May Hicks Award – Previous Winners

- 2023 – Matt Tench
- 2022 - Laura Hunnula
- 2021 - Rachael Carpenter
- 2020 - Joseph Bampton
- 2019 - Caitlan Purbrick
- 2018 - Sara Heledd Thomas
- 2016 - Ghyslain Gaillard, Ruth Walton and Connor Wilson
- 2015 - Temenuzhka Panayotova
- 2014 - Petr Kharitonov
- 2013 - Christoph Werner
- 2012 - Geraint Roberts
- 2011 - Rutger Alberink
- 2010 - Steve Waterman
- 2009 - David Stewart
- 2008 - Joanna Knight
- 2007 - Jessica Headey
- 2006 - Sindri Sigurjonsson
- 2005 - Paul Radford

Citation for the May Hicks Awards 2023

The OR Society is delighted to announce the winners of the 2023 May Hicks prize for Best Post-graduate Project. The winner, Matt Tench (University of Edinburgh), received £1000. The runner up was Aviel Jailal (University of Warwick) who received £500.

Winner

Matt Tench (University of Edinburgh)

Measuring Airport Operator Accountable Resilience

This project focused on fundamentally understanding what it means for an airport to be resilient and was commissioned by London Gatwick, the 8th busiest airport in Europe and 2nd busiest in the UK.

The overall goal was to inform stakeholders about resilience, making it a topic of objective discussion rather than one of opinion and subjectivity. A mutual understanding across all stakeholders of what 'resilience' meant and who needed to improve what was key. Matt's dissertation aimed to answer two crucial questions for the aviation industry:

- What constitutes an airport operator's accountability for resilience?
- How can resilience be accurately measured in this complex ecosystem involving various organisations?

Matt developed the world's first method to isolate the specific resilience that an airport operator should be accountable for. This method involved analysing historical flight data on a case-by-case basis and applying formal tests to classify each movement as either 'resilient' or not. By doing so, relevant subsets of operators requiring additional scrutiny were identified, leading to proposed targeted changes and investment for enhancing resilience.

The project built upon fundamental principles of operational management, grounded in queuing theory, to devise effective resilience tests. Two innovative charts, the 'resilience pipe' and 'resilience square,' were introduced to present the results and insights from the test in a clear and understandable manner.

By answering these critical questions and providing a practical approach to assessing and improving operational resilience, Matt's project made a significant impact on London Gatwick's understanding and ability to address resilience challenges. Furthermore, as what happens at one airport will impact every other airport that has connecting flights to it, Matt and the team have begun sharing the ideas with key stakeholders with the ultimate aim of improving resilience across the worldwide aviation network.

THE OPERATIONAL RESEARCH SOCIETY

Runner-up

Aviel Jailal (University of Warwick)

Detecting SIMBox Fraud Using Machine Learning

Aviel's dissertation considers the application of Machine Learning (ML) methods to automatically detect SIMBox fraud which accounts for an estimated $US3.1 billion (8%) out of a total of $US40 billion lost worldwide to telecommunications fraud (in 2021). More specifically, SIMBox fraud accounts for a cost of $US1.5 - $US2.1 million annually for the Caribbean based client organisation that this work was carried out for. A collaboration with a Mobile Network Operator (MNO) was necessary to advance existing ML research in this domain as it allowed Aviel to validate different ML methods on confidential (anonymized) call detail records provided by the client organisation. Following an informative literature review, Aviel used state-of-the-art statistical methods and visualisations to perform an exploratory data analysis and fraud subscriber profiling analysis, revealing previously unknown insights about fraudster behaviour relating to call volumes, cell sites, and credits. These insights/correlations alone have the potential to signal early warnings about potential frauds, and can be of practical use to other MNOs.

Citation for the May Hicks Awards 2022

The OR Society is delighted to announce the winners of the 2022 May Hicks prize for Best Post-graduate Project. The winner, Laura Hannula (University of Southampton), received £1000. The runners up were Nikolas Heinloth (University of Edinburgh) and Hassan Bukhari (Loughborough University), each of whom received £250 each.

Congratulations to all winners.

Winner:
Laura Hannula (University of Southampton)
Exploring the business value of free text data and the use of problem structuring in the Wärtsilä Marine Power Sales organisation

Laura's dissertation focused on assessing the benefits and challenges associated with using free-text data. Her practical work highlighted the immense value of drawing insights from free-text comments written by employees of various levels of seniority and using these to establish a development roadmap.

Her dissertation is an excellent demonstration of theoretical knowledge obtained from MSc Operational Research studies applied to a real-life business problem to create value and actionable insights.

