

Curriculum Vitae

1. Personal details

Name: Vassilios Vassiliadis
Date of Birth: 22/12/1966
Nationality: British and Greek (dual)
Department: Chemical Engineering and Biotechnology
First Appointment: University Assistant Lecturer, 9 January 1995
Present Appointment: University Senior Lecturer (tenured), 1 October 2004

2. Education / Qualifications

- 1984 A' Acropolis Lyceum, Nicosia, Cyprus. Graduated with 19 9/11 out of 20 (distinction).
- 1984 – 1989 National Technical University of Athens. Diploma in Chemical Engineering. Rank 1st out of approximately 180 students. Grade point average 9.56 / 10 (distinction).
- 1989 – 1993 Imperial College of Science, Technology and Medicine. Ph.D. in Chemical Engineering, and Diploma of Imperial College (DIC).
[Thesis: Vassiliadis, V. S., Computational Solution of Dynamic Optimization Problems with General Differential-Algebraic Constraints, PhD thesis, University of London (Imperial College) (1993); supervisors Professors R. W. H. Sargent and C. C. Pantelides].

3. Professional History

- 1987, Cyprus Petroleum Refinery Ltd., Trainee.
- 1989–1993, Centre for Process Systems Engineering, Imperial College, Research Assistant.
- 1993–1994, Chemical Engineering Department, Princeton University, Postdoctoral Research Associate.
[Worked on Interior Point Methods for Nonlinear Optimisation; supervisor Professor C. A. Floudas]
- 1995–2000, Department of Chemical Engineering, Cambridge University, University Assistant Lecturer; appointment starting date: 9 January 1995.
- 2000–2004, Department of Chemical Engineering, Cambridge University, University Lecturer (tenured); appointment starting date: 1 January 2000.
- 2001, Sabbatical leave, time spent in the following academic institutions: The National Technical University of Athens, Greece; Technion University, Israel; University of Valparaiso, Chile; Delivery of graduate course in Mierlo, the Netherlands.
- 2004–to date, Department of Chemical Engineering, Cambridge University, University Senior Lecturer (tenured); appointment starting date: 1 October 2004.
- Visiting Professorship at Universidad Catolica de Valparaiso, Department of Biochemical Engineering, Valparaiso, Chile, 24 July–26 September 2012.
- 2013–2014, Sabbatical leave, time spent in Cambridge: development of new research directions, development of collaboration with Bradford University, launching of a spin-out company (Cambridge Simulation Solutions LTD.), securing a contract with Cambridge University Press for the writing and publication of a textbook on optimisation theory and methods in Chemical Engineering.
- Founder and director of *Cambridge Simulation Solutions LTD.*, 2014-to date.

4. Other Appointments and Affiliations

Membership of professional bodies

1. 1994–1999, Institution of Chemical Engineers U.K. (IChemE). Graduate Member.
2. 1999–2015, Institution of Chemical Engineers U.K. (IChemE). Associate Member (AMIChemE).
3. 1998–2000, American Institute of Chemical Engineers, U.S.A., (AIChE), Affiliate member.
4. 1995–2000, Institution of Chemical Engineers U.K. (IChemE). Member of the subcommittee on Computer-Aided Process Engineering (CAPE).

Peer review activities

1995 – to date: Reviewer of research manuscripts for the following Journals and publishing houses:

1. American Institute of Chemical Engineers Journal
2. Industrial and Engineering Chemistry Research
3. Chemical Engineering Science
4. Annals of Operations Research
5. Computers and Chemical Engineering
6. Transactions of the Institution of Chemical Engineers
7. Optimal Control Applications and Methods
8. Brazilian Journal of Chemical Engineering
9. European Journal of Operational Research
10. Journal of Process Control
11. Biochemical Engineering Journal
12. Automatica
13. John Wiley publications in Chemical Engineering Process Systems topics

2003 – to date: Reviewer of research grant applications for the EPSRC

2012 – to date: Reviewer of research grant applications for the Leverhulme Trust

5. Prizes, Awards and other Honours

- | | |
|-------------|--|
| 1985 – 1988 | Undergraduate Award, Technical Chamber of Greece. 3 awards for the academic years 1985–1986, 1986–1987, 1987–1988. |
| 1984 – 1989 | Undergraduate Award, Greek State Scholarships Institute. 4 awards for the academic years 1984–1985, 1985–1986, 1987–1988, 1988–1989. |
| 1984 – 1989 | Undergraduate Fellowship for overseas Greek students, Greek State Scholarships Institute |
| 1992 | Constantine Economou Highest Graduation Grade Award, awarded by the Senate of the National Technical University of Athens. |
| 1997–2000 | ESSO Engineering Teaching Fellowship award. |

Research / Scholarship**1. List of Publications****Publications: Journals and other Refereed Articles**

1. Pantelides, C. C., Sargent, R. W. H., and V. S. Vassiliadis, "Optimal Control of Multistage Systems Described by High-Index Differential-Algebraic Equations", in *Computational Optimal Control* (R. Bulirsch and D. Kraft, eds.), International Series of Numerical Mathematics, Birkhauser Publishers, Basel, 177–191 (1994).
2. Vassiliadis, V. S., Pantelides, C. C., and R. W. H. Sargent, "Optimization of Discrete Charge Batch Reactors", *Computers and Chemical Engineering*, **18**, Suppl., S415–S419, (1994).
3. Vassiliadis, V. S., Sargent, R. W. H., and C. C. Pantelides, "Solution of a Class of Multistage Dynamic Optimization Problems. Part II — Problems With Path Constraints", *Industrial & Engineering Chemistry Research*, **33** (9), 2123–2133, (1994).
4. Vassiliadis, V. S., Sargent, R. W. H., and C. C. Pantelides, "Solution of a Class of Multistage Dynamic Optimization Problems. Part I — Problems Without Path Constraints", *Industrial & Engineering Chemistry Research*, **33** (9), 2111–2122, (1994).
5. Vassiliadis, V. S., "Application of the Modified Barrier Method in Large-Scale Quadratic Programming Problems", *Computers and Chemical Engineering*, **20**, Suppl., S243–S248 (1996).
6. Vassiliadis, V. S., and C. A. Floudas, "The Modified Barrier Function Approach for Large-Scale Optimization", *Computers and Chemical Engineering*, **21** (8), 855–874 (1997).
7. Vassiliadis, V. S., and S. A. Brooks, "Application of the Modified Barrier Method in Large Scale Quadratic Programming Problems", *Computers and Chemical Engineering*, **22** (9), 1197–1205 (1998).
8. Conejeros R. and V. S. Vassiliadis, "Analysis and Optimization of Biochemical Process Reaction Pathways. Part II: Selection of Reaction Steps for Modification", *Industrial & Engineering Chemistry Research*, **37** (12), 4709–4714 (1998).
9. Conejeros R. and V. S. Vassiliadis, "Analysis and Optimization of Biochemical Process Reaction Pathways. Part I: Pathway Sensitivities and Identification of Limiting Steps", *Industrial & Engineering Chemistry Research*, **37** (12), 4699–4708 (1998).
10. Stergioulas, L. K., Vassiliadis, V. S. and A. Vourdas, "Construction of Quantum States from and Optimally Truncated von Neumann Lattice of Coherent States", *Journal of Physics A — Mathematical and General*, **32** (17), 3169–3178, (1999).
11. Vassiliadis, V. S., Balsa-Canto, E., and J. R., Banga, "Second-Order Sensitivities of General Dynamic Systems with Application to Optimal Control Problems", *Chemical Engineering Science*, **54** (17), 3851–3860, (1999).
12. Smaili, F., Angadi, D. K., Hatch, C. M., Herbert, O., Vassiliadis, V. S., and D. I. Wilson, "Optimisation of Scheduling In Heat Exchanger Networks Subject To Fouling: Sugar Industry Case Study", *Food and Bioproducts Processing*, **77** (C2), 159–164 (1999).
13. See, H. J., Vassiliadis, V. S., and D. I. Wilson, "Optimisation of Membrane Regeneration Scheduling in Reverse Osmosis Networks for Seawater Desalination", *Desalination*, **125** (1–3), 37–54, (1999).
14. Davies, G. M., Seaton, N. A., and V. S. Vassiliadis, "The Calculation of Pore Size Distributions of Activated Carbons from Adsorption Isotherms", *Langmuir*, **15** (23), 8235–8245 (1999).
15. Stergioulas, L.K., Vassiliadis, V.S., and A. Vourdas, "Robust and Optimal Design of Quantum States in Terms of a Few Coherent States", *Turkish Journal of Physics*, (1), 1–8 (2000).
16. Conejeros, R., and V. S. Vassiliadis, "Dynamic Biochemical Reaction Process Analysis and Pathway Modification Predictions", *Biotechnol. Bioeng.*, **68** (3), 285–297 (2000).

