

## Publications: Jack W Ponton, to May 2008

1. Biofuels: Thermodynamic Sense and Nonsense Proceedings of EMINENT 2 Workshop on 'Energy for a Sustainable Future', University of Pannonia, Hungary, May 2008 (Invited paper, journal submission pending)
2. Multiphase mass transport in mini- and micro-channel microreactors, ChERD **86**, 527-534, 2008 (A Schuster, K Sefiane and JW Ponton)
3. Modelling a novel miniaturised reactor/separator system, J Chem Tech Biot **78**, 342-346, 2003 (A Schuster, R Lakshmanan, JW Ponton and K Sefiane)
4. Simulation and design of a nonadiabatic multiphase microreactor, Int Jl Chemical Reaction Engineering **1**, A45, 1-13, 2003 (A Schuster, R Lakshmanan, JW Ponton and K Sefiane)
5. Experimental and predictive approach for determining wet air oxidation reacton pathways in synthetic wastewaters, Trans IChemE **81**, A, 384-392, 2003 (L.Oliviero, J.Barbier Jr., D.Duprez, H.Wahyu, J.W.Ponton, I.S.Metcalf and D.Mantzavinos)
6. *Tool integration for computer aided process engineering*, in 'Spftware Architectures and Tools for Computer Aided Process Engineering', eds B Braunschweig and R Gani, 485-514 Elsevier, 2002 (with ES Fraga, R Gani and SR Andrews)
7. *Web Based System*, *ibid* 515-534 (with IT Cameron)
8. *Wet air oxidation of aqueous solutions of maleic acid over Ru/CeO<sub>2</sub> catalysts*, Applied Catalysis B-Environmental, **35**, 1-12, 2001 (with L.Oliviero, J.Barbier Jr., D.Duprez, H.Wahyu, I.S.Metcalf and D.Mantzavinos)
9. *The Chemical Dimension and Other Challenges in Process Synthesis*, Invited paper at 50th Canadian Chemical Engineering Conference, Montreal, 2000
10. *Process Design, Synthesis and Integration into the 21st Century*, invited plenary paper at PI'99, 1999
11. *The Synthesis of Multistep Process Plant Configurations*, Comp and Chem Eng, **23**, 3, 315-327, 1999 (with J Phimister and ES Fraga)
12. *An Automated Procedure for Multicomponent Product Separation Synthesis*, Comp and Chem Eng **22**, S77-84, 1998 (with E McCarthy and ES Fraga)
13. *A Process Engineering Information Management System Using World-Wide Web Technology*, AIChE Symp Ser **94**, 320, 501-506, 1998 (with SR Andrews)
14. *Observations on Hypothetical Miniaturised, Disposable Chemical Plant*, in 'Microreaction Technology', ed W Erfeld, pp 10-19, Springer-Verlag, 1998
15. *Detecting Inverse Responses in Chemical Processes with Qualitative Simulation* in Publications of the Institute of Numerical Anaysis, CNR Pavia, Italy, ed L Ironi, no 1036, pp 249-255, 1997. (Presented at 11th International Workshop on Qualitative Reasoning, Cortona, June 1997) (with S Case, Q Sheng, and R Bañares-Alcántara)
16. *Epée, a support environment for process engineering software* Comp and Chem Eng **20**, 12, 1399-1412, 1996 (With DJ Costello et al.)

