Centre for Data Analytics (CDA)

Annual Report 2023

Centre for Data Analytics (CDA)

Aims

The University Centre for Data Analytics aims to raise the profile of Bond University in the Data Analytics research space. This will help establish meaningful engagement with organisations, both government and private, which is expected to lead to funding opportunities and research collaborations.

Mission statement

The mission of the Centre for Data Analytics is to establish Bond University as a leading research hub, through (i) outreach and research collaboration, (ii) expansion of the quality and quantity of research output, and through (iii) the development of training and technology aimed at strengthening our current research programs and engagement with industry. The focus of our centre is closely aligned with the priorities of the Bond University Strategic Plan.

Research strategies

Our centre's mission can be further delineated into the following research strategies. These are to

- Elevate our standing and reach by engaging with academe, business, industry, government, and the community in influential and impactful ways, through research, partnership, and collaboration.
- Developing on our firm foundation of existing research to cultivate our accomplishment in research income through contract research and consultancy work.
- Developing on our firm foundation of existing research to cultivate our success in research output in terms of quality and quantity.
- Grow our strength and capacity through research training, higher degree research students and professional development.
- Develop programs to support our growth in income and research output Contribute to the university's graduate and undergraduate program by involving students in research projects through assistantships and other work arrangements.
- Provide technological solutions through Bloomberg, R and Python training programs.

Members – in 2023

The centre's members boast expertise in various data analytics domains, including finance, machine learning, energy economics, sustainable development, energy justice, energy poverty, risk management, and climate change, to name a few. Driven by a shared commitment to innovation, they are keen to pool their complementary skills and collaborate on a variety of groundbreaking big data initiatives.

The current list of members from multi-discipline includes:

Professor Terry O'Neill – Executive Dean and Director of Centre for Data Analytics

Professor Gulasekaran Rajaguru – Deputy Director of Centre for Data Analytics, Associate Dean for Research and Professor of Economics

Professor Steven Stern – Professor of Data Science, Custodian of Duckworth-Lewis-Stern method and member of the ABS Methodology Advisory Committee.

Professor Kuldeep Kumar – Professor of Statistics

Professor Keith Duncan – Professor of Accounting

Professor Marcus Randall - Associate Dean Student Affairs & Service Quality and Professor of Informatics

Professor David Gallagher – Professor of Finance

Dr. Simone Kelly – Associate Professor of Finance

Dr. Adrian Gepp – Associate Professor of Statistics

Dr. Christopher Bilson – Associate Professor of Finance

Dr. Kevin Fergusson – Associate Professor of Actuarial Science

Dr. Rand Low – Associate Professor of Computational Finance

Dr. Tim Hasso – Assistant Professor of Accounting

Dr. James Todd – Assistant Professor of Data Science

Dr. Nikki Cornwell – Honorary Adjunct Senior Research Fellow

Dr. Alex Acheampong – Assistant Professor of Economics

Dr. Andre Barczak – Assistant Professor of Data Science

Dr. Belinda Barton - Assistant Professor of Marketing

Ms. Luccia Vigas – Assistant Professor of Actuarial Science

Ms. Twane Wessels – Assistant Professor of Actuarial Science

Dr. Ahmed Moustafa –Professor of Psychology

Dr. Vernon Coffey– Associate Professor

Dr. Bruce Watt – Head of School, FSD

Prof. Rod Falvey– Honorary Adjunct Professor of Economics

Dr. Michael O,Neill – Honorary Adjunct Associate Professor

Professor Robert Faff – Honorary Adjunct Professor of Finance

Prof. Bruce Vanstone – Honorary Adjunct Professor of Data Science.
Advisory Board – Bond Business School Advisory Board.