17. Balsa-Canto, E., Banga, J. R., Alonso, A., and V. S. Vassiliadis, "Efficient Optimal Control of Bioprocesses Using Second Order Information", *Industrial & Engineering Chemistry Research*, **39**(11), 4287–4295 (2000).
18. Balsa-Canto, E., Banga, J.R., Alonso, A.A., and V.S. Vassiliadis, "Dynamic Optimization of Chemical and Biochemical Processes using Restricted Second-Order Information", *Computers and Chemical Engineering*, **25** (4–6), 539–546 (2001).
19. Stergioulas, L. K., Vassiliadis, V. S., and Vourdas, A., "Optimal Bases of Gaussians in a Hilbert Space: Applications in Mathematical Signal Analysis", *Journal of Applied and Computational Mathematics*, **133**, 601–609, August (2001).
20. Smaili, F, Vassiliadis, V.S. and Wilson, D.I, "Mitigation of Fouling in Refinery Heat Exchanger Networks by Optimal Management of Cleaning", *Energy and Fuels*, **15** (5), 1038–1056, (2001).
21. Balsa-Canto, E., Banga, J. R., Alonso, A.A., and V. S. Vassiliadis, "Restricted Second Order Information for the Solution of Optimal Control Problems using Control Vector Parameterization", *J. Process Control*, **12** (2), 243–255, (2002).
22. Tarantilis, C.D., Kiranoudis, C.T., and V.S. Vassiliadis, "A list based threshold accepting algorithm for the capacitated vehicle routing problem", *Int. J. Comput. Math.*, **79** (5), 537–553, May (2002).
23. Tarantilis, C.D., Kiranoudis, C.T., and V.S. Vassiliadis, "A backtracking adaptive threshold accepting algorithm for the vehicle routing problem", *Systems Analysis Modelling Simulation.*, **42**(5), 631–664, (2002).
24. Smaili, F, Vassiliadis, V. S., and D. I., Wilson, "Long-Term Scheduling of Cleaning of Heat Exchanger Networks: Comparison of MINLP/Outer Approximation based Solutions with a Backtracking Threshold Accepting Algorithm", *Chem. Eng. Res. Des., Trans. IChemE*, **80** (A6), 561–578, September (2002).
25. Smaili, F., Vassiliadis, V.S., and D.I. Wilson, "Optimization of cleaning schedules in heat exchanger networks subject to fouling", *Chem. Eng. Commun.*, **189** (11), 1517–1549 (2002).
26. Lee, D.-S., Vassiliadis, V.S., and J.-M. Park, "List Based Threshold Accepting Algorithm for Zero-Wait Scheduling of Multiproduct Batch Plants", *Ind. Eng. Chem. Res.*, **41** (25), December (2002).
27. Tarantilis, C.D., Kiranoudis, C.T., and V.S. Vassiliadis, "A list based threshold accepting metaheuristic for the heterogeneous fixed fleet vehicle routing problem", *J. Oper. Res. Soc.*, **54** (1), 65–71, January (2003).
28. Chen, T.W.C., and V.S. Vassiliadis, "Solution of general nonlinear optimization problems using the penalty/modified barrier method with the use of exact Hessians", *Computers and Chemical Engineering*, **27** (4), 501–525 (2003).
29. See, H.J., Wilson, D.I., Vassiliadis, V.S., and G.T. Parks, "Design of reverse osmosis (RO) water treatment networks subject to fouling", *Water Sci. Tech.*, **49** (2), 263–270 (2004).
30. Tarantilis, C.D., Kiranoudis, C.T., and V.S. Vassiliadis, "A Threshold Accepting Metaheuristic for the Heterogeneous Fixed Fleet Vehicle Routing Problem", *Eur. J. Oper. Res.*, **152** (1), 148–158, January (2004).
31. Lee, D.S., Vassiliadis, V.S., and Park, J.M., "A Novel Threshold Accepting Meta-Heuristic for the Job-Shop Scheduling Problem", *Comp. Oper. Res.*, **31**(13), 2199–2213, November (2004).
32. Balsa-Canto, E., Banga, J.R., Alonso, A.A., and Vassiliadis, V.S., "Dynamic Optimisation of Distributed Parameter Systems using Second-Order Directional Derivatives", *Ind. Eng. Chem. Res.*, **43**(21), 6756–6765, October (2005).
33. Vassiliadis, V. S., "Two-Dimensional Stock Cutting Rectangle Packing: Binary Tree Model Representation for Local Search Optimization Methods", Special Issue on Operational Research Food Logistics, *Journal of Food Engineering*, **70**(3), 257–268 (2005)

