# Vivek Dua

List of Publications by Year
in descending order

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| 106 | 5,006 | 236612 | 91712 |
|---|---|---|---|
| papers | citations | 25 h-index | 69 g-index |

| 243 | 243 | 243 | 2790 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | The explicit linear quadratic regulator for constrained systems. Automatica, 2002, 38, 3-20. | 3.0 | 2,616 |
| 2 | An Algorithm for the Solution of Multiparametric Mixed Integer Linear Programming Problems. Annals of Operations Research, 2000, 99, 123-139. | 2.6 | 198 |
| 3 | A multiparametric programming approach for mixed-integer quadratic engineering problems. Computers and Chemical Engineering, 2002, 26, 715-733. | 2.0 | 190 |
| 4 | On-line optimization via off-line parametric optimization tools. Computers and Chemical Engineering, 2002, 26, 175-185. | 2.0 | 161 |
| 5 | A bilevel programming framework for enterprise-wide process networks under uncertainty. Computers and Chemical Engineering, 2004, 28, 1121-1129. | 2.0 | 120 |
| 6 | Parametric global optimisation for bilevel programming. Journal of Global Optimization, 2007, 38, 609-623. | 1.1 | 108 |
| 7 | Algorithms for the Solution of Multiparametric Mixed-Integer Nonlinear Optimization Problems. Industrial & Engineering Chemistry Research, 1999, 38, 3976-3987. | 1.8 | 104 |
| 8 | Design of robust model-based controllers via parametric programming. Automatica, 2004, 40, 189-201. | 3.0 | 104 |
| 9 | On-line optimization via off-line parametric optimization tools. Computers and Chemical Engineering, 2000, 24, 183-188. | 2.0 | 87 |
| 10 | Optimal delivery of chemotherapeutic agents in cancer. Computers and Chemical Engineering, 2008, 32, 99-107. | 2.0 | 80 |
| 11 | Global Optimization Issues in Multiparametric Continuous and Mixed-Integer Optimization Problems. Journal of Global Optimization, 2004, 30, 59-89. | 1.1 | 70 |
| 12 | On the development of kinetic models for solvent-free benzyl alcohol oxidation over a gold-palladium catalyst. Chemical Engineering Journal, 2018, 342, 196-210. | 6.6 | 55 |
| 13 | Hydrodynamic effects on three phase micro-packed bed reactor performance â€“ Goldâ€“palladium catalysed benzyl alcohol oxidation. Chemical Engineering Science, 2016, 149, 129-142. | 1.9 | 53 |
| 14 | An Artificial Neural Network approximation based decomposition approach for parameter estimation of system of ordinary differential equations. Computers and Chemical Engineering, 2011, 35, 545-553. | 2.0 | 52 |
| 15 | MPC on a chipâ€”Recent advances on the application of multi-parametric model-based control. Computers and Chemical Engineering, 2008, 32, 754-765. | 2.0 | 48 |
| 16 | A mixed-integer programming approach for optimal configuration of artificial neural networks. Chemical Engineering Research and Design, 2010, 88, 55-60. | 2.7 | 48 |
| 17 | Proactive Scheduling under Uncertainty:â€‰ A Parametric Optimization Approach. Industrial & Engineering Chemistry Research, 2007, 46, 8044-8049. | 1.8 | 46 |
| 18 | Microreaction technology aided catalytic process design. Current Opinion in Chemical Engineering, 2013, 2, 338-345. | 3.8 | 45 |

