate. Proc. of 2nd International Conference on Waste management in the Chemical and Petrochemical Industries Toxics Management. New Orleans, Louisiana, USA, June 1991.

66. Combined nitrogen and phosphorus removal in a Cyclic Activated Sludge System without anoxic mixing sequences. Proc. ASCE National Conference on Environmental Engineering. Reno, Nevada, USA, July 1991.

67. The role of the degradation of primary solids in activated sludge plants. Co-authored with W.W. Eckenfelder. Proc. Water Pollution Control Federation Conference, Toronto, Canada, October 1991.

68. To discharge or not to discharge to a POTW. Proc. Food Industry Environmental Conference. Atlanta, Georgia, November 1991.

69. Characterisation and biological treatability of a textile dye-house wastewater. Co-authored with H. Tomas. Proc. 47th Industrial Waste Conference. Purdue University, 1992.

70. The role of pilot testing for the activated sludge process. Co-authored with Eckenfelder, W. W. Proc. 47th Industrial Waste Conference. Purdue University, 1992.

71. Simplified advanced wastewater treatment in a cyclic activated sludge system. Proc. 2nd WEF Asia/Pacific Rim Conference on Water Pollution Control. Yokohama, Japan, June 25, 1992.

72. Enhanced bio-nutrient control using the CASS technology. Proc. Australian Water and Wastewater Association Seminar. Perth, Australia, July 2, 1992.

73. Coupled nitrogen and phosphorus removal in a cyclic activated sludge system. Proc. European Conference Nutrient Removal from Wastewaters. Leeds University, England, September 2, 1992.

74. The cyclic activated sludge system - superior biological reactor technology. Institution of Water and Environmental Management. Swindon, UK, September 9, 1992.

75. Aerobic treatment of food processing wastewaters for phosphorus removal. Proc. Food Industry Environmental Conference. Atlanta, Georgia, November 9, 1992.

76. Activated sludge pilot testing procedures for food processing wastewaters. Co-authored with W.W. Eckenfelder, Proc. Food Industry Environmental Conference. Atlanta, Georgia, November 9, 1992.

77. Full-scale cyclic activated sludge phosphorus removal. Water Science and Technology, 26, 2253. 1992.

78. Oxidation reduction potential for nitrogen and phosphorus removal. Co-authored with Y. Bian, D. Konicki, M. Jogan and R. Engle. Proc. Water Environment Federation Conference. New Orleans, Louisiana USA, September 1992.

79. A case of filamentous activated sludge. Co-authored with D. Uhl and A. Klug. Proc. Water Environment Federation Conference. New Orleans, Louisiana USA, September 1992.

80. Full scale activated sludge treatment of a complex organics wastewater using co-metabolism. Co-authored with J. C. Costello. Proc. Water Environment Federation Conference. New Orleans, Louisiana USA, September 1992.

81. SBR's - Simple biological reactor technology. Proc. Virginia Water Pollution Control Association Seminar. Richmond, Virginia. November 29, 1992.

82. Simplified biological reactor technology for nutrient removal. Co-authored with Bian, Y. Bian, D. Konicki and R. Engle. Proc. Water Environment Association. Ohio, May, 1993.

83. Phosphorus removal from a food manufacturing wastewater. Co-authored with Y. Bian and L. Rintoul. Proc. Industrial Waste Conference, Purdue, 1993.

84. Fed-batch reactor retrofit for nitrogen removal. Co-authored with Y. Bian and M. Sathe. Proc. Water Environment Federation Conference. Anaheim, California, USA October 1993.

85. Activated sludge degradable fraction and digestion procedures for biological phosphorus retention. Co-authored with Y. Bian, D. Konicki and R. Engle. Proc. Water Environment Federation Conference. Anaheim, California, USA, October 1993.

86. Nutrient limitations for anaerobic-aerobic treatment of a food manufacturing wastewater. Co-authored with Y. Bian and L. Rintoul. Proc. Water Environment Federation Conference. Anaheim, California, USA, October 1993.