34. Balsa-Canto, E, Vassiliadis, V.S., and J.R. Banga, "Dynamic Optimization of Single- and Multi-stage Systems using a Hybrid Stochastic-Deterministic Method", *Ind. Eng. Chem. Res.*, **44**(5), 1514-1523, March (2005).
35. Chen, T.W.C., and V.S. Vassiliadis, "Inequality Path Constraints in Optimal Control: A finite Iteration Epsilon-Convergent Scheme based on Pointwise Discretization, *Journal of Process Control*, **15**(3), 353-362, April (2005).
36. Constantinou, L., V. Vassiliadis, and R. Gani "Computer-Aided Molecular Design Using a Linear Group Contribution Method for the Prediction of Pure Component Properties: Applications to Solvent Selection", in *Chemical Product Design: Towards a Perspective Through Case Studies*, Ng K.M, Gani R. and Dam-Johansen K. editors , 23, Part I, Chapter 2, Elsevier, (2006).
37. Vassiliadis, V.S., Ahamad, I.S., and Conejeros, R. "Novel Nonmonotone Line-Search Method for Constrained Nonlinear Programming: Algorithmic Concepts and Preliminary Computational Studies", *Ind. Eng. Chem. Res.*, **45**(25); 8270-8281, (2006).
38. Ahamad, I.S., and Vassiliadis, V.S., "Application of a Primal-Dual Interior Point Algorithm Using Exact Second Order Information with a Novel Non-Monotone Line Search Method to Generally Constrained Mimimax Optimisation Problems, *Journal of Engineering Science and Technology*, **3**(1); 11-29, (2008).
39. Lee, M.W., Vassiliadis, V.S., and Park, J.M., "Individual-Based and Stochastic Modeling of Cell Population Dynamics Considering Substrate Dependency", *Biotechnology and Bioengineering*, **103**(5); 891-899, (2009).
40. Ahamad, I.S., Choong, T.S.Y., Yunus, R., Chuah, T.G. and Vassiliadis, V.S., "Dynamic Optimization for Controller Tuning with Embedded Safety and Response Quality Measures", *Pertanika J. Sci. & Technol.*, **19** (2): 397 – 414, (2011).
41. Pogiatzis, T, Ishiyama, E.M., Paterson, W.R., Vassiliadis, V.S. and D.I. Wilson, "Identifying optimal cleaning cycles for heat exchangers subject to fouling and ageing", *Applied Energy*, **89**, 60–66 (2012).
42. Pogiatzis, T, Wilson, D.I., and Vassiliadis, V.S., "Scheduling the cleaning actions for a fouled heat exchanger subject to ageing: MINLP formulation", *Computers and Chemical Engineering*, **39**, 179-185, 6 April (2012).
43. Conejeros, R., Vassiliadis, V.S., Pogiatzis, T.A., "Encoding Binary Arithmetic Operations in Integer Programming Formulations", *Journal of Mathematical Modelling and Algorithms, Journal of Mathematical Modelling and Algorithms in Operations Research*, **13**(2), 143– 167 (2014).
44. Navarro, A.K.W., Vassiliadis, V.S., "Computer algebra systems coming of age: Dynamic simulation and optimization of DAE systems in Mathematica (TM)", *Computers and Chemical Engineering*, **62**, 125-138 (2014).
45. Kaichen, G., Vassiliadis, V.S., "Limitations in using Euler's formula in the design of heat exchanger networks with Pinch Technology", *Computers and Chemical Engineering*, **68**, 123-127 (2014).
46. Pogiatzis, T.A., Vassiliadis, V.S., Mergulhão, F.J., Wilson, D.I., "Choosing When to Clean and How to Clean Biofilms in Heat Exchangers", *Heat Transfer Engineering*, **36**(7-8) 676-684, DOI:10.1080/01457632.2015.954940 (2015).
47. Zhang, D., Dechatiwongse, P., Del-Rio-Chanona, E.A., Hellgardt, K., Maitland, G.C., Vassiliadis, V.S., "Analysis of the Cyanobacterial Hydrogen Photo-Production Process via Model Identification and Process Simulation", *Chemical Engineering Science*, **128**, 130-146, (2015).
48. D. Zhang, N. Xiao, K.T. Mahbubani, E.A. del Rio Chanona, N.K.H. Slater, V.S. Vassiliadis, "Bioprocess modelling of biohydrogen production by *Rhodospseudomonas palustris*: Model development and effects of operating conditions on hydrogen yield and glycerol conversion efficiency", *Chemical Engineering Science*, **130**, 68-78, (2015).

49. E.A. del Rio-Chanona, P. Dechatiwongse, D. Zhang, G.C. Maitland, K. Hellgardt, H. Arellano-Garcia, V.S. Vassiliadis, "Optimal Operation Strategy for Biohydrogen Production", *Industrial and Engineering Chemistry Research*, **54**(24), 6334-6343 (2015).
50. D. Zhang, P. Dechatiwongse, E.A. del Rio-Chanona, G.C. Maitland, K. Hellgardt, V.S. Vassiliadis, "Modelling of light and temperature influences on cyanobacterial growth and biohydrogen production", *Algal Research - Biomass Biofuels and Bioproducts*, **9**, 263-274, (2015).
51. D. Zhang, V.S. Vassiliadis, "Chlamydomonas reinhardtii Metabolic Pathway Analysis for Biohydrogen Production under Non-Steady-State Operation", *Industrial and Engineering Chemistry Research*, **54**(43), 10593-10605, (2015).
52. D. Zhang, P. Dechatiwongse, E.A. Del-Rio-Chanona, K. Hellgardt, G.C. Maitland, and V.S. Vassiliadis, "Dynamic Modelling of High Biomass Density Cultivation and Biohydrogen Production in Different Scales of Flat Plate Photobioreactors," *Biotechnol. Bioeng.*, **112**, 2429-2438, (2015).
53. Wen, Y.W., Wang, M., Cao, Z. Y., Cheng, X.Q., Ching, W.K., Vassiliadis, V.S., "Sparse Solution of Nonnegative Least Squares Problems with Applications in the Construction of Probabilistic Boolean Networks", *Numerical Linear Algebra with Applications*, **22**(5), 883-899 (2015).
54. D. Zhang, E.A. Del-Rio-Chanona, V.S. Vassiliadis, B. Tamburic, "Analysis of Green Algal Growth via Dynamic Model Simulation and Process Optimisation," *Biotechnol. Bioeng.*, **10**, 2025-2039, (2015).
55. Chan, M.S.C., del Rio-Chanona, E.A., Fiorelli, F., Arellano-Garcia, H., Vassiliadis, V.S., "Construction of Global Optimization Constrained NLP Test Cases from Unconstrained Problems", *Chemical Engineering Research and Design*, **109**, 753 – 769, (2015).
56. Ghodake, G. S., Vassiliadis., V. S., Choi, J.-H., Jang, J., Lee, D. S., "Facile synthesis of gold nanoparticles by amino acid asparagine: selective sensing of arsenic", *J. Nanosci. Nanotechnol.* **15**(9), 7235 – 7239, (2015).
57. D. Zhang, M. Wan, E.A. Del-Rio-Chanona, J. Huang, W. Wang, Y. Li, and V.S. Vassiliadis, "Dynamic Modelling of Haematococcus pluvialis Photoproduction for Astaxanthin Production in Both Attached and Suspended Photobioreactors," *Algal Res.*, **13**, 69-78, (2016).
58. del Rio-Chanona, E.A., Zhang, D., Vassiliadis, V.S., "Model-based real-time optimisation of a fed-batch cyanobacterial hydrogen production process using economic model predictive control strategy", *Chemical Engineering Science*, **142**, 289-298, (2016).
59. Li, B., Nguyen, V.H., Ng, C.L., del Rio-Chanona, E.A., Vassiliadis, V.S., Arellano-Garcia, H., "ICRS-Filter: A Randomized Direct Search Algorithm for Constrained Nonconvex Optimization Problems", *Chemical Engineering Research and Design*, **106**, 178-190, February, (2016).
60. del Rio-Chanona, E.A., Fiorelli, F., Vassiliadis, V. S., "Automated Structure Detection for Distributed Process Optimization", *Computers and Chemical Engineering*, **89**, 135 – 148 (2016).
61. Scott, F., Conejeros, R., Vassiliadis V.S., "Constrained NLP via Gradient Flow Penalty Continuation: Towards Self-Tuning Robust Penalty Schemes", *Computers and Chemical Engineering*, **101**, 243–258 (2017).
62. del Rio-Chanona, E.A., Bakker, C., Fiorelli, F., Paraskevopoulos, M., Scott, F., Conejeros, R., Vassiliadis, V.S., "On the Solution of Differential-Algebraic Equations through Gradient Flow Embedding", *Computers and Chemical Engineering*, **103**, 165–175 (2017).