17. *The ECOSSE Control HyperCourse*, Comp and Chem Eng **20**, S1353-1358, 1996 (with CM Merrick)
18. *Artificial Intelligence Techniques in Batch Process Systems Engineering*, in 'Batch Process Systems Engineering', Eds. Reklaitis, Sunol, Rippin and Hortascu, pp 517-528, Springer-Verlag, 1996
19. *Improved control using dynamic process models*, ChERD, **74**, A1, 63-69, 1996 (with PJ Gawthrop)
20. *Design Support Systems for conceptual design*, AIChE Symp Ser 312, **92**, eds Davis, Stephanopoulos and Venkatsubramanian, 1996 (with R Bañares-Alcántara)
21. *Process Systems Engineering: halfway through the first century*, Chem Eng Sci **50**, 24, 4045-4059, 1995 (Invited review for Chem Eng Sci 50th Anniversary issue)
22. *Design specifications for multicomponent distillation*, Proceedings of the IChemE Research Event, **12**, 34-36, 1995 (with E McCarthy)
23. *Nonideal distillation in automated synthesis*, **ibid**, **28**, 83-85 (With TRS Matias and ES Fraga)
24. *Process data manipulation using object editors*, **ibid**, **34**, 101-103 (with MW Spenceley)
25. *Representation of process data using extensible templates*, **ibid**, **39**, 116, 118 (with G Ballinger *et al*)
26. *Developing an Environment for Creative Process Design*, ChERD **72**, A3, 316-32, 1994 (with GH Ballinger, R Bañares-Alcántara, D Costello, ES Fraga, J King, J Krabbe, DM Laing, Rory C McKinnel, N Skilling, MW Spenceley)
27. *Degrees of freedom Analysis in Process Control*, Chemical Engineering Science **49**, 13, 2089-2095, 1994
28. *Pattern recognition to aid clinical diagnosis*, Proceedings of the IChemE Research Event, **83**, 271-273, 1994 (with ZF Cui)
29. *épée: a Process Engineering Software Environment*, Comp and Chem Eng **18**, S283-S287, 1994 (with GH Ballinger *et al*)
30. *The use of multivariable rational functions for nonlinear data representation and classification*, Computers and Chemical Engineering, **10**, 1047-1052, 1993
31. *Alternatives to neural networks for inferential measurement*, Computers and Chemical Engineering, **10**, 991-1000, 1993 (with J Klemeš)
32. *A Hierarchical Approach to the Design of Process Control Systems*, ChER&D **71**, 181-188, 1993 (with DM Laing)
33. *Process Miniaturisation - a Route to Total Environmental Acceptability?*, ChERD **71**, A2, 160-168, 1993 (with R Benson)
34. *Chemical Process Control in the 1990s*, Chemistry and Industry, **9**, 315-318, May 1993
35. *A Hierarchical Method for Line-by-line Hazard and Operability Studies*, Proceedings of IFAC Workshop: 'Interactions between Process Design and Control', London, 1992 (with JM Black)

36. *Concurrent Integrated Design of Processes and Operating Systems*, Proceedings of IFAC Workshop: 'Interactions between Process Design and Control', London, 1992 (with DM Laing)
37. *Neural Networks: some questions and answers*, Journal of Process Control **2**, 3 , 163-165, 1992 (invited review article)
38. *Managing constraints in design: using an AI toolkit as a DBMS*, Computers and Chemical Engineering, **16**, 10/11, 987-1006, 1992 (with A Waters)
39. Использование нейронных сетей для моделирование химико-технологических процессов, (Applications of neural networks for modelling chemical process systems, in Russian), ТОХТ (Theoretical Foundations of Chemical Engineering), XXVI, 1, 1992 (with J Klemeš)
40. *Aplikace neuronových sítí v chemickém inženýrství*, (The application of neural networks in chemical engineering, in Czech), Chemický průmysl **42**, 67, 6-12, 1992 (with J Klemeš)
41. *Artificial Intelligence Techniques in Chemical Process Design*, Proceedings of AIENG'92, Waterloo, Canada, 1992 (with R Bañares-Alcántara)
42. *Simulation of Nonlinear Chemical processes and Control Systems* , in 'Transputers for Real-Time Control', eds Fleming and Irwin, 26-51, Research Studies Press, 1992 (with E Fraga, R McKinnel and N Skilling)
43. *Combining process engineering knowledge with arbitrary models*, Proceedings of the IChemE Research Event, 16, 45-47, 1992 (with MA Kramer)
44. *The development of a laser guided robotic discharge system for filter presses*, **ibid**, 143, 564-566, 1992 (with A Jaffrey and N Macleod)
45. *Systematic construction of dynamic models for phase equilibrium processes*, Computers and Chemical Engineering, **15**, 12, 803-808, 1991 (with P Gawthrop)
46. *Artificial Intelligence in Process Engineering, 1969 to 1991 and the Future: some Pertinent Questions*, Keynote lecture at COPE'91, published in 'Computer Oriented Process Engineering', eds Puigjaner and Espuña, 3-8, Elsevier, 1991
47. *Detailed Dynamic Simulation of Distillation Columns Using Parallel Computers*, **ibid**, 129-134 (with V Vašek and RC McKinnel)
48. *Alternatives to Neural Nets*, Proceedings of PSE'91, Montebello, Canada, 1991 (with J Klemeš)
49. *Systematic Modelling of Processes*, Proceedings of ADCHEM'91, Toulouse, 1991 (with SA MacKenzie, PJ Gawthrop and RW Jones)
50. *Knowledge based flowsheeting* Proceedings IChemE Research Event, 38, 127-130, 1991 (with D Hutton)
51. *Parallelisation strategies for process modelling on MIMD computers*, **ibid**, 42, 143-146 (with ES Fraga and RC McKinnel)
52. *Dynamics and control of equilibrium flash separators*, **ibid**, 37, 239-240 (with S MacKenzie, R Jones and PJ Gawthrop)
53. *Integrated Process Design* invited paper at xvème Conférence Internationale des Arts Chimiques, Group Français de Genie des Procèdes, Paris 1990