87. Soluble substrates, fed-batch reactors and industrial wastewater treatment. Co-authored with W. W. Eckenfelder and A. J.Barker. Proc. IAWQ Specialised Conference on Industrial Wastewater Treatment. Athens, Greece, October 1993.

88. Application of the CASS fed-batch reactor to municipal wastewater treatment in Western Europe. Co-authored with A. J.Barker, D. M. V. Aspinwall and N. J. Slater. Proc. BHR Conference, UK, December 1993.

89. Cyclic activated sludge treatment of industrial wastewaters. Co-authored with M. Peters. Proc. Malaysia Conference August, 1994.

90. Nitrogen and phosphorus removal in the cyclic activated sludge system. BNR 2 - Second Australian Conference on Biological Nutrient Removal from Wastewater. Albury, N.S.W., October 1994.

91. Designing for steady state performance with unsteady state loadings. Co-authored with D. Rigel, Y. Bian, D. Konicki and R. Engle. Proc. Water Environment Federation Conference, Chicago, Illinois, October 1994.

92. Fed-batch reactor treatment of industrial wastewater. Co-authored with M. Peters and Y. Bian. Proc. Water Environment Federation Conference, Chicago, Illinois, October 1994.

93. The cyclic activated sludge system for resort area wastewater treatment. Co-authored with N. J. Slater and D. Konicki. Proc. IAWQ Conference - Nicosia, Cyprus, November 1994.

94. Large scale application of cyclically operated activated sludge system technology Proc., POLMET '94, Beijing, China, November 1994.

95. Large scale application of cyclically operated activated sludge technology. Proc. 7th IAWQ International Conference on Design and Operation of Large Wastewater Treatment Plants, Vienna 1995.

96. The use of cyclic activated sludge technology for wastewater treatment in the pulp and paper industry. Co-authored G. Demoulin and A.G. Jäger. Proc. 6th International Conference on Biotechnology in the Pulp and Paper Industry, Vienna 1995.

97. Einsatz von Zyklischen Belebtschlamm-Verfahren zur Abwasserreinigung für Grossanlagen in Mitteleuropa. Co-authored G. Demoulin and J. Timmler. AWT Abwassertechnik, 38-40, 3, 1995.

98. Dynamic mathematical modeling of SBRs with aerated and mixed filling period. Co-authored L. Novak and J. Wanner. Proc. IAWQ Conference on Sequencing Batch Reactor Technology, Munich, Germany, 1996.

99. Co-current nitrification denitrification and biological P- removal in cyclic activated sludge plants by Redox controlled cycle operation. Co-authored G. Demoulin, K. Wutscher and E. Forsthuber. Proc. IAWQ Conference on Sequencing Batch Reactor Technology, Munich, Germany, 1996.

100. Industrial wastewater treatment for reuse. Co-authored M. Peters. Proc. Australian Water and Wastewater Association Water Tech Conference, Sydney, May 1996.

101. Variable volume activated sludge technology. Proc. International Conference on Nutrient Removal, Leeds, England 1996.

102. Aerated denitrification in full-scale activated sludge facilities. Co-authored G. Demoulin and M. Newland. Proc. IAWQ Conference Amsterdam, 1996. Water Science & Technology, 34, 1,487-491, 1996.

103. Cardboard recycle mill wastewater reuse using cyclic activated sludge technology. Co-authored A. Jaeger. Proc. IAWQ Forestry Conference, Vancouver, Canada, 1996.

104. CAST – A unique solution – IAWQ Year Book 1996.

105. Chicken processing wastewater treatment using in-basin parameters for automatic control. Co-authored Y. Milliard. Proc. WEF Conference, Dallas/Ft. Worth, USA, October, 1996.

106. Design and operation of cyclic activated sludge plants-a praxis oriented comparison. Co-authored with G. Demoulin and K. Wutscher. 3rd GVC-Kongress, Wurzburg (FRG), 1996.