Refereed conference proceedings

1. Wilson, D. I., and V. S., Vassiliadis, “Mitigation of Refinery Fouling by Management of Cleaning”, in Proceedings of: Mitigation of Refinery Fouling by Management of Cleaning, Proc. Engineering Foundation Conference on Mitigation of Fouling in Heat Exchangers, Lucca, Italy, 1997. Begel House Publishers (1999).
2. Wilson, D.I. and Vassiliadis, V.S., “Mitigation of Refinery Fouling by Management of Cleaning”, in Understanding Heat Exchanger Fouling and its Mitigation, eds. Bott, T.R., Melo, L.F., Panchal, C.B. and Somerscales, E.F.C., publ. 1999 Begell House, NY, 299–308 (1999).
3. See, H. J., Vassiliadis, V. S., and D. I. Wilson, “Optimal Regeneration Scheduling for Reverse Osmosis Membranes in Water and Wastewater Treatment”, CCWI99 Conference, Exeter, September 1999, in Water Industry Systems: Modelling and Optimization Applications, 2, Savic, D. A., and Walters G. A. editors, publ. Research Studies Press, Baldock, 393–405, (1999).
4. Eva Balsa-Canto, Julio R. Banga, Antonio A. Alonso and Vassilios S. Vassiliadis, “Dynamic Optimization of Chemical and Biochemical Processes using Restricted Second Order information” In: European Symposium on Computer Aided Process Engineering-10. Series: Computer-Aided Chemical Engineering, 8. Edited by: S. Pierucci. Elsevier, (2001).
5. See, H.J., Vassiliadis, V.S. and Wilson, D.I., (2000) “Integrated Design of Reverse Osmosis Membrane Water Treatment Processes”, Proc. Chemeca 2000, Perth, WA., publ. IChemE Australia, (2000).
6. Smaili, F., Vassiliadis, V.S. and Wilson, D.I., “The Environmental Impact of Fouling: Minimising Energy Consumption in Large Heat Exchanger Networks”, Proc. Chemeca 2000, Perth, WA., publ. IChemE Australia, (2000).
7. See, H.J., Vassiliadis, V.S. and Wilson, D.I., “Integration of Maintenance and Operation into the Design of Reverse Osmosis Membrane Networks” in Membrane Technology in Water and Wastewater Treatment (P. Hillis ed.), publ. Royal Society of Chemistry, Cambridge, 258–259, (2000).
8. Wilson, D.I., Vassiliadis, V.S., and F. Smaili, “Mitigating fouling at the plant scale by strategic cleaning: Potential, pitfalls, and needs”, Heat Exchanger Fouling. Fundamental Approaches and Technical Solutions, (eds. H. Mller-Steinhagen, M. R. Malayeri and A.P. Watkinson), Publico Publications, Germany, 325–332 (2001).
9. Smaili, F., Vassiliadis, V.S., and Wilson, D.I., “Scheduling of heat exchanger network cleaning in refinery heat exchanger networks”, International Conference on Mitigation of Heat Exchanger Fouling and its Economic and Environmental Implications, BANFF, Canada, Jul. 1999, Bott, T.R., and Panchal, C.B., Eds., Proceedings of an International Conference on Mitigation of Heat Exchanger Fouling and its Economic and Environmental Implications, Begell House, INC., 292–300, (2001).
10. See, H.J., Wilson, D.I., Vassiliadis, V.S., and G.T.P. Parks, “Design of reverse osmosis (RO) water treatment networks subject to fouling”, Proc. IWA Conference on Scaling and Corrosion in Water and Wastewater Treatment Systems, Cranfield, UK, (2003).
11. Hadjiandreou, M.M., Conejeros, R., Vassiliadis, V.S., and Wilson, D.I., “Long-term HIV dynamics: Mathematical modelling and optimal control”, Proc. Of the 2008 Int. Conf. on Bioinformatics and Computational Biology, BIOCAMP 2008 (2008).
12. Li, L., Jiang H., Ching, W.-K., and Vassiliadis, V.S., “Metabolite Biomarker Discovery For Metabolic Diseases By Flux Analysis”, Proceedings of the 2012 IEEE 6th International Conference on Systems Biology (ISB), Xi’an, China, August 18–20 (2012). *Best Paper Award ISB2012*.
13. Pogiatzis, T., Ishiyama, E.M., Paterson W.R., Vassiliadis, V.S., Wilson, D.I., “Identifying optimal cleaning cycles for heat exchangers subject to fouling and ageing”, Conference on Sustainable Thermal Energy Management in the Process Industries (SusTEM), Newcastle upon Tyne, England, November 2-3, 2010, Applied Energy, 89(1), 60-66 (2012).

14. Li, L., Jiang, H., Qiu, Y., Wai-Ki, C., Vassiliadis V.S., “Discovery of metabolite biomarkers: flux analysis and reaction-reaction network approach”, 6th International Conference on Computational Systems Biology (ISB) Location: Xian, China, August 18-20, 2012, BMC Systems Biology 7(2), S13 (2013).