Citation for the May Hicks Awards 2021

The OR Society is delighted to announce the winners of the 2021 May Hicks prize for Best Post-graduate Project. The winner, Rachael Carpenter from Cardiff University, received £1000. The runners up were Alexander Heib (University of Southampton), and Joan Mo (University of Southampton), each of whom received £250 each.

Congratulations to all winners.

Winner:
Rachael Carpenter (Cardiff University)
Cancer Breach – NHS Delivery Unit

The OR Society is delighted to award the May Hicks Prize to Rachael Carpenter. This is given, in the view of the Awards Panel, for the best university nominated UK MSc project in OR.

Rachael's project created a process to identify and resolve common data quality issues and analyse cancer breach reports (detailing patient pathways from cancer diagnosis to treatment where the pathway took longer than the target 62 days).

Citation for the May Hicks Awards 2020

The OR Society is delighted to announce the winners of the 2020 May Hicks prize for Best Post-graduate Project. The winner, Joseph Bampton from University of Southampton, received £1000. The runners up were Dickie Scott (University of Strathclyde), and Jan Kreuter (University of Warwick), each of whom received £250 each.

Congratulations to all winners.

Winner:
Joseph Bampton (University of Southampton)
Training Optimisation and Learner Assessment through Data Exploitation at Babcocks Ltd

The OR Society is delighted to award the May Hicks Prize to Joseph Bampton. This is given, in the view of the Awards Panel, for the best university nominated UK MSc project in OR. Joseph's solution used a wide variety of Machine Learning methods to analyse the training programme being provided by Babcock for the British Army. The project enabled the company to identify students who were performing above or below expectations and thus provide targeted support which will reduce dropouts.

Citation for the May Hicks Awards 2019

The OR Society is delighted to announce the winners of the 2019 May Hicks prize for Best Post-graduate Project. The winner, Caitlan Purbrick from University of Southampton, received £1000. The runners up were Emma McCarthy (Cardiff University), Natasha Page (Imperial College London) and Sara Kilmesova (University of Warwick), each of whom received £250 each.

Congratulations to all winners.

Winner

Caitlan Purbrick (University of Southampton)

The OR Society is delighted to award the May Hicks Prize to Caitlan Purbrick. This is given, in the view of the Awards Panel, for the best university nominated UK MSc project in OR. Caitlin's solution incorporated a complex range of operational and practical constraints to ensure the most profitable deployment of Virgin's aircraft fleet. The problem required resolution of many aspects not contained within existing literature and could realise considerable benefits for the client. Each year the panel are amazed by the complexity of the challenges presented to our MSc students and the quality of work that this brings forth in response. The future of OR cannot be in doubt. Well done indeed.

Citation for the May Hicks Awards 2018

The OR Society is delighted to announce the winners of the 2018 May Hicks prize for Best Post-graduate Project. The winner, Sara Heledd Thomas from Cardiff University, received £1000. The two runners up were Julian Venken from Strathclyde University and Jonathan Cooper from University of Southampton, both of whom received £250 each.

There were 16 entries, all of very high quality; the judges were delighted with the wide range of client organisations using OR. Thanks to everyone who contributed. The 2019 competition will be announced soon, with a deadline of 28 February for entries.

Congratulations to all winners.

Winner

Sara Heledd (Cardiff University)

The project undertaken by Sara Heledd Thomas was for the Hwel Dda University Health Board as part of her MSc in Operational Research, Applied Statistics and Financial Risk course at Cardiff University. The project was analysing some of the challenges associated with the interactions between the health and social care systems; an increasing challenging problem in this current age. The development of a detailed simulation model backed up by statistical analysis and data mining techniques has provided the client with significant new insights into this scenario. The high profile nature of this project has resulted in OR methods being recognized as a key tool in working in multi-disciplinary teams.

Runners up:

Julian Venken (Strathclyde University)

Julian Venken's project was carried out in collaboration with the Communities Analysis Division of the Scottish Government as part of his MSc course at Strathclyde University. The aim was to investigate the design of the new social security agency contact centre. The project involved mapping the of the advice and support contact centre followed by the development of a discrete event simulation model. The active involvement of all key stakeholders has ensured acceptance of the approach which will have long term benefits to the client.

Jonathan Cooper (University of Southampton)

Jonathan Cooper’s project explored intelligent trend detection from time series data related to the performance of landing gear components for Airbus. He used traditional scientific method combined with data science techniques in a very pragmatic and thoughtful way and achieved excellent results.