Team

Prof. Terry O'Neill – Director and Executive Dean

Prof. Gulasekaran Rajaguru – Professor of Economics, Associate Dean for Research, Deputy Director of the CDA

Prof. Steve Stern – Professor of Data Science. Custodian of Duckworth-Lewis-Stern method

Prof. Kuldeep Kumar – Professor of Statistics

Prof. David Gallagher – Professor of Finance

Prof. Marcus Randall – Professor of Informatics

Prof. Keith Duncan – Professor of Accounting

Dr. Simone Kelly – Associate Professor of Finance

Dr. Adrian Gepp – Associate Professor of Data Analytics

Dr. Christopher Bilson – Associate Professor of Finance

Dr. Rand Low – Associate Professor of Computational Finance

Dr. Tim Hasso – Assistant Professor of Accounting

Dr. Alex Acheampong – Assistant Professor of Economics

Dr. Andre Barczak – Assistant Professor of Data Science

Dr. James Todd – Assistant Professor of Data Science

Dr. Michael O'Neill – Honorary Adjunct Associate Professor of Finance

Dr. Belinda Barton – Assistant Professor of Marketing

Ms. Luccia Vigas – Assistant Professor of Actuarial Science

Ms. Twane Wessels – Assistant Professor of Actuarial Science

Dr. Bruce Watt – Head of School, FSD

Dr. Nikki Cornwell – Honorary Research Fellow

Prof. Robert Faff – Honorary Adjunct Professor of Finance

| Dr. Vernon Coffey– Associate Professor | Dr. Ahmed Moustafa – Professor of Psychology | Prof. Rod Falvey – Honorary Adjunct Associate Professor of Economics |

Centre objectives and Action Plans

The centre addresses many of the Strategic Objectives set out in the Bond University Research Strategy 2023-2027 both directly, and indirectly.

STRATEGIC OBJECTIVE 1: Conduct targeted research in key areas which is world-class in quality and impact.

Under the leadership of Centre Director, Professor Terry O'Neill, known for his extensive expertise in quantitative analysis and leadership, the centre fosters a vibrant research environment in data analytics. Professor Steve Stern, renowned for his work on the Duckworth Lewis Stern method for scoring rain-affected cricket games, further solidifies Bond University's reputation in quantitative research. The addition of Professor David Gallagher in January 2023 bolstered the team, leading to the submission of the Super-CRC bid. The centre prioritizes supporting grant recipients, ensuring they have the necessary resources and assistance to fulfill their grant objectives. It offers training and support to its members, enhancing the impact of their research, facilitating engagement with crucial stakeholders, and fostering industry collaborations. Moreover, the Centre for Data Analytics is a proud participant in the Australian Data Science Network, reflecting its commitment to advancing the field.

The centre incorporates members from various fields with the aim of implementing a collaborative supervisory model for research students. This model involves the formation of supervisory panels, each comprising 3 to 5 co-supervisors from diverse departments within the data analytics centre, to guide each PhD candidate. Such an approach not only grants PhD students access to the extensive expertise of the centre's members but also fosters a deeper mutual understanding of the distinct capabilities among the members, potentially leading to enhanced collaborative efforts. Moreover, the topics for Masters and Doctoral dissertations are carefully chosen to reflect the demands of the industry.

STRATEGIC OBJECTIVE 2: Build and nurture key partnerships with professions, industry, government, and academia that enhance our reputation and grow our capacity including our ability to undertake impactful research.

The Centre for Data Analytics is established to help Bond University establish itself as a significant player in the Big Data and Analytics research space. Members of the centre have specific data analytics interests in finance, machine learning, risk management and climate change, amongst others.

The centre has conducted four meetings in 2023 to promote research activities (Appendix A). The focus of our meetings is centred around the priorities of the Bond University Strategic Plan 2023-27. The priorities are expected to be achieved through (i) publishing in internationally refereed journals, (ii) present our articles at the international conferences, (iii) promoting research through academic / industry partnership and collaboration, (iv) seeking external grants, and (v) promoting research through HDR program and alumni. Notably, the Centre for Data Analytics has secured the ARC Discovery Research grant in 2023 as outlined below.