Articles in books

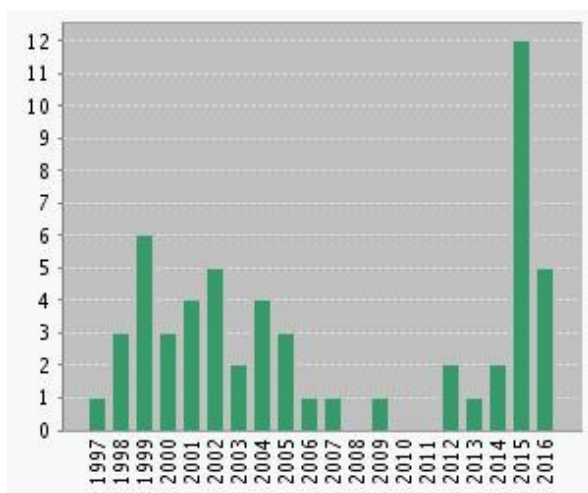
1. Encyclopaedia of Optimization (2000), Kluwer Academic Publishers, Floudas, C.A., and Pardalos, P. (eds). 6 articles (R. Conejeros, co-author):
 - a. Cyclic Coordinate Method
 - b. Sequential Simplex Method
 - c. Broyden Family of Methods and the BFGS Update
 - d. Method of Hooke and Jeeves
 - e. Powell Method
 - f. Rosenbrock Method

Books

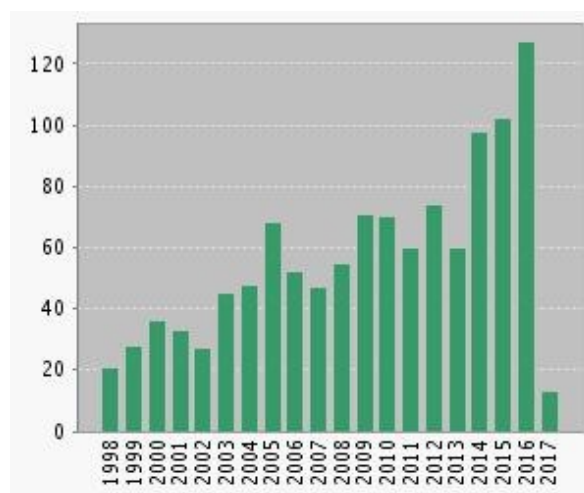
1. Under contract with Cambridge University Press (2015): *Optimisation Theory with Applications in Chemical and Biochemical Engineering*, co-authors: Ehecatl Antonio del Rio Chanona, Walter Kahm, Ye Yuan.

Citations statistics: 15 March 2017, Web Of Science database

Results found:	60
Sum of the Times Cited :	1157
Sum of Times Cited without self-citations :	1004
Citing Articles :	821
Citing Articles without self-citations :	794
Average Citations per Item :	19.28
h-index :	16

Published Items in Each Year

The latest 20 years are displayed.

Citations in Each Year

The latest 20 years are displayed.

2. Invited talks, seminars, courses and conferences**Invited talks**

- 1993 “A Generalized Dynamic Optimization Framework Based on Control Parameterization Techniques”, invited lecture at the Department of Chemical Engineering, Norwegian Institute of Technology, Trondheim, Norway, March 30, 1993.
- 1993 “Dynamic Optimization of Multistage Systems and Applications”, invited lecture at the Chemistry and Chemical Engineering Department, Stevens Institute of Technology, Hoboken, NJ, U.S.A., October 13, 1993.
- 1994 “A Unified Approach to the Solution of General Dynamic Optimization Problems”, invited lecture at the Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA, U.S.A., February 4, 1994.
- 1996 “Optimal Control Algorithms: Theory and Applications in Dynamic Chemical Process

- Modeling”, and “Application of the Modified Barrier Method to Optimal Control Problems”, invited lectures at the University of Heidelberg, Germany, September 1996.
- 1997 Invited lecture on process systems engineering and current research, Aspen Tech, Cambridge, UK, April 18, 1997.
- 1997 Invited lecture on large-scale optimal control: Industrial Workshop, Schlumberger-Doll Research, Ridgefield, Connecticut, U.S.A., May 19, 1997.
- 1997 “Large-scale Optimization of Dynamic Process Models”, invited lecture, Department of Engineering, Cambridge University, Cambridge, U.K., May 30, 1997.
- 1999 “Developments in Optimal Control methods and Overview of Research Activities”, presented at the Department of Chemical Engineering, Polytechnic University of Madrid, Spain, March 1999.
- 2000 “Developments in optimization procedures for challenging engineering problems, and research activities of the Process Systems Engineering Group at Cambridge”, presented at the Department of Chemical Engineering at Technion University, Israel, September 2000.
- 2001 “The State-of-the-art in Control Vector Parameterization in Optimal Control Problem Solving”, DISC - Dutch Institute of Systems and Control - Summer School, *graduate level seminar series*, The Impact of Optimization in Control, June 12-15, 2001, Mierlo, Netherlands.
- 2001 Series of advanced industrial level training lectures, delivered for: Hyperion Systems Engineering LTD., Nicosia, Cyprus, August-October 2001:
1. Optimization: Fundamentals and Practical Application Issues (August 9, 2001)
 2. Stochastic Methods in Integer Programming Problems: Scheduling, Distribution Planning, and Other Discrete Decision-Making Applications (September 7, 2001)
 3. Process Synthesis: Systematic Methods for Rapid Design and Evaluation of Chemical Engineering Process Flow Sheets
 4. Optimal control: State-of-the-art in Numerical and Computational Platforms, and Modeling Approaches for Very Large Scale Problems.
- 2002 Invited seminar courses at Universidad Catolica de Valparaiso, Department of Biochemical Engineering, Valparaiso, Chile:
1. Undergraduate course in Applied Linear Algebra and Numerical Analysis, 26–28 July 2002.
 2. Advanced level training seminar, open to industry and academic participation: “State of the Art Optimization Methods and Optimal Control”, 29 July 2002.
- 2006 “Optimisation of Multistage Enzymatic Reactor Processes”, R. Conejeros co-author, Invited seminar at Universidad Catolico de Valparaiso, Department of Biochemical Engineering, Valparaiso, Chile, 23 May 2006.
- 2008 “Design of New Molecules: An Emerging Paradigm in Computer-Based Product Design”, Invited seminar at the Cyprus Institute, Nicosia, Cyprus, 11 December 2008.
- 2009 Invited course for Ph.D. students at Universidad Catolica de Valparaiso, Department of Biochemical Engineering, Valparaiso, Chile.
“Advanced modelling and optimization”, 1, 3,4,5 June
- 2009 “The State-of-the-art in Dynamic Optimisation”, invited seminar at Universidad Diego Portales, Departamento de Economia y Negocios, Santiago, Chile, 10 June.
- 2011 "Optimisation: Formulations, Algorithms and Applications”, Department of Chemical Engineering and Biotechnology, University of Cambridge, 6 & 13 May 2011 (in two parts).
- 2012 Visiting Professorship at Universidad Catolica de Valparaiso, Department of Biochemical Engineering, Valparaiso, Chile, 24 July–26 September 2012:
Graduate level course in Continuous Optimization, course identifier: EIB-7039
“Optimizacion Teoria y Practica”.
- 2013 “Simulation and Analysis of Dynamic Systems in Process Systems Engineering Applications: From ODE's to DAE's”, Invited lecture at Bradford University, School of Engineering, Bradford, April 14 2013.
- 2015 “From Idea to Business – A Personal View”, Invited lecture at Surrey University, Department

of Chemical Engineering, November 09 2015.