107. Parallelbetrieb eines zyklischen und eines konventionellen Belebtschlammsystems auf der Kläranlage Grossarl Co-authored with G. Demoulin and L. Ammerer, Korrespondenz Abwasser, August 1996.

108. Kinetik der Nährstoffentfernung bei zyklischen Belebtschlammanlagen, , Co-authored G. Demoulin and L. Ammerer, Österreichische Wasser- und Abfallwirtschaft, Jg 48, 11/12, 1996.

109. Application and development of cyclic activated sludge technology. Co-authored K. Wutscher and M. Q. Zhu. China Water and Wastewater, 12, 6, 4-10, 1997.

110. South Caboolture WWTP Upgrade – Development construction and operation of a dual basin sequenced batch reactor with feed forward control. Co-authored M. Peters, M. Newland, M. Basterfield, R. Ash, and F. Forrasier. BNR3 Conference, Brisbane, Australia, 1997.

111. Design and operation for optimal use of available carbon for nutrient removal, Proc. International Conference on Biological Nutrient Removal, Leeds, UK 1997.

112. Advanced development of oxidation ditch technology. Proc. Arab Water 98, Cairo, Egypt, April 1998.

113. Application of cyclic activated sludge technology for industrial wastewater treatment. Co-authored K. Wutscher and M. Q. Zhu. China Water and Wastewater 13, 6, 1998.

114. Activated sludge process control using in-basin oxygen related parameters. Proc. 4th International Symposium on Waste Management Problems in Agro-Industries, Istanbul, Turkey, September, 1998.

115. Advancements in cyclic activated sludge technology, IAWQ Yearbook, 24, 1999.

116. Start-up experiences with multi basin cyclic activated sludge technology. Co-authored G. Demoulin and M. Newland. Leeds University Technology Transfer Series, U.K. April, 1999.

117. Zyklische Belebtschlammverfahren – eine moderne Technologie für die weitergehende Nährstoffelimination auf der Kläranlage Neubrandenburg, Co-authored with G. Demoulin. Proc. of ATV Landesgruppentagung und Mitgliederversammlung Neubrandenburg, 8/9 June 1999

118. Cyclic aerobic, anoxic, anaerobic treatment plant scale-up considerations and large scale performance. Co-authored G. Demoulin. 7th international conference of the Israel Society for Ecology and Environmental Quality Sciences, Jerusalem, Israel June, 1999.

119. Simultaneous nitrification denitrification in large full-scale carbon limited cyclic activated sludge reactors. Co-authored with T. Brown, G. Demoulin and G.M. Goronszy. Proc. Wastewater Treatment Standards and Technologies to meet the Challenges of the 21st Century, CIWEM and Aqua Enviro Technology Transfer, Millennium Conference, 4 – 7 April 2000.

120. Cyclic activated sludge technology replaces conventional treatment systems – First operation experiences in Europe. Co-authored with S. Tattersall and G. Demoulin. Proc. Wastewater Treatment Standards and Technologies to meet the Challenges of the 21st Century, CIWEM and Aqua Enviro Technology Transfer, Millennium Conference, 4 – 7 April 2000.

121. . Cyclic activated sludge technology-Recent operation experiences with a 90000 pe plant in Germany. Co-authored with G. Demoulin and A. Ruediger. Proc. Second Intl. Symp. on SBR Technology. Narbonne, July, 2000.

122. Sequencing batch reactor technology. IWA Scientific and Technical Report No 10. Co-edited with P.A. Wilderer and R.L. Irvine, February, 2001.

123. Cyclic aerobic, anoxic, anaerobic, treatment plant scale-up considerations and large-scale performance. Co-authored with G. Demoulin and M. Newland. Proc. 2nd Biennial Aqua Enviro-CIWEM Conference on Management of Wastewaters. Ed. By N.J.Horan. Edinburgh, April, 2002.

124. Influence of on-line OUR control on operation costs of cyclic treatment plants. Co-authored with G. Demoulin. Proc. 2nd Biennial Aqua Enviro-CIWEM Conference on Management of Wastewaters. Ed by N.J.Horan. Edinburgh, April, 2002.