Title: Price Discovery in Equity and Volatility Futures for Trading and Hedging

Participants: Gulasekaran Rajaguru (Lead CI), Steve Stern (CI), Michael O'Neil (PI) and Robert Faff (CI)

Total Funding = $382,798 (Contribution from ARC: $254,798.00 and Contribution from Bond University: $128,000)

Summary:

This project aims to develop a multivariate asynchronous technique to analyse the price discovery of movements in equity stock indices, volatility index futures and exchange traded products. This project expects to generate new knowledge in the area of financial econometrics using an innovative mixed frequency sampling approach to establish robust causal inferences. Expected outcomes of the project include enhanced econometric theory and its implementation in applied finance. This should provide significant benefits in the price discovery of the equity index in Australia, including insights that will help Australian funds in hedging and trading volatility.
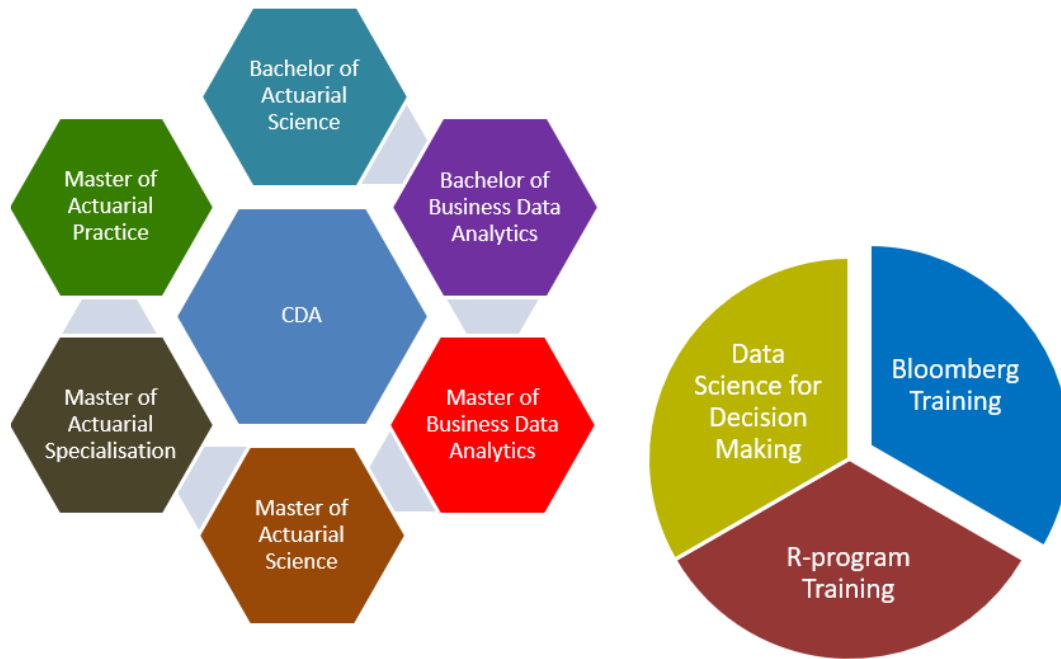
National Interest Test Statement:

Alternative asset classes perform differently over time and superannuation funds use this diversification feature to help manage market uncertainty on behalf of members. However, there is no unique way to execute this responsibility – there are literally thousands of superannuation options available. This project will contribute to the national economy by proposing a novel approach to appropriately manage risk. This strategy involves learning from the observed link between special financial measures and the make-up of asset classes within a superannuation fund. This will

allow fund managers to make more informed and superior decisions about the optimal composition of their portfolio. This approach should improve superannuation outcomes, particularly for retirees where unexpected dramatic market downturns can substantially impact retirement income. Put simply, these members will benefit by better avoidance of riskier asset classes. Crucially, the project's state-of-the-art evidence-based findings will be openly shared across the superannuation industry and with regulators.