Citations for The May Hicks Award 2016

The OR Society is delighted to announce the winners of the 2016 May Hicks prize for best student project, and for the first time ever (I think), it's winners in the plural sense. There was a clear gap between the top three and the rest of the pack, and since there was less than a hair's breadth between those three, the judging panel agreed to award joint winners.

In alphabetical order, the top three are Ghyslain Gaillard (Southampton), Ruth Walton (Southampton) and Connor Wilson (Strathclyde). All three will be receiving cheques for £500, and it's the University of Southampton with the widest grins, capturing two of the top three spots.

Ghyslain Gaillard

Ghyslian's work involved building a predictive model using state-of-the-art data analytics and machine learning techniques. It helped his clients, InReach Ventures, to assess which start-up companies would prove the best prospects to invest in. Ghyslian' s since gone back to work full-time as a data scientist with InReach.

Ruth Walton

The Royal National Lifeboat Institute (RNLI) were the client's for Ruth's project, part of a wider review of their warehousing strategy, set up to find the optimal number of warehouses, their locations and the stock that should be stored in each warehouse, whilst minimizing the total costs of storage and transportation. Her work demonstrated huge potential for cutting distances travelled (around 50%) and as much as a 7% reduction in costs.

Connor Wilson

Connor's dissertation was titled 'Uncertainty Analysis of Burner Zone Stoichiometry and Nitric Oxide emissions for Doosan Babcock's Clean Combustion Test Facility'. The client described his Monte Carlo simulation and subsequent sensitivity analysis as a fantastic example of how analytics can have an impact on all our lives

Citations for May Hicks Awards 2015

Winner

Temenuzhka Panayotova

Okay, so there isn't actually a gold medal, but while the Rio Olympics are still fresh in our minds… The OR Society is delighted to announce the winners of the 2015 May Hicks prize for best student project, and it's Warwick Business School stepping to the top of the podium.

The winner is Temenuzhka Panayotova, who is £1000 better off as a result of her award. Her client was UniCredit Bulbank in Bulgaria, and the aim of the project was to build predictive models for likely purchasers of financial products. Temenuzhka used Market Basket Analysis, Sequence Analysis, and Predictive Modelling, all implemented using SAS.

The client said, "Temenuzhka's efforts in analysing a specific cluster of customers have proven that applying a more selective approach in our analytical activities pays back with having better quality in the final results. We plan to continue using such techniques in the future."

Her external examiner remarked, "She did an outstanding job in that she not only successfully implemented a sequence analysis and market basket analysis as the bank had requested, but went beyond this by proposing a predictive modelling approach that aimed to estimate the probability that a particular product will be chosen by a given customer with certain observable features. She demonstrated excellent understanding of both the business and data mining/predictive modelling."

Runners-up

This year's entries were of very high quality, and the two runners-up were **Julieanne Stanzl (Southampton) and Mei-Yin Lu (Strathclyde)**. They each receive a cheque for £250.

Citations for May Hicks Awards 2014

Winner

Petr Kharitonov

The OR Society is delighted to announce the winners of the 2014 May Hicks prize for best student project, and Strathclyde University's streak of three wins in a row has been broken.

The winner is Petr Kharitonov from Lancaster University, who is £1000 better off as a result of his award. His client was the Chartered Management Institute (CMI), and the aim of the project was to provide CMI with segmentation of the employer market and to propose sales approaches for each CMI product type in order to increase its market share and revenues.

The client said, "It was clear to CMI the great work Petr produced on that project, and therefore we invited him to stay on as an intern with us, as we could clearly see the value he could add to an organisation. During the subsequent 3 months, Petr was involved in several other large analysis projects - one of which has become a key area of growth in our 15/16 budget. He also supported me in recruiting (and then training) his replacement, as we knew sadly (for us!) that we would be losing him to McKinsey."

His external examiner remarked, "I think this is an exceptional piece of work. It is not only theoretically and technically ambitious but also of practical benefit to the client. It is very well presented and the complex analytical approaches it uses are clearly explained."

Runners-up

This year's entries were of very high quality, and the two runners-up were Rachel Purkess (Southampton) and Harald Sahlqvist (Strathclyde). They each receive a cheque for £250.

Citations for May Hicks Awards 2013

Winner

Christoph Werner

The OR Society is delighted to announce the winners of the 2013 May Hicks prize for best student project, and for the third year in a row the winner is from Strathclyde University.

The winner is Christoph Werner, who is £1000 better off as a result of his award. His client was the Health Analytical Service Division (ASD) within the Scottish Government. The Scottish Government regards integration of health and social care as one of its core policies, and has set up a Joint Improvement Team with representatives of the many bodies involved such as NHS Scotland and local authorities. ASD's role is to provide advice about evidence-based policy based on both quantitative and qualitative analyses.