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|---|---|---|---|
| 19 | A rolling horizon approach for optimal management of microgrids under stochastic uncertainty. Chemical Engineering Research and Design, 2018, 131, 293-317. | 2.7 | 37 |
| 20 | Optimization Techniques for Process Synthesis and Material Design Under Uncertainty. Chemical Engineering Research and Design, 1998, 76, 408-416. | 2.7 | 34 |
| 21 | Explicit model predictive control of hybrid systems and multiparametric mixed integer polynomial programming. AICHE Journal, 2016, 62, 3441-3460. | 1.8 | 33 |
| 22 | A joint model-based experimental design approach for the identification of kinetic models in continuous flow laboratory reactors. Computers and Chemical Engineering, 2016, 95, 202-215. | 2.0 | 33 |
| 23 | Closed-loop integration of planning, scheduling and multi-parametric nonlinear control. Computers and Chemical Engineering, 2019, 122, 172-192. | 2.0 | 32 |
| 24 | A Hybrid Parametric/Stochastic Programming Approach for Mixed-Integer Nonlinear Problems under Uncertainty. Industrial & Engineering Chemistry Research, 2002, 41, 67-77. | 1.8 | 31 |
| 25 | Novel model reduction techniques for refinery-wide energy optimisation. Applied Energy, 2012, 89, 117-126. | 5.1 | 28 |
| 26 | A unified framework for model-based multi-objective linear process and energy optimisation under uncertainty. Applied Energy, 2017, 186, 539-548. | 5.1 | 27 |
| 27 | Robust model-based tracking control using parametric programming. Computers and Chemical Engineering, 2004, 28, 195-207. | 2.0 | 25 |
| 28 | Mixed integer polynomial programming. Computers and Chemical Engineering, 2015, 72, 387-394. | 2.0 | 23 |
| 29 | Machine learning approach for the prediction of biomass pyrolysis kinetics from preliminary analysis. Journal of Environmental Chemical Engineering, 2022, 10, 108025. | 3.3 | 23 |
| 30 | An outer-approximation algorithm for the solution of multiparametric MINLP problems. Computers and Chemical Engineering, 1998, 22, S955-S958. | 2.0 | 21 |
| 31 | An artificial neural network approach to recognise kinetic models from experimental data. Computers and Chemical Engineering, 2020, 135, 106759. | 2.0 | 19 |
| 32 | Free-radical polymerizations associated with the Trommsdorff effect under semibatch reactor conditions. III. Experimental responses to step changes in initiator concentration. Journal of Applied Polymer Science, 1996, 59, 749-758. | 1.3 | 17 |
| 33 | Model-Based Parameter Estimation for Fault Detection Using Multiparametric Programming. Industrial & Engineering Chemistry Research, 2017, 56, 8000-8015. | 1.8 | 17 |
| 34 | Multi-parametric mixed integer linear programming under global uncertainty. Computers and Chemical Engineering, 2018, 116, 279-295. | 2.0 | 17 |
| 35 | The explicit control law for hybrid systems via parametric programming. , 0, , . | | 16 |
| 36 | Disaggregationâ€“aggregation based model reduction for refinery-wide optimization. Computers and Chemical Engineering, 2011, 35, 1838-1856. | 2.0 | 16 |

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|---|---|---|---|
| 37 | Traveling Salesman Problem-Based Integration of Planning, Scheduling, and Optimal Control for Continuous Processes. Industrial & Engineering Chemistry Research, 2017, 56, 11186-11205. | 1.8 | 16 |
| 38 | Increased apical Na + permeability in cystic fibrosis is supported by a quantitative model of epithelial ion transport. Journal of Physiology, 2013, 591, 3681-3692. | 1.3 | 14 |
| 39 | A parametric mixed-integer global optimization framework for the solution of process engineering problems under uncertainty. Computers and Chemical Engineering, 1999, 23, S19-S22. | 2.0 | 13 |
| 40 | A Simultaneous Approach for Parameter Estimation of a System of Ordinary Differential Equations, Using Artificial Neural Network Approximation. Industrial & Engineering Chemistry Research, 2012, 51, 1809-1814. | 1.8 | 12 |
| 41 | Multiâ€parametric linear programming under global uncertainty. AIChE Journal, 2017, 63, 3871-3895. | 1.8 | 12 |
| 42 | Nonlinear Model-Based Process Operation under Uncertainty Using Exact Parametric Programming. Engineering, 2017, 3, 202-213. | 3.2 | 12 |
| 43 | Fault Detection in Wastewater Treatment Systems Using Multiparametric Programming. Processes, 2018, 6, 231. | 1.3 | 11 |
| 44 | Model predictive control: A multi-parametric programming approach. Computer Aided Chemical Engineering, 2000, 8, 301-306. | 0.3 | 10 |
| 45 | Scenario tree reduction for optimisation under uncertainty using sensitivity analysis. Computers and Chemical Engineering, 2019, 125, 449-459. | 2.0 | 10 |
| 46 | Modelling and multi-parametric control for delivery of anaesthetic agents. Medical and Biological Engineering and Computing, 2010, 48, 543-553. | 1.6 | 9 |
| 47 | Approximate multi-parametric programming based B&B algorithm for MINLPs. Computers and Chemical Engineering, 2012, 42, 288-297. | 2.0 | 9 |
| 48 | Parameter estimation using multiparametric programming for implicit Eulerâ€™s method based discretization. Chemical Engineering Research and Design, 2019, 142, 62-77. | 2.7 | 8 |
| 49 | A game-theoretic optimisation approach to fair customer allocation in oligopolies. Optimization and Engineering, 2020, 21, 1459-1486. | 1.3 | 8 |
| 50 | Global Optimization of Bilevel Programming Problems via Parametric Programming. Nonconvex Optimization and Its Applications, 2004, , 457-476. | 0.1 | 8 |
| 51 | Model based control for insulin delivery for type 1 diabetics via parametric programming. Computer Aided Chemical Engineering, 2004, 18, 1045-1050. | 0.3 | 7 |
| 52 | A graph theory approach for scenario aggregation for stochastic optimisation. Computers and Chemical Engineering, 2020, 137, 106810. | 2.0 | 7 |
| 53 | Merging information from batch and continuous flow experiments for the identification of kinetic models of benzyl alcohol oxidation over Au-Pd catalyst. Computer Aided Chemical Engineering, 2016, 38, 961-966. | 0.3 | 6 |
| 54 | Closed loop integration of planning, scheduling and control via exact multi-parametric nonlinear programming. Computer Aided Chemical Engineering, 2017, 40, 1273-1278. | 0.3 | 6 |