The strategic priorities are achieved by the members of Centre for Data Analytics through one or more initiatives listed above:
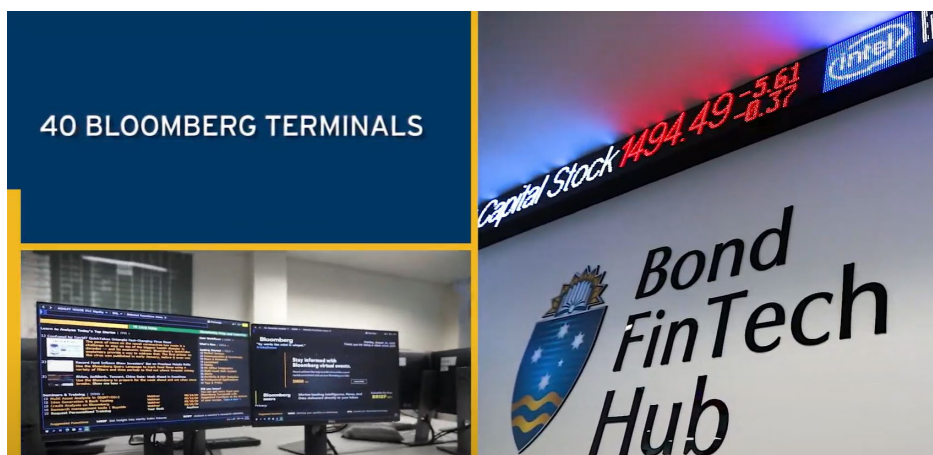
(i)   The centre has achieved its University Research Centre status in 2020.

(ii)   The centre has produced 61 research articles in the form of journal articles / review and are published in internationally referred journals (Attachment 1) in 2023. 75% of the articles are published ABDC ranked A/A* or Scimago – Q1 classification journals.

(iii)   The research output is presented in internationally refereed conferences. The centre has produced   multiple conference papers and book chapters in 2023 (Attachment 1). It also provided a platform to perform more collaborative research in the field of data analytics. The centre has gained its international reputation through international conference presentations and comments on the leading statistical journal (Journal of the Royal Statistical Society), See attachment 1. The members also serve as a member of editorial board in multiple leading academic journals. Most importantly, the impact of the research centre is showcased through multiple media publications / interviews.

(iv)   Researchers from the centre has produced multiple academic and industry research partners. Research week presentations also attracted industry partners and created a solid platform towards external grants and consultancies. The research seminars conducted by Research Centre also attracts larger number of researchers in the field and they made significant contribution to our research. The external relationship with industry partners and government includes Australian Research Council, AFAANZ, Queensland Department of Environment and Science, etc.

(v)   Ms Twane Wessels and Ms Luccia Viegas joined CDA in January 2024 as an Assistant Professor of Actuarial Science. Both enrolled in HDR program. They play vital role accreditation of Actuarial Programs at the BBS.

(vi)   The centre has secured significant external research grants including an ARC Discovery Grant (see Attachment 2).

(vii)   Members of research centre are actively involved in HDR research supervision (see Attachment 3).

(viii)   CDA has joined the Australian Data Science Network (ADSN). The ADSN is administered by the QUT Centre for Data Science. The aim of the Australian Data Science Network (ADSN) is to connect the concentrations of expertise in data science across Australia, to improve communication, encourage collaboration, expand opportunities, and promote our individual and collective capabilities.

(ix)   The research week event conducted by the CDA was successful and it attracted both academic and industry partners. The research week event was a panel discussion Chaired by Professor David Gallagher with a panel of Professor Ron Bird, Dr. Deb Ralston, Dr. Michael O'Neill and Dr. Jeremy Cooper on Australia's Super System – Past, Present and Future.

(x)   Cooperative Research Centres (CRC) Grants provide funding for medium to long-term, industry-led research collaborations. Corporate Research Centre Bid (CRC bid) – multiple partners from both industry and academic. It aims to solve industry identified problems and improve the competitiveness, productivity and sustainability of Australian industries. It includes an industry-focused education and training program, including a PhD program that builds capability and capacity. Bond University is participating on the CRC bid. It will have the time span of 10 years with a total grant of about $100 million. The focus will be on data science, efficiency, governance, and behavioural science. CDA has a skill set which are relevant for this grant. It will provide fundings for PhD students. If it is successful it will increase research and development (R&D) capacity in small to medium enterprises (SMEs).