- 2017 “Cleaning Scheduling of Heat Exchanger Networks: From Mixed-Integer Optimisation to Optimal Control”, Invited lecture at the Cyprus Institute, Nicosia, Cyprus, June 29 2017.

Conferences

- 1991 UCINA 23, Developments in Nonlinear Optimization, 18 June 1991, Oxford, U.K.
- 1992 9th IFAC Workshop on Control Applications of Optimization, 2–4 September 1992, Munich, Germany.
- 1992 AIChE Annual Meeting, 1–6 November 1992, Miami Beach, U.S.A. contribution: Pantelides, C. C., R. W. H. Sargent (speaker), and V. S. Vassiliadis, “Optimal Control of Multistage Systems Described by Differential-Algebraic Equations”.
- 1993 IChemE Research Event, 6–7 January 1993, University of Birmingham, Birmingham, U.K. contribution: Vassiliadis, V. S., R. W. H. Sargent, and C. C. Pantelides, “Development of a General Purpose Optimal Control Package”.
- 1993 Process Systems Engineering Workshop, 14–15 April 1993, York University, York, U.K.
- 1993 ESCAPE-3, July 5–7 1993, Graz, Austria. presented: Vassiliadis, V. S., C. C. Pantelides, and R. W. H. Sargent, “Optimization of Discrete Charge Batch Reactors”.
- 1995 APMOD '95: Applied Mathematical Programming and Modeling, Brunel University, London, U.K.
- 1995 Process Systems Engineering Workshop, 10–12 September 1995, University of York, York, U.K. presented (by invitation): Vassiliadis, V.S., “A Modified Barrier Algorithm for Constrained Nonlinear Optimization”.
- 1996 ESCAPE-6, May 26–29, Rhodes, Greece. presented: Vassiliadis, V. S. and S. A. Brooks, “Application of the Modified Barrier Method in Large-Scale Quadratic Programming Problems”.
- 1996 Plant-Wide Management and Control: IChemE CAPE Subject Group Meeting, 4 December 1996, Imperial College, London (organizer).
- 1997 4th Process Systems Engineering Workshop, 24–25 March, University of York, U.K.
- 1997 Engineering Foundation Conference, 11–16 May, Il Ciocco Conference Centre, Castelvechio Pascoli, (ar. Barga), Lucca, Italy. contribution (with Dr. D.I. Wilson): Wilson, D. I. (speaker), and V. S. Vassiliadis, “Mitigation of Refinery Fouling by Management of Cleaning”
- 1998 APMOD 98: Applied Mathematical Programming and Modeling, Limassol, Cyprus, March 11-13, 1998. presented by invitation: Conejeros, R., and Vassiliadis, V. S. (speaker), “Generalized Sensitivity Analysis and Optimization of Biochemical Reaction Pathways and Processes”.
- 1998 Fouling and Cleaning in Food Processing 98, Cambridge, UK, April 1998. contribution: (Smaili, F., Angadi, D., Hatch, C.M., Herbert, O., Vassiliadis, V.S., and D.I. Wilson, “Optimisation of Cleaning Schedules in Heat Exchanger Networks: Sugar Refinery Case Study”.
- 1998 Heat Exchanger Engineering Conference, Birmingham, June 1998. contribution: Smaili, F., Vassiliadis, V.S., and D.I. Wilson (speaker), “Scheduling of Cleaning in Heat Exchanger Networks” (invited presentation).
- 1998 AIChE Annual Meeting, Miami Beach, November 1998, presented:
1. “Second Order Information Analysis in Control Vector Parameterization Methods for the Solution of Optimal Control Problems”
 2. “Efficient Optimal Control of Bioprocesses using Second Order Information”
 3. “Generalized Sensitivity Analysis and Optimization of Biochemical Reaction Pathways and Processes”
 4. “Optimization of Cleaning Schedules in Heat Exchanger Networks subject to Fouling”, authors: F. Smaili, V.S. Vassiliadis, D.I. Wilson.
- 1999 See, H.J., Vassiliadis, V.S. and Wilson, D.I. “Optimal Scheduling of Reverse Osmosis Networks for Seawater Desalination”, presented at: Intl. Desalination Conf., San Diego, CA,

