

Dr Aidan Thomas Parkinson BEng(Hons) MSc PhD CEng

aidanparkinson.xyz

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Roles

2014 - Present	Senior Engineer at Ove Arup and Partners International Ltd.
2014 - Present	Referee for scientific journals: Energy; Energy Economics; Applied Energy; Energy Policy; Journal of Environmental Management
2016 - Present	Director at Realfeed Ltd.
2020 - 2021	Senior Research Associate at University of Cambridge
2016 - 2020	Building Performance and Systems Skills Manager at Ove Arup and Partners International Ltd.

Higher Education

2010 - 2016	PhD, Cambridge University Engineering Department Supervised by Prof. Peter Guthrie, Dissertation: <i>An Exploration of Building Energy Performance and Financial Value with Demonstration on UK Offices.</i>
2008 - 2009	MSc, Bartlett School of Graduate Studies, University College London Environmental Design and Engineering, Dissertation: <i>Environmental Noise in Schools.</i>
2003 - 2008	BEng (Hons) 2:1, School of the Built Environment, Heriot-Watt University Architectural Engineering, Dissertation: <i>Measurement of Retinal Straylight using the Compensation Comparison Method.</i>

Grants, Awards and Memberships

2021	Member of the Royal Economic Society
2017	Chartered Engineer, Engineering Council
2017	Member of the Chartered Institute of Building Services Engineers
2014 - Present	Twenty-three <i>Invest-in-Arup</i> projects £300,000
2011 - 2012	Numerous awards to the <i>GreenBRIDGE society</i> as Treasurer £9,100.
2010 - 2013	<i>EPSRC MBKTN Industrial CASE Award</i> , Grosvenor Estates, £90,000.
2010	Member of Wolfson College, Cambridge

Selected Experience: Software Applications and Quantitative Insight

2021 - 2022	Rapid Building Performance Audit A cross-platform application in alpha testing to support rapid professional building performance audits and report generation on-site. The Flutter application is integrated with an AWS Amplify service with data held in a MongoDB Atlas cluster.
2020 - 2021	Learning IoT Web Application A progressive web application and cloud services to be used as a learning resource to support a syllabus of executive education in internet-of-things. Employs EC2, ECS, S3, Certificates Manager, Route 53, React, Eclipse Mosquitto, an ELK stack and RaspberryPi. The web application is available at: learning.aidanparkinson.xyz . The source-code is available at github.com/aidan-parkinson .
2019	FaucetSDN: Device Automated Qualification (DAQ) Defining and witnessing device test functionality of a software tool for qualifying network edge devices for enrolment on an enterprise network. DAQ software is designed for continuous deployment as a package of Docker containers running on a Faucet compatible Openflow switch controller. The code is managed in a public repository and available at: github.com/faucetsdn/daq .
2017	An Application for Monte-Carlo Simulations of Building Lifecycle Cost I have independently developed a Python class and functions to automate Monte-Carlo simulations of building life-cycle cost scenarios. This tool estimates costs for offering Schoolhaus buildings to schools as a service. The source-code is available at: github.com/realfeed/lifecycle-cost .
2016 - Present	busmethodology.org.uk The BUS Methodology Partner network consists of 35 licensed partners who are provided with the training and resources to deliver occupant satisfaction evaluation and benchmark analysis using the BUS Methodology tool. I took a leading role in a transformation of the service to automate processes, enhance customer experience and deliver the database of 70000 consistent response records in a way that should realise more of the products potential. I specified and provided content for: a static HTML marketing website; an Angular web user-interface; an EVE REST API; and a MongoDB database. Deployment of this domain is somewhat automated with Terraform and employs various AWS services (S3, Elasticbeanstalk, Secrets Manager, Cloudfront, Web Application Firewall, Route 53, IAM, Certificates Manager) and MongoDB Atlas. All domain services are now available at the domain and I continue to project manage the business: busmethodology.org.uk .
2013 - 2015	Evaluating the Energy Performance of Buildings within a Value at Risk Framework I assessed socio-economic risks to the energy performance of commercial property in the UK under explorative scenarios describing plausible development of the national energy system towards 2050. A Rapid Calculator was developed from the assumptions of the DECC 2050 Pathways using Matlab, validated through random sampling. Exhaustive exploration of the Rapid Calculator through batch processing was employed to identify time-series energy system pathways for 4 diverse scenarios at reasonable limits of plausibility. The scientific publications are available at: researchgate.net/project/Appropriate-Responses-by-Landlords-to-the-Energy-Management-of-Mixed-Use-Large-Scale-Developments .