(x) CDA brings its research expertise into the class room by offering multiple undergraduate, postgraduate and other micro-credential courses.

Infrastructure

The members have unparalleled access to the Bond FinTech Hub. Featuring two industry-standard trading facilities and 40 Bloomberg terminals – the most in Australia – the Bond FinTech Hub provides every Bond Business School student with 24-hour access to Bloomberg's live financial market data. CDA has a subscription to DataStream database to support strong research culture.

Bloomberg terminals are the world standard for accounting and finance professionals, allowing students to get hands-on experience on the tools before entering the workforce. Students can execute deals, manage portfolios and trade securities based on real market conditions.

The Bond FinTech Hub also has a dedicated supervisor who can provide training for Bloomberg certification and [R] programming software.

CDA is also a member of the Queensland Cyber Infrastructure Foundation (QCIF), which provides the high-performance services, infrastructure and support required to achieve excellence in computation and data-driven collaborative research and its application in industry.

DataStream is available at the CDA, which was funded by the university as a part of the contribution towards the ARC grant.

Outcomes

The table below reports each research strategy within the Centre's mission statement and provides both an indicative target and means by which that target will be achieved (approach/metric).

Research Strategy	Approach/metric
I. Outreach and research collaboration	
a) Elevate our standing and reach by engaging with academe, business, industry, government, and the community in influential and impactful ways, through research, partnership, and collaboration.	• Growth in membership • Growth in engagement with research partners • Growth in engagement with government and industries • Identify, obtain and maintain resources and facilities required to attract quality researchers
b) Cultivate our accomplishment in research income through contract research and consultancy work	• Growth in research grants and consultancy income
II. Expansion of the quality and quantity of research output	
Building on our existing research base to expand both the	Growth in research outputs through publishing in high quality journals

	quality and quantity of research output.	
III. *Development of training and technology aimed at strengthening our current research programs*		
	a) Grow our strength and capacity through research training, higher degree research students and professional development	• Growth in HDR students • Growth in participation in HDR training program such as coursework and workshops Increased involvement in Research Seminar and Conference presentations
	b) Develop programs to support our growth in income and research output	• Regularly Review and Develop programs to meet market demand to increase income and quality research output
	c) Contribute to the university's graduate and undergraduate program by involving students in research projects through assistantships and other work arrangements	• Growth in engagement with research partners • Growth in engagement with government and industries • Increased involvement in supervision of research projects • Growth in work integrated learning activities Growth in internships
	d) Provide technological solution through Bloomberg, R and Python training programs	• Growth in Bloomberg training program participation Growth in participation in R programming training sessions

Appendix A: Meeting Minutes

MINUTES OF MEETING 15 MARCH 2023

Meeting of the Centre for Data Analytics held on 15/03/23 in the Business Innovation Hub (2_3_09)

Present: Professor Gulasekaran Rajaguru (Chair), Professor Terry O'Neill, Professor, Professor David Gallagher, Professor Keith Duncan, Professor Marcus Randall, Dr Simone Kelly, Dr. Christopher Bilson, Dr. James Todd, Dr. Alex Acheampong, Dr. Tim Hasso, Dr. Kevin Fergusson, Dr. Andre Barczak, Dr. Belinda Barton, Ms. Emma Hunt.

Apologies: Professor Steven Stern, Professor Robert Faff, Professor Kuldeep Kumar, Dr. Adrian Gepp, Dr. Rand Low, Dr. Vernon Coffey, Dr. Bruce Watt, Dr. Ahmed Moustafa, Dr. Michael O'Neill, Ms. Nikki Cornwell.

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1. **ACKNOWLEDGEMENT OF COUNTRY, WELCOME AND APOLOGIES**
   The CDA members noted the Acknowledgement of Country and the above apology. The Chair welcomed the new members Prof. David Gallagher and Dr. Belinda Barton.