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|---|---|---|---|
| 55 | Parameter estimation of partial differential equations using artificial neural network. Computers and Chemical Engineering, 2021, 147, 107221. | 2.0 | 6 |
| 56 | Robust model-based Controllers via Parametric Programming. Computer Aided Chemical Engineering, 2002, 10, 541-546. | 0.3 | 5 |
| 57 | On-Line Optimization via Off-Line Parametric Optimization! â€“ A Guided Tour to Parametric Programming and Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 1-7. | 0.4 | 5 |
| 58 | Optimal management of microgrids under uncertainty using scenario reduction. Computer Aided Chemical Engineering, 2017, 40, 2257-2262. | 0.3 | 5 |
| 59 | Optimal modelâ€based control of nonâ€viral siRNA delivery. Biotechnology and Bioengineering, 2018, 115, 1866-1877. | 1.7 | 5 |
| 60 | Multi Set-Point Explicit Model Predictive Control for Nonlinear Process Systems. Processes, 2021, 9, 1156. | 1.3 | 5 |
| 61 | The explicit model-based control law for continuous time systems via parametric programming - INV5105. , 2002, , . | | 4 |
| 62 | A global parametric programming optimisation strategy for multilevel problems. Computer Aided Chemical Engineering, 2006, 21, 215-220. | 0.3 | 4 |
| 63 | Model-based design of experiments for the identification of kinetic models in microreactor platforms. Computer Aided Chemical Engineering, 2015, 37, 323-328. | 0.3 | 4 |
| 64 | A reformulation strategy for mixed-integer linear bi-level programming problems. Computers and Chemical Engineering, 2021, 153, 107409. | 2.0 | 4 |
| 65 | Robust model-based predictive controller for hybrid system via parametric programming. Computer Aided Chemical Engineering, 2005, 20, 1249-1254. | 0.3 | 3 |
| 66 | Fault detection of fermentation processes. Computer Aided Chemical Engineering, 2018, , 1171-1176. | 0.3 | 3 |
| 67 | Fair Shale Gas Water Cost Distribution Using Nash Bargaining Game. Chemical Engineering Research and Design, 2021, , . | 2.7 | 3 |
| 68 | Design of robust model-based tracking controllers via parametric programming. , 0, , . | | 3 |
| 69 | Model Based Control for Drug Delivery Systems. , 2008, , 2276-2284. | | 3 |
| 70 | Optimal configuration of artificial neural networks. Computer Aided Chemical Engineering, 2006, , 1599-1604. | 0.3 | 2 |
| 71 | Stability analysis of nonlinear model predictive control: An optimization based approach. Computer Aided Chemical Engineering, 2006, 21, 1287-1292. | 0.3 | 2 |
| 72 | Optimal delivery of chemotherapeutic agents in cancer. Computer Aided Chemical Engineering, 2006, , 1643-1648. | 0.3 | 2 |