125. Settling Considerations in SBRs. Co-authored with N.J. Horan. Proc. IWA SBR3 Conference, Noosa Heads, Australia. 2004.

126. Control strategies for minimizing bulking and foaming in denitrifying SBRs. Co-authored with M. Newland, G. Demoulin and V. Santa Cruz. Aqua Enviro Conference on Foaming and Bulking of Activated Sludge-Problems and Solutions. Ed. by N.J.Horan. Leeds, May, 2003.

127. The influence of on-line oxygen supply and demand in denitrifying SBRs. Co-authored with M. Newland and G. Demoulin. Proc. 2nd CIWEM National Conference, Wakefield, September, 2004.

128. Considerations of settling in sequencing batch reactors. Co-authored with N.J. Horan. Proc. 2nd CIWEM National Conference, Wakefield, September, 2004.

129. Utilisation of an equalization pond for optimal operation of a full scale conventional SBR system. Co-authored with A. Dror-Ehre and A. Brenner. Proc. IWA SBR4 Conference, Rome, April, 2008.

130. Proving the Jelutong SBRs. Water 21, 45-47, October, 2008.

131. Practical and Theoretical Aerated Denitrification in the Jelutong Sewage Treatment Plant. In Preparation, 2009

SELECTED TECHNOLOGY REFERENCES WHICH ARE DESIGNED AND OR OPERATED ACCORDING TO THE GORONSZY INVENTION(S) (to 210,000 m3/d)

A. MUNICIPAL

NAME	COUNTRY
Albury	Australia
Amble	UK
Bangkok Phase II	Thailand
Bathurst City	Australia
Black Rock	Australia
Blooming Prairie	USA
Blyth	UK
Bo'ness	UK
Bradford	Canada
Caboolture	Australia
Caledonia	USA
Catawba Island	USA
Chenango	USA
Chia-Yi	Taiwan
City of Sedona	USA
Cleveland	USA
Cork	Ireland
Dalby	Australia
Dienten	Austria
Duke Point	Canada
El Salvador	El Salvador
Fresh Kills	USA
Grossarl	Austria
Hsing Tzu	Taiwan
Kimberling City	USA
Kocevje	Slovenia
Krosno	Poland
Lung Chuang	Taiwan
Marske	UK
McLean Shire	Australia
Lendava	Slovenia
Mechanicsburg	USA
Neubrandenburg	Germany
Nevada City	USA
Potsdam	Germany
Prostejov	Czech Republic

Pu-Li	Taiwan
Put-in-Bay	USA
Gustrow	Germany
Selden Phase ll	USA
Smithfield	USA
Solin	Croatia
Suva	Fiji
Tamworth City	Australia
Thalgau	Austria
Tullahoma	USA
Union City	USA
Village of Dundee	USA
Village of Richwood	USA
Vrhnika	Slovenia
Wallenpaupack	USA
Winmalee Woodman Point	Australia Australia
Wuan chiaw	Taiwan
Yong Kang	Taiwan
Yu-Li	Taiwan
Yuang Shan	Taiwan
Zell am See	Austria
Znojmo	Czech Republic

B. INDUSTRIAL

NAME	**COUNTRY**
Capel Vale	Australia
Coburg	USA
Coca Cola	Croatia
Coca Cola	Boznia Herzanogovia
Duke Point	Canada
Fresh Kills	USA
Hadco Cooperation	USA
Kidron Swiss Cheese	USA
Lagermax	Austria
McKinly Paper	USA
Mid Valley Dairy Co.	USA
Nadeau	Canada
Nestle	Mexico
Nestle	Mexico
Oak Dairy	Australia
Oil Landfill Leachate	USA
Prince Matchabelli	Puerto Rico
Port Douglas	Australia
Prostejov	Czech Republic

Riegel Food	USA
Upstate Milk	USA
Very Fine Products	USA