2. **CONFIRMATION OF MINUTES**
   The Committee endorsed the minutes of the meeting held on 23 November 2022.

3. **RESEARCH ACTIVITIES**
   Members are expected to update their PURE profile.
   a. Publications - **Attachment 1.**
      Chair has requested all new members to update their publication in PURE.
   b. Research Grant
      Professor Terry O'Neill announced the success of the ARC grant application.
      - DP230101472: Australian Research Council Discovery Grant totalling $382,798 for 'Price Discovery in Equity and Volatility Futures for Trading and Hedging.' Gulasekaran Rajaguru; Steven Stern; Michael O'Neill; Robert Faff.

New ARC Applications:

- DP240102558 Optimising Climate Change Resilience in Australian Agricultural Land Use. Dr James Montgomery (University of Tasmania), Prof Marcus Randall (Bond University), Adjunct A/Prof Andrew Lewis (Griffith University), Dr Muhammad Alam (University of Tasmania) - Total Requested Budget: $298,490.
- Alex will be applying for DECRA in 2023.
- Update received on ARC Industrial Transformation Training Centre application- Lead by QUT – Team from the CDA: Dr. Adrian Gepp and Dr. James Todd.
- Innovation Tourism and Sports – Tim Hasso – on progress.
- Super CRC – Prof. David Gallagher provided update on the SuperCRC.
  - Submitted last week – 33 partners (8 of them are universities) – requesting $65 million from the Commonwealth Government over 10 years. The focus is on superannuation and retirement income. The outcome will me known by December 2023.

c. Conference/Seminar/Presentations
  - Tim Hasso provided an update on 32nd Asian-Pacific Conference on International Accounting Issues, Oct 15 -17, 2023 – Co-sponsored by Bond Business School, Bond University.
  - Prof. Gallagher conducts Industry Symposium with UBS in Sydney on 22 June 2023. Three HDR students and few staff from BBS will be presenting in this meeting.
  - Emma Hunt announced the EOI for the AFAANZ grant.
  - Research Week Event – CDA has nominated an event with a focus on Superannuation – possibly a panel discussion.
d. Visitors
Prof. Tom Smith expected to visit next year as a mentor.

4.
  a. Update from the Director – Executive Dean Professor Terry O'Neill.
  There is a marginal drop in number of students. More extension on student accommodation. There is a possible extension in infrastructure if the SuperCRC is successful.
  b. Update from the ADR – Written update received from Prof. Robert Faff

- Imminent launch of 2nd edition of the InSPiR2eS Global Pitching Research Competition (IGPRC)
  - o IGPRC2023 will be launched in late March and Grand Final in December
  - o Just completed an affiliate national competition in Indonesia (> 20 entries)
  - o Likely to have an affiliated pitching event in Brazil in November (sponsored by Elsevier)
- Calling for Expressions of Interest for high profile/ active researcher to Guest Edit a PBFJ Special issue (SI)
  - o I am open to a "Data Science" focus linked to a relevant finance theme
  - o The SI needs to be in line with the "Responsible Science" initiative recently launched by PBFJ – see Editorial Note attached.
  - o The SI might be linked to a small conference or symposium event (eg hosted at Bond?) but a conference/symposium is totally optional.

5. Infrastructure

   Datastream – currently not working. ITS is working on this. It does not require any specific password. It does not accommodate remote access.

   QCIF

   - No major changes
   - Members may contact Andre about training and upcoming events.

6. Other Business

   Emma Hunt – Ethics requirements are changing for the use of secondary data and the systematic review. Terry will discuss with the DVC and find a way to streamline this process.

   Next meeting in 2-3 months.