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| 73 | Parametric programming & control: from theory to practice. Computer Aided Chemical Engineering, 2007, 24, 569-574. | 0.3 | 2 |
| 74 | Using Low-Grade Heat for Solvent Extraction based Efficient Water Desalination. Computer Aided Chemical Engineering, 2011, , 1703-1707. | 0.3 | 2 |
| 75 | Uncertainty aware integration of planning, scheduling and multi-parametric control. Computer Aided Chemical Engineering, 2018, 44, 1171-1176. | 0.3 | 2 |
| 76 | Modelling and Optimal Control of Non-Viral siRNA Delivery. Computer Aided Chemical Engineering, 2016, 38, 673-678. | 0.3 | 2 |
| 77 | Multiparametric Mixed Integer Linear Programming. , 2008, , 2484-2490. | | 2 |
| 78 | Model based parametric control in anesthesia. Computer Aided Chemical Engineering, 2005, 20, 1015-1020. | 0.3 | 1 |
| 79 | Controlled release of drugs from polymeric devices. Computer Aided Chemical Engineering, 2007, 24, 971-976. | 0.3 | 1 |
| 80 | Index: Volume 4: Supply Chain Optimization, Part II. , 2014, , 339-349. | | 1 |
| 81 | Control relevant modelling for haemodialysis. Computer Aided Chemical Engineering, 2016, 38, 949-954. | 0.3 | 1 |
| 82 | A novel scenario aggregation framework based on network community detection methods. Computer Aided Chemical Engineering, 2019, 46, 811-816. | 0.3 | 1 |
| 83 | Approximate Multi-Parametric Programming based B&B Algorithm for MINLPs. Computer Aided Chemical Engineering, 2011, 29, 798-802. | 0.3 | 1 |
| 84 | MODEL BASED DRUG DELIVERY FOR ANESTHESIA. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 95-100. | 0.4 | 0 |
| 85 | A Decomposition Approach for Parameter Estimation of System of Ordinary Differential Equations. Computer Aided Chemical Engineering, 2010, , 361-366. | 0.3 | 0 |
| 86 | Front Matter: Volume 3: Supply Chain Optimization, Part I. , 2014, , I-XIX. | | 0 |
| 87 | Front Matter: Volume 6: Molecular Systems Engineering. , 2014, , I-XVII. | | 0 |
| 88 | Front Matter: Volume 4: Supply Chain Optimization, Part II. , 2014, , I-XIX. | | 0 |
| 89 | Index: Volume 2: Theory and Applications. , 2014, , 255-257. | | 0 |
| 90 | Index: Volume 3: Supply Chain Optimization, Part I. , 2014, , 339-348. | | 0 |

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| 91 | Index: Volume 5: Energy Systems Engineering. , 2014, , 323-327. | | 0 |
| 92 | Index: Volume 6: Molecular Systems Engineering. , 2014, , 307-317. | | 0 |
| 93 | Index: Volume 7: Dynamic Process Modeling. , 2014, , 583-601. | | 0 |
| 94 | Index: Volume 1: Theory, Algorithms, and Applications. , 2014, , 307-309. | | 0 |
| 95 | Front Matter: Volume 7: Dynamic Process Modeling. , 2014, , I-XXV. | | 0 |
| 96 | Front Matter: Volume 5: Energy Systems Engineering. , 2014, , I-XVII. | | 0 |
| 97 | Front Matter: Volume 1: Theory, Algorithms, and Applications. , 2014, , i-xix. | | 0 |
| 98 | Nonlinear Model Predictive Control of Haemodialysis. Computer Aided Chemical Engineering, 2019, 46, 1285-1290. | 0.3 | 0 |
| 99 | Bridging the Gap Between Production, Finances, and Risk in Supply Chain Optimization. , 0, , 1-44. | | 0 |
| 100 | Design of a Gene Metabolator under Uncertainty. Computer Aided Chemical Engineering, 2015, 37, 2141-2146. | 0.3 | 0 |
| 101 | Data-Based Model Reduction for Refinery-Wide Optimization. , 2017, , 119-156. | | 0 |
| 102 | Multiparametric Linear Programming. , 2008, , 2481-2484. | | 0 |
| 103 | Parametric Linear Programming: Cost Simplex Algorithm. , 2008, , 2917-2920. | | 0 |
| 104 | Parametric Mixed Integer Nonlinear Optimization. , 2008, , 2920-2924. | | 0 |
| 105 | Bounds and Solution Vector Estimates for Parametric NLPS. , 2008, , 325-328. | | 0 |
| 106 | Selfdual Parametric Method for Linear Programs. , 2008, , 3374-3375. | | 0 |