Christoph's dissertation addressed both these aspects of using the large data sets resulting from integrating data from health and social care sources. The main deliverables were two integrated tools constructed in Excel, as well as "proof of concept" systems dynamics model (also in Excel) to allow the investigation of policy options, to show how the work might be further developed.

His external examiner concluded his remarks, “Christoph's personal reflections in his dissertation are also very deep - indeed they would serve as a worthy article on "how to successfully complete an MSc dissertation. Overall I found this a delight to read, and worthy of the exceptionally high mark awarded.”

Runners-up

This year’s entries were of very high quality, and the judges agreed to reward *three* runners-up. In alphabetical order they are: Adam Booker (University of Southampton), Charlotte Ekau (Lancaster University) and Gail Mawdsley (Lancaster University). They each receive a cheque for £200.

Citations for May Hicks Awards 2012

Winner

Geraint Roberts

The OR Society is delighted to announce the winners of the 2012 May Hicks prize for best student project, and for the second year in a row the winner is from Strathclyde University.

The winner is Geraint Roberts, who is £1000 better off as a result of his award. His dissertation is titled *"GB Rail Efficiency and Benchmarking"* and was undertaken for Asset Management Consulting Ltd. The scope of the project was to evaluate the productive efficiency of Network Rail's operational routes. Data Envelopment Analysis was used to address four aims, namely, to investigate the variation in costs and performance, understand the main drivers of variation, highlight potential opportunities to improve efficiency and identify recommendations for future research.

AMCL is keen to publish Geraint's work more widely, and said, 'Efficiency modelling is a challenging area and we believe Geraint's application of DEA to overall rail system costs at a regional level is the first of its kind. We will be looking to develop these methodologies further with our clients for wider application.'

Geraint is now the financial controller for online retailer The Simply Group. Replying to news of his award, he said, 'I'm a Chartered Management Accountant, so I'm applying OR/MS in a finance / planning & analysis environment. I think the traditional management accountant skills are at risk of becoming marginalised as data volume and variety increases, hence why I took a course in OR. The best move I ever made, I'm certain - the combination works for me!'

Runner-up

The runner-up is Kayne Putman (Cardiff University), who received a cheque for £250. Kayne's project modelled psoriasis patient flow through secondary care therapies at Aneurin Bevan Health Board in Newport, South Wales.

Citations for May Hicks Awards 2011

Winner

Rutger Alberink

The winner is Rutger Alberink from Strathclyde University. Rutger is £1000 better off as a result of his award. His dissertation is titled *"Accident Modelling in the Railway Industry: A Railway Station Performance Measure on Passenger Slips, Trips and Falls"* and was undertaken for RSSB, an independent, non-profit organisation whose purpose is to play a central role in supporting and facilitating industry-wide knowledge development and sharing a broad range of subject areas to improve the overall level of safety in the rail industry.

Rutger presented his work to a selection of RSSB Safety, Knowledge and Planning and National Programmes departments, which has led to consideration of the techniques that Rutger applied being adopted to other safety risk related problems. The research created a learning opportunity for both RSSB, in terms of a process, as well as industry, in terms of results. It has allowed RSSB to continue to demonstrate its commitment to novel developments in risk evaluation approaches.

RSSB presented Rutger's work to the Station Safety Improvement Sub-group, an industry team made up of station operator representatives with a specific interest in managing and reducing risk at stations. Rutger's work was received very well. It has created a healthy debate and industry appetite for further application of the ranking system. Work is now in progress with a volunteer operator to further validate Rutger's ranking system and explore how it can be adapted to incorporate other station specific features and risk areas such as anti-social behaviours.

Strathclyde's internal examiner said, "This is an outstanding dissertation. The student has been remarkably thorough in his investigation of the data. He has chosen his methods well for analyzing the data and integrated different approaches in a sound manner. Not only is the quality of the technical work is high, but the exposition of the analysis and the synthesis of the specific situation with the general literature is excellent. There is evidence of extensive reading and consideration of the issues arising. There is creativity in the selection and adaptation of methods used for data analysis and good awareness of the need to communicate findings to client. The written dissertation is a beautiful balance of depth in detail with appropriate breadth of accessibility. The reflections are mature and insightful."

Runners-up

The runners-up are **Elizabeth Rowse (Cardiff University) and David Brailsford (Lancaster University),** both of whom received cheques for £250. Elizabeth's project was undertaken for the Cardiff and Vale University Health Board to investigate the optimum skill-mix of district nurse teams to address patient demand at minimum cost. David, meanwhile, assessed the impact of customer satisfaction on consumer behaviour for analytical model building in Marketing Analytics and Data Mining at insurance services provider, AXA Winterthur.