POST MEETING ACTION SHEET (PMAS)

Item	Action	Action Officer	Action Taken	Date Completed
Item 6 Meeting 15/3/23	New policy on ethics approval required for: (a) Secondary data (b) Systematic Review (c) Any publicly available data. **Need to streamline this process – such policy needs to be removed or simplified.**	Prof. Terry O'Neill	Revised: now it states What are the types of projects that do not require human ethics approval? Research that is not for academic use or publication is not required to go through the ethics review process. For example: •undergraduate training studies that are conducted with no view toward academic publication. •audits or quality assurance programs that do not require access to sensitive or personal information. You may also be exempt from ethical review if you are using particular kinds of secondary data: •the use of data, documents or records that are all publicly available (such as publicly accessible archives or publications) does not require ethical approval (except social media). •unidentifiable secondary data such as licenced databases, non-identifiable ABS datasets (except medical data).	17/4/23

Meeting 2: Centre for Data Analytics

MINUTES OF MEETING 10 July 2023

Meeting of the Centre for Data Analytics held on 10/07/23 in the BBS Boardroom (BLDG 2_3_05)

Present: Professor Gulasekaran Rajaguru (Chair), Professor Terry O'Neill, Professor, Professor David Gallagher, Professor Keith Duncan, Professor Marcus Randall, Dr Simone Kelly, Dr. Christopher Bilson, Dr. James Todd, Dr. Alex Acheampong, Dr. Tim Hasso, Dr. Andre Barczak, Dr. Belinda Barton, Dr. Michael O'Neill, Ms. Nikki Cornwell, Ms. Emma Hunt.

Apologies: Professor Robert Faff, Professor Steven Stern, Professor Kuldeep Kumar, Dr. Adrian Gepp, Dr. Rand Low, Dr. Kevin Fergusson, Dr. Vernon Coffey, Dr. Bruce Watt, Prof. Ahmed Moustafa.

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7. **ACKNOWLEDGEMENT OF COUNTRY, WELCOME AND APOLOGIES**
   The CDA members noted the Acknowledgement of Country and the above apology.

8. **CONFIRMATION OF MINUTES**
   The Committee endorsed the minutes of the meeting held on 15 March 2023.

9. **BUSINESS ARISING FROM MINUTES**
   Items from the PMAS were reviewed and updates from the office of Research on ethics application related issues were provided.

10. **RESEARCH ACTIVITIES**
    Members are expected to update their PURE profile.
    e. Publications - **Attachment 3.**
       Executive Dean Professor Terry O'Neill has acknowledged the quantity and quality of research publications from the CDA members. Chair has updated the message from Provost Prof. Keitha Dunstan, who has congratulated CDA for significant increase in quality publication and research grants.
    f. Research Grant

- Simone Kelly - AFAANZ research grant $5,300.

Grant Applications
- ARC application - DP240102558 Optimising Climate Change Resilience in Australian Agricultural Land Use. Dr James Montgomery (University of Tasmania), Prof Marcus Randall (Bond University), Adjunct A/Prof Andrew Lewis (Griffith University), Dr Muhammad Alam (University of Tasmania) -Total Requested Budget: $298,490.
- Alex will be applying for DECRA in 2023.
- Grant application to Queensland Police on Cybercrime by Kuldeep Kumar, Rajat Roy and Vishal Mehrotra – outcome will be known by 28 July 2023.

   g. Conference/Seminar/Presentations
   - Update from David - The conference hosted by UBS at the Sydney on 22 June 2023 was successful. It was attended by 80 delegates – significant attendance from the industry. It was a great opportunity for the HDR students to showcase their research.
   - 32nd Asian-Pacific Conference on International Accounting Issues, Oct 15 -17, 2023 – Co-sponsored by Bond Business School, Bond University. The venue needs to be updated.
   - Nikki presented at the international conference on Actuaries in June 2023 – attended by 1500 guests.
   h. Visitors
   Few HDR students have visited Dr. Adrian Gepp at the Bangor University.

5.0   UPDATE FROM THE DIRECTOR

1. Executive Dean Professor Terry O'Neill updated the status of the SuperCRC application – acknowledged the extensive work done by Prof. David Gallagher. There is a significant change in the priority area. David has provided the update on the possible areas where the proposal can be submitted to seek industry funding.
2. We still have significant of amount of research money to be used in 2023. The budget share likely to increase in 2024 due to outstanding performance in publication, grants and HDR outcome.