- USA.
- 1999 Engineering Foundation Conference on Heat Exchanger Fouling, Banff, July 1999: contribution: Smaili, F. (speaker), Vassiliadis, V.S., and D.I. Wilson, “Scheduling of Cleaning in Refinery Heat Exchanger Networks”.
- 1999 Eva Balsa Canto, Vassilios S. Vassiliadis and Julio R. Banga. “19th IFIP TC7 conference on Process Modelling and Optimization”, July 1999, Cambridge, U.K. contribution: “Dynamic Optimization of a Class of Multistage Systems using a Hybrid Stochastic-Deterministic Method”.
- 1999 6th International Wigner Symposium, 16–22 August 1999, Istanbul, Turkey. contribution: “Robust and Optimal Design of Arbitrary Quantum States in Terms of a Few Coherent States”, Stergioulas, L. K., Vassiliadis V. S., and Vourdas A.
- 1999 Smaili, F., Vassiliadis, V.S. and Wilson, D.I., (1999) “Scheduling of heat exchanger cleaning in refinery heat exchanger networks”, Proc. Engineering Foundation Conference on Mitigation of Heat Exchanger Fouling, Banff.
- 1999 5th International Symposium on Orthogonal Polynomials, Special Functions and their Applications, 20–25 September 1999, Patras, Greece. contribution: “Overcomplete Bases of Gaussians in a Hilbert Space: Applications to Mathematical Signal Processing”, Stergioulas, L. K. (speaker), Vassiliadis V. S., and Vourdas A.
- 1999 AIChE Annual Meeting, Dallas, Texas, USA:
1. “Multidimensional Surface Visualization in Global Optimization using Random Sampling”
 2. “A Hybrid Strategy for the Optimal Control of Multistage Chemical Processes”, co-authors: E. Balsa Canto and J. R. Banga
 3. “A Penalty/Modified Barrier Method for Generally Constrained Nonlinear Optimization”, co-author: T. W. C. Chen
 4. “Scheduling of Cleaning in Large Scale Heat Exchanger Networks”, co-authors: F. Smaili and D. I. Wilson
 5. “Scheduling of Immobilized Enzyme Packed Reactors under Thermal Inactivation in the Presence of Products and Substrates”, with R. Conejeros
 6. “Pathway Modification Predictions based on Dynamic Biochemical Reaction Process Models”, co-author: R. Conejeros
 7. “Efficient Dynamic Optimization of Distributed Parameter Systems”, co-authors: E. Balsa Canto, J. R. Banga, and A. A. Alonso
- 2000 ASPENWORLD 2000—Optimizing the Manufacturing Enterprise, Orlando, USA. By invitation from AspenTech:
1. “Advances in Optimal Control Algorithms using Control Vector Parameterization”, V. S. Vassiliadis (speaker)
 2. “Optimal Control Problem Solution within the Aspen Custom Modeler”, Garratt, T., and V. S. Vassiliadis (speaker).
- 2000 IChemE Research Event 2000, University of Bath. contribution: “Scheduling Cleaning Operations in Large Heat Exchanger Networks” Authors: F. Smaili, D.I. Wilson, V.S. Vassiliadis, D. Marnell.
- 2000 ESCAPE-10, European Symposium on Computer Aided Process Engineering, Florence, Italy, May 7-10, 2000. contribution: Balsa Canto, E., Banga, J.R., Alonso, A.A., and V.S. Vassiliadis, “Dynamic Optimization of Chemical and Biochemical Processes using Restricted Second Order Information”.
- 2000 Balsa-Canto, E., Banga J.R., Alonso A.A. and Vassiliadis V.S. “ADCHEM-2000”, 14-16 June, 2000, Pisa, Italy. contribution: “Optimal Control of Distributed Processes using Restricted Second Order Information”.
- 2000 “Mitigation of Fouling in Refinery Pre-Heat Trains by Optimal Management of Cleaning and Antifoulant Treatment”, D.I. Wilson, F. Smaili and V.S. Vassiliadis, The 2nd International Conference on Petroleum and Gas Phase Behaviour and Fouling, Copenhagen, Denmark, August 2000.

- 2000 XXVII Week of Mathematics. Institute of Mathematics, Universidad Catolica de Valparaiso, Valparaiso, Chile, October Curriculum Vitae, V.S. Vassiliadis. contribution: Conejeros, R., and Vassiliadis, V.S., “Metabolic Pathway Prediction of Modification, based on Biochemical Reactions Kinetic Information”.
- 2000 VI International Symposium on Biochemical Systems Theory, Applications to Modeling and Optimization of Biological Systems, Puerto de la Cruz, Tenerife, Canary Islands, Spain. contribution: “Model Based Predictions and Optimization of Dynamic Biochemical Pathway Modifications”, with R. Conejeros.
- 2001 AIChE Annual Meeting, Los Angeles. Contributions:
1. “Efficient Solutions of the General Heterogeneous Fleet Vehicle Routing Problem via Novel Threshold Acceptance Metaheuristics”, C.D. Tarantilis, C.T. Kiranoudis, V.S. Vassiliadis, session: Numerical Analysis.
 2. “General Sparse Nonlinear Programming Problem Optimization Using the Modified Barrier Method”, V.S. Vassiliadis and T.W.C. Chen, session: Numerical Analysis.
 3. “General Finite Convergence Schemes for Handling Path Constraints in Dynamic Optimization Problems”, V.S. Vassiliadis and T.W.C. Chen, session: Simulation and Optimization of Dynamic Systems.
- 2001 AIChE Annual Meeting, Los Angeles: chaired the session on: Design for Flexible Manufacturing
- 2003 Advances in Optimisation Technology for the Process Industries, SCI International Headquarters, 14/15 Belgrave Square, London, UK; Wednesday 26 November 2003. Contribution (oral paper presentation by invitation): “Optimisation of Cleaning Schedules in Heat Exchanger Networks Subject to Fouling”
- 2005 SCI Process Engineering Group Research Day, Wed 9th November 2005, London. Contribution:
Intan S. Ahamad and Vassilis S. Vassiliadis, “Controller Tuning Using Dynamic Optimisation with Embedded Safety and Response Quality Measures”, poster presentation.
- 2006 22nd European Applied Thermodynamic Conference, Helsingore, Denmark, June 28th to July 1st, 2006.
Contribution:
“Computer-Aided Molecular Design Using a Linear Group Contribution Method for the Prediction of Pure Component Properties: Application to Solvent Selection”,
L. Constantinou (speaker), E. Stefanis, C. Panayiotou, V.S. Vassiliadis, A. Afantitis, G. Melagraki and O. Markopoulou.
- 2010 Sustainable Thermal Energy Management Conference, (SusTEM2010), Newcastle, November 3rd, 2010. Contribution: “Identifying Optimal Cleaning Cycles for Heat Exchangers Subject to Fouling and Ageing”, T. Pogiatzis (speaker), D. I. Wilson, and V. S. Vassiliadis.
- 2012 2012 IEEE 6th International Conference on Systems Biology (ISB), Xi’an, China, August 18–20. Contribution: “Metabolite Biomarker Discovery For Metabolic Diseases By Flux Analysis”, Li, L., Jiang H. (speaker), Ching, W.-K., and Vassiliadis, V.S..

Workshops

- 2014 P2P Network (www.nibbp2p.org): Developing ‘generic’ economic modelling tools. Centre for Process Systems Engineering, Imperial College, London, UK. Friday 21 November 2014. By invitation.

Teaching

1. Courses taught from 9th January 1995 to date

Faculty / Department

1. Process Dynamics and Control
2. Computer Aided Process Engineering
3. Optimisation
4. Process Synthesis
5. Heat Integration
6. Process and Enterprise Logistics
7. Engineering Mathematics