54. *AI Applications in the Process Industries*, The Knowledge Engineering Review, **5**, 2 69-95, 1990 (with D Hutton and A Waters)
55. *Nonlinear Process Simulation and Control Using Transputers*, IEE Proceedings, **137D**, 4, 189-196, 1990 (with R MacKinnel)
56. *An Approximate Analytical Solution to the Isothermal Flash Problem*, Chemical Engineering Science **44**, 3, 769-773, 1989
57. *Qualitative Simulation of Fault Propagation in Process Plants*, ChER&D **67**, 407-422, 1989 (with A Waters)
58. *Representing Safety Constraints upon Chemical Plants*, in *Expert Systems Applications* editor Sunil Vadera, 199-214, Sigma Press, Wilmslow, UK, 1989 (with A Waters and PWH Chung)
59. *Real Time Dynamic Simulation Using Networked Computers*, Computers and Chemical Engineering **13**, 1245-1254, 1989 (with EM Johnston, JM Forsyth, A Matheson and FM Rutherford)
60. *Rapid Approximate Vapour-Liquid Equilibrium Calculations*, Computers and Chemical Engineering **11**, 5, 537-541, 1987
61. *Determination of the Path of a Single Particle in a Rotary Kiln*, Paper and video presentation, IChemE Research Meeting, Nottingham, 1987 (with JM Black)
62. *A Two Level Approach to Dynamic Plant and Process Simulation*, Computers and Chemical Engineering **10**, 3, 277-285, 1986 (with V Vašek)
63. *Development of a Dynamic Flowsheeting Program*, IChemE Symposium Series **92**, 55-66, 1985 (with M Aylott and DH Lott)
64. *Dynamic Process Simulation Using Flowsheet Structure*, Computers and Chemical Engineering **7**, 1, 13-17, 1983
65. *The Numerical Evaluation of Analytical Derivatives*, Computers and Chemical Engineering, **6**, 4, 331-333, 1982
66. *Chemical Plant and Process Simulation*, Proceedings of CHISA '81, Prague, Czechoslovakia, 1981 (with V Vašek, invited paper)
67. *Crack Opening Displacement as a Method of Measuring Crack Length in Compact-Tension Specimens*, Journal of Strain Analysis, **15**, 31-35, 1980 (with GMC Lee)
68. *The Estimation of Uncertainty in Complex Process Networks*, Computers in Chemical Engineering, High Tatras, Czechoslovakia, 391-397, 1977 (with RAB Donaldson and WR Paterson)
69. *A Model for Turbulent Transfer Processes at a Solid-Fluid Boundary*, Chemical Engineering Science, **32**, 483-491, 1976 (with N Macleod)
70. *Design of Complex Heat Recovery Systems: Synthesis, Simulation and Uncertainty*, Proceedings of Design Congress '76, 15.1-15.10, IChemE Symposium Series, 1976 (with RAB Donaldson and WR Paterson)
71. *Modelling of Kink Nucleation and Propagation along Steps of Finite Length*, Surface Science **61**, 451-467, 1976 (with JC Angus)

72. *An Interface to a Physical Property Package*, The Chemical Engineer, 760-766, 1975 (with DH Glass)
73. *Computer Simulation of Etching of Diamond Surfaces*, Diamond Research '75, 33-38, IDIB. London 1975 (with JC Angus and TDR Reekie, invited paper)
74. *A Fast Method for the Synthesis of Optimal Heat Exchanger Networks*, Chemical Engineering Science, **29**, 2375-2377, 1974 (with RAB Donaldson)
75. *Application of a Modular Computer Simulation System to the Control of a Reactor Train*, Canadian Journal of Chemical Engineering, **50**, 2, 275-280, 1972 (with PWP Browne and AI Johnson)
76. *Simulation of the Transient Behaviour of Complex Chemical Plants Using a Modular Approach*, Canadian Journal of Chemical Engineering, **49**, 391-397, 1971 (with S Bobrow and AI Johnson)