Selected Experience: Building Services Engineering

2021	Lamda Hellix, ATH3 and ATH4 Preparation of a Building Management System / Power Monitoring System Stage 3 and Stage 4 design documentation for two adjacent 8MW data centres situated in the Athens region.
2021	90 Long Acre Preparation of Smart Buildings addenda to a Stage 4 Building Management System specification for a 36,100sqm mixed-use development situated in Covent Garden, London.
2021	Museum of London, Annexe Preparation of Building Management System Stage 4 design documentation for a mixed-use Annexe to the Museum of London relocated to Smithfield Market, London.
2019 - 2020	Google KGX1 Review of all technical submittals by specialist contractors for compliance with system integration requirements for a 100,000sqm office to be occupied by Google in Kings Cross, London.
2018	Delos/Arup Workplace Wellbeing Survey Collaboration between Delos Insights and Arup to develop a wellbeing questionnaire, to be applied for evaluation of projects seeking WELL Standard accreditation.
2018	Feasibility Study, 4 Millbank, BBC I evaluated the capacities of the landlords systems serving the BBC's demised areas to understand fit-out constraints. The project involved site observations, measurements, interviews, review of record information and production of an assured report.
2017 - 2018	Infrastructure Upgrade, Animal Plant Health Agency Replacement of Building Management Systems (BMS) across a site that includes 15 high containment laboratories at Weybridge. I made recommendations of alarm classifications, conducted a gap analysis of required system instrumentation through plant surveys, interviewed laboratory operators and scientists and developed specifications for the new site BMS control room and BMS head-end user interface.
2016 - 2017	Sustainability Strategy and Carbon Management Improvement Plan, University of Warwick I created a projection tool in MS Excel to explore sensitivity of the campus to a range of possible energy efficiency interventions.
2015 - 2019	BUS Methodology, Various Clients Worldwide An occupant satisfaction survey tool licensed to a partner network. As part of a small specialist team, I taught classroom training sessions, developed an e-learning course and contributed to BUS Partner Meetings in addition to my contributions to the web domain.
2014 - 2018	Portfolio Carbon Reduction Strategy, Crown Estate I conducted post-occupancy evaluation and license to alter technical reviews for a number of buildings on Regent Street. I produced the The Crown Estate compliance strategy for the Energy Efficiency Regulations.
2014 - 2015	N08 East Village, Qatari Diar Delancey Development of two towers of over 25-storeys within the site of the former London Olympic Park. I contributed to Stages D and E through load calculations, assessments of thermal comfort using building simulation, service coordination and production of system schematics and specifications.

Selected Talks

2022	Arup Group Ltd. Approaches to Governing The Global Commons, Available online: https://www.youtube.com/watch?v=WW190jI18uM&list=PLBR5K7axx-AqYwx3uog0m9PvNB4yXP70R
2021	Virtual Research Symposia Zero Carbon Energy Transformation, Cambridge Zero: Social Costs of Carbon: The State of the Art, Available online (starts 1:37:40): https://www.youtube.com/watch?v=btxQAPmG0xU&feature=emb_logo
2019	Healthy City Design 2019 Royal College of Physicians: Moving From Productivity to Performance
2018	Education Buildings Wales Cardiff University: Using Building Feedback as a Design Tool.
2018	Arup Building Engineering Group Meeting Intelligent Asset Management.
2018	Occupant Satisfaction Evaluation 10 New Burlington Street: Allford Hall Monaghan Morris.
2017	Arup Technology Workshop on Engineering for Wellbeing Occupant Satisfaction Evaluation.
2013	Retrofit 2050 Doctoral Workshop The Value of Energy Performance to Real Estate.
2012	Cambridge MSt Interdisciplinary Design for the Built Environment Energy Performance as a Signal of Workplace Quality.
2012	GreenBRIDGE Student Society Promoting Sustainability through Knowledge Exchange.
2011-2012	Three Urban Land Institute Roundtable Talks Barriers to Energy Efficiency in Property; 2x Energy Performance as a Signal of Workplace Quality.
2011	Grosvenor Group, London Exploring Scenarios for the Energy Management of Property and Property Developments.
2011	Grosvenor Group, London Portfolio Mapping and Analysis using GIS.

Publication Record

2022	Parkinson A.T. Defining Ecosystem Boundaries within a Stable, Diverse and Extensive Alarm Management Platform, Realfeed Ltd.
2021	Parkinson A.T. Social Costs of Carbon: Perspective on the Present State of Affairs, Realfeed Ltd.
2021	Parkinson A.T. An Executive Function for Stability, Realfeed Ltd.
2021	Parkinson A.T., Urmetzer F. Mayor of London: Supply-Chain Engagement for a Smart City, Harvard Management Case Study: Institute for Manufacturing, University of Cambridge
2017	Parkinson A.T., Reid R., McKerrow H., Wright D. Evaluating positivist theories of occupant satisfaction: a statistical analysis, Building Research and Information, 46(7):1-14
2016	Parkinson A.T. An exploration of building energy performance and financial value with demonstration on UK offices, PhD Thesis: Wolfson College, University of Cambridge
2014	Parkinson A.T., Guthrie P.M. Evaluating the energy performance of buildings within a value at risk framework with demonstration on UK offices, Applied Energy, 133:40-55
2013	Parkinson A.T., De Jong R., Cooke A. J., Guthrie P.M. Energy performance certification as a signal of workplace quality, Energy Policy, 62:1439-1505
2012	Parkinson A.T. et al. Exploring scenarios for the future of energy management in UK property, Building Research and Information, 40(3):373-388
2012	Parkinson A.T., Cooke A. J. Market responses to the sustainability and energy performance of commercial property, In: M'Sirdi N., Namaane A., Howlett R.J., Jain L.C. (eds) Sustainability in Energy and Buildings. Smart Innovation, Systems and Technologies, 12:85-97. Springer: Berlin, Heidelberg

Teaching Experience

2020-2021	Executive Education in Internet-of-Things, Institute for Manufacturing, University of Cambridge
2018-2019	Foundations in Digital Development for the Cloud, Classroom Syllabus and Content, Arup
2018	Perspectives on Performance, Guest Lecture, MSc Advanced Building Performance Evaluation, Welsh School of Architecture
2017	BUS Methodology for Occupant Satisfaction Evaluation, E-Learning, Arup
2016-2018	BUS Methodology for Occupant Satisfaction evaluation, classroom tutor for 3 half-day events, Arup
2016	Advances in Building Evaluation, Lecture, Undergraduate Planning Cohort, University of West of England
2013	DECC 2050 Pathways Workshop Facilitation, Cambridge MSt Sustainability Leadership, University of Cambridge

Referee 1: Professor Peter Guthrie

PhD Supervisor

Professor of Engineering for Sustainable Development
Director of Research in Sustainable Development
Fellow of St Edmund's College
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Referee 2: Professor Tim Minshall

Dr John C Taylor Professor for Technology Management

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Referee 3: Mr Darren Wright

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