There is no longer a separate undergraduate prize, but entries are still encouraged. Claire Wilson, also from Strathclyde, was the only such entry this year, and despite it not winning one of the main prizes, we decided to commend the project and award a prize of £100. Claire

investigated the impact of relocating manufacturing capability for the UK arm of a multinational hard landscaping Company.

Citations for May Hicks Awards 2010

Winner

Steve Waterman

The OR Society is delighted to announce the winners of the 2010 May Hicks prize for best student project.

The winner is Steve Waterman from Southampton University. Steve will be receiving a cheque for £1000. Steve's project for Virgin Media looked at identifying the key drivers in the Net Promoter Score, their major customer satisfaction metric. The endorsement from Virgin Media said, "...highlights how invaluable the work is to the growth of Virgin Media." The external examiner also commented, "...the candidate demonstrates a maturity in his analysis..."

Runner-up

The runner-up is Daniel Lindblad from Lancaster University, who will receive a cheque for £250. Daniel's work modelled consumer complaints at FMCG producer Beiersdorf.

Citations for May Hicks Awards 2009

Winner

David Stewart

I'm delighted to announce that David Stewart of Warwick University has won the 2009 May Hicks Prize for the best industry-based student project in OR, with David receiving a cheque for £1000.

Runners-up

Runners-up prizes of £250 each go to Matthew Downing (Southampton University) and Suyan Guan (Lancaster University).

The judges commented on the excellent quality of all the projects submitted and were made to work hard coming to their final decision.

Citations for May Hicks Awards 2008

Joanna Knight

The OR Society is delighted to announce the winners of the 2008 May Hicks prize for best student project.

The winner is Joanna Knight from Southampton University (and now working at Dstl). Joanna will be receiving a cheque for £1000.

Runner-up

The runner-up is Kirsty Franks, an undergraduate from Strathclyde University, who will receive a cheque for £250.

Citations for May Hicks Awards 2007

Winner

Jessica Headey

The OR Society is delighted to announce the winners of the 2007 May Hicks prize for best post-graduate project.

The winner is Jessica Headey from Lancaster University. Jessica will be receiving a cheque for £1000.

Jessica's project focused on assessing the cost-effectiveness of a new device for detecting colorectal cancer for Colonix Ltd in conjuction with Sheffield School for Health and Related Research (ScHARR). This cancer accounts for over ten percent of all cancer deaths. Jessica's work involved structuring the diagnostic process and then formulating a model to assess its cost benefit in comparison with alternatives. Her clients congratulated Jessica on her treatment of a complex and challenging problem, which resulted in identifying clear potential clinical benefits. The awarding panel were highly impressed with her achievement.

Runners-up

The two runners-up are Matthew Archbold (Lancaster University), and Ben Causley (University of Southampton), both of whom will receive cheques for £250. The judges commented on the very high standard of all entries and the significant impacts made upon their clients. The variety and challenge of the work undertaken reflects highly on the vibrancy and health of OR in the UK and the talent of those entering the profession.

Citations for May Hicks Awards 2006

Sindri Sigurjonsson

The OR Society is delighted to announce the winners of the 2006 May Hicks prize for best post-graduate project.

The winner is Sindri Sigurjonsson from LSE. Sindri will be receiving a cheque for £800.

Sindri's project centred around the implementation of standard costing at Activis HF in Iceland, part of the Activis Group. The Group is the fifth largest generic pharmaceutical company with revenues of about 1.4 billion Euros in 2006. Perhaps the project report's most important contribution is the changes it has made in the mentality of Actavis HF's management team from the terms of product and business process cost analysis. The report has provided a pathway for the changes required to understand, measure and reduce costs of production, enabling Actavis HF to become a better contender against other production sites in markets with considerably lower labour costs.

Runners-up

The two runners-up are Jonathan Vickers (Warwick University) and Tom Monks (Lancaster University), both of whom will receive cheques for £200. The judges commented on the very high standard of all twelve entries.

Citations for May Hicks Awards 2005

Winner

Paul Radford

The May Hicks Prize for the best MSc project in 2005 is awarded to Paul Radford (Southampton University) for work on credit risk with the Inland Revenue.

Runners-up

The runner up prizes were awarded to Amy Searle (Southampton University) for work on diabetes patients in India and Laura Duncan (Lancaster University) for forecasting slow moving inventory for the RAF.