2. Postgraduate Students Supervised

Ph.D. students supervised

1. Dr. S.A. Brooks, Ph.D. student. Research area: Large scale quadratic optimization methods. 1996-99.
2. Dr. G.M. Davies, Ph.D. student, taken over upon departure of his main supervisor, Prof. N. Seaton. Research area: Molecular simulation of adsorption systems. 1996-99.
3. Dr. H.J. See, Ph.D. student, jointly supervised with Dr. D.I. Wilson, University of Cambridge. Research area: Wastewater treatment process modeling and optimization. 1997-2002.
4. Dr. R. Conejeros, Ph.D. student. Research area: Biochemical process modeling and optimization. 1997-2000.
5. Dr. T.W.C. Chen, Ph.D. student. Research area: Large scale nonlinear optimization methods for chemical engineering processes. 1998-2002.
6. Dr. I.S. Ahamad, Ph.D. student. Research area: Solution of very large scale nonlinear and combinatorial optimization process models. 2003-2006
7. Dr. M. Hadjiandreou, Ph.D. student. Research area: Modelling and dynamic simulation of chronic illnesses, focusing on the HIV infection and treatments. 2005-2007.
8. Mr. T. Pogiatzis, Ph.D. student. Research area: Optimization methods in Chemical Engineering processes, focusing on optimal scheduling of cleaning actions in heat exchanger networks subject to fouling. 2009-2012.
9. Mr. Alexandre Khae Wu Navarro, Ph.D. student. Research area: Dynamic Optimization (Optimal Control) in Chemical Engineering processes. 2012-2013.
10. Ms. Yucy Fang, Ph.D. student. Research area: Modelling and optimization studies in HIV dynamics. 2012-to date.
11. Mr. Biyu Li, Ph.D. student. Research area: Global Optimization theory, algorithms and applications. 2012-2013.
12. Mr. Fabio Fiorelli, Ph.D. student. Research area: Three-dimensional structures of macromolecules and Molecular Dynamics studies. 2012-2016.
13. Mr. Ehecatl Antonio del Rio Chanona, Ph.D. student. Research area: Large scale solution of nonlinear constrained optimisation problems. 2013-2017.
14. Mr. Dongda Zhang, Ph.D. student. Research area: Modelling, analysis and optimisation of biohydrogen production processes. 2013-2016.

15. Ms. Riham Al-Ismaili, Ph.D. student. Research area: Optimisation of maintenance scheduling operations. 2014-to date.
16. Mr. Yian Wang, Ph.D. student, Research area: Automated construction of physicochemical and biochemical laws via discrete-continuous optimisation. 2014-2015.

Other postgraduate teaching and supervision

Visiting and exchange Ph.D. students supervised (4 projects, 4 students):

1. Dr. E. Balsa Canto, exchange Ph.D. student, Instituto de Investigaciones Marinas (CSIC), Vigo, Spain. Research area: Dynamic optimization methods with applications to large scale process models. 1998.
2. Mr. J.I. Marin Alberdi, exchange Ph.D. student, Universidad Politecnica de Madrid, Spain. Research area: Stochastic optimization models in chemical engineering processing and large scale logistics. 1998 and 2000.
3. Mr. G. Tsirbas, exchange undergraduate student, National Technical University of Athens, Greece. Undergraduate research thesis topic: “Novel formulations for the Travelling Salesman Problem”. 2012.
4. Mr. Y. Varellas-Ouzounopoulos, exchange undergraduate student, National Technical Univeristy of Athens, Greece. Undergraduate research thesis topic: “Novel formulations for the Travelling Salesman Problem”. 2012.

M.Eng. research projects and student supervision (19 projects, 34 students):

1. T.H. Williams, *Dynamic Optimisation of Fermentation Processes*, 1995-1996.
2. P. Ledbrook and J-S. Chan, *Optimal Design of Hydrodeslphurisation Reactors*, 1997-1998.
3. M.M. Chow, *Model Based Genetic Engineering, an Investigation into Biochemical Pathway Models*, 1998-1999.
4. N. Patel and M. Tribe, *Stochastic Optimisation of Plant Layout Problems*, (received poster prize), 1999-2000.
5. S. Scott and I. Lestiyo, *Studies in Global Optimisation: The Travelling Salesman and Related Problems*, (received poster prize), 2000-2001.
6. A. Wong, *Optimisation Methods in Nonlinear Problems*, 2003-2004.
7. I. Hawkes and A. Peevor, *Scheduling Cleaning in Large Scale Refinery Operations*, co-supervised with D.I. Wilson, 2004-2005.
8. A. Foley and R. Morrisby (best research report prize), *Novel Solutions to the Travelling Salesman Problem*, 2005-2006.
9. Chieh Lung Ng and Viet Nguyen, *Filter-based stochastic search methods for generally constrained nonlinear optimization models*, 2012-2013.
10. T. Tseriotou and D. Sedleckas, *Reformulation based approaches for the solution of global optimisation problems*, 2014-2015.
11. M. Palor and T. Pan, *Analysis and design of biohydrogen production processes*, 2014-2015.
12. D. Scott, *Reformulation and multiple sampling approaches for large scale and nonconvex optimisation problems*, 2014-2015.
13. P. Oldfield and B. Hendon, *Dynamic Flux Balance Analysis in Biochemical Systems Engineering*, 2015-2016.
14. W. Kahm and M. Santos-Silva, *Model Predictive Control via Gradient Flow Algorithms*, 2015-2016.
15. L. Cai and S. Zhang, *Novel Gradient Descent Algorithms*, 2015-2016.

16. W. Price and M. Paraskevopoulos, *Gradient Flow Approaches for DAE and PDAE systems*, 2016-2017.
17. V. Mehta and L. So, *Efficient Implementation of the Cyclic Coordinate Descent Method*, 2016-2017.
18. S. Davies and H. Adam, *Gradient Flow Algorithms for Constrained Nonlinear Optimisation*, 2016-2017.
19. H. Park and Z. Huang, *Quantised State Simulation Methods*, 2016-2017.

MPhil projects student supervision (11 projects, 11 students):

1. G. Katsoulis, *Supply-Chain Scheduling of Oil Tanker Fleets*, 2004-2005.
2. Y.S. Amoah, *Multiscale Image Processing with Applications in Particle Size Distribution and shape Analysis*, 2005-2006.
3. K.K. Ansari, *Novel Stochastic Optimization Methods for the Travelling Salesman Problem*, 2011-2012.
4. M. Feng, *A Filter-based Stochastic Optimization Approach for Integer Programming Problems*, 2012-2013.
5. A. Montano, *The Barzilai-Borwein gradient descent method for unconstrained optimisation and applications in Chemical Engineering modelling*.
6. G. van Ryneveld, *Novel approaches for scheduling maintenance problems in chemical engineering processing*, 2014-2015.
7. E. Nolasco-Rosario, *Novel Gradient Descent Algorithms for Large-Scale Nonlinear Optimisation*, 2015-2016.
8. C. Newton, *Gradient Flow Approach for Nonlinear Optimisation*, 2016–2017.
9. P. Chokhani, *Simulation of Gold Extraction Processes*, 2016–2017.
10. P. Chinotaikul, *Novel Biosystems Process Analysis*, 2016–2017.

Postdoctoral researchers supervised

1. Dr. F. Smaili, 1997-2001
2. Dr. D.S. Lee , 2000-2001
3. Dr. R. Conejeros, 2000-2001
4. Dr. M.W. Lee, 2005-2006
5. Dr. A. Mihai, 2007-2009

3. Examining

Ph.D. viva examinations

I have acted as external examiner for several Ph.D. vivas in our Department and the Engineering Department internally within Cambridge University, as well as externally for the Departments of Chemical Engineering at Edinburgh University, University College London, Imperial College, and the University of Adelaide as external Ph.D. thesis assessor.