3. CDA received infrastructure funding for upgrading to the high-performance computers.

6.0   INFRASTRUCTURE

Web improvement Project

- Under review

QCIF

- No major changes
- Members may contact Andre about training and upcoming events.

7.0   RESEARCH WEEK

David has updated the progress of the Research Week event. Panel Discussion on superannuation will be held on 10th October 2023 with a mix of both industry and academic personals. The event will be combined with Business Leaders Forum. The possibility of one-on-one meeting is possible. It will be updated shortly.

8.0   OTHER BUSINESS

Belinda Barton has asked if the CDA has a representation for the open day. Sekar to explore the option to promote CDA.

Next meeting in 3-4 months.

POST MEETING ACTION SHEET (PMAS)

Item	Action	Action Officer	Action Taken	Date Completed
Item 8.0 Meeting 10/7/23	CDA representation in the Open Day.	Sekar Rajaguru	Competed	14/7/23

Meeting 3: Centre for Data Analytics

MINUTES OF MEETING 8 November 2023

Meeting of the Centre for Data Analytics held on 10/07/23 in the BBS Boardroom (BLDG 2_3_05)

Present: Professor Gulasekaran Rajaguru (Chair), Professor Terry O'Neill, Professor, Professor Steven Stern, Professor David Gallagher, Dr Simone Kelly, Dr. Kevin Fergusson, Dr. Rand Low, Dr. James Todd, Dr. Alex Acheampong, Dr. Tim Hasso, Lucia Viegas, Twane Wessels.

Apologies: Professor Keith Duncan, Professor Marcus Randall, Professor Robert Faff, Professor Kuldeep Kumar, Dr. Christopher Bilson, Dr. Andre Barczak, Dr. Adrian Gepp, Dr. Belinda Barton, Dr. Vernon Coffey, Dr. Bruce Watt, Prof. Ahmed Moustafa, Dr. Michael O'Neill, Ms. Nikki Cornwell, Ms. Emma Hunt.

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11. **ACKNOWLEDGEMENT OF COUNTRY, WELCOME AND APOLOGIES**
    The CDA members noted the Acknowledgement of Country and the above apology.

12. **CONFIRMATION OF MINUTES**
    The Committee endorsed the minutes of the meeting held on 10 July 2023.

13. **BUSINESS ARISING FROM MINUTES**
    Items from the PMAS were reviewed and CDA had a representation in the Open Day.

14. **RESEARCH ACTIVITIES**
    Members are expected to update their PURE profile.
    i.   Publications - **Attachment 3.**

    j.   Research Grant

- 2023 Research consultancy awarded - Queensland Department of Environment and Science - Investigate innovation-active firms in Queensland – Tim Hasso, Nicolo Agliata - $27,357.
- 2023 Research consultancy awarded - Queensland Department of Environment and Science - Profiling Innovation-active firms in Queensland – Tim Hasso - 30,092.70.
  - o Tim Hasso will consider for Linkage by end 2024
- Rand Low expected know the outcome of his application by end 2023.
- James Todd expected know the outcome of his application by end 2023.
  - Director Prof. Terry O'Neill confirms that BBS will not be able provide cash contributions towards ARC Linkage. Chair, further, notes that the industry must contribute at least 25% of the funding and the remaining 75% can be requested from ARC. The in-kind contribution often considered as a contribution towards ARC.

Grant Applications
- ARC Linkage Application - DP240102558 Optimising Climate Change Resilience in Australian Agricultural Land Use. Dr James Montgomery (University of Tasmania), Prof Marcus Randall (Bond University), Adjunct A/Prof Andrew Lewis (Griffith University), Dr Muhammad Alam (University of Tasmania) -Total Requested Budget: $298,490.
- Alex will be applying for DECRA in 2023.
- ARC Discovery - Energy Mix and Sustainable Economic Development for Australia – Sekar and his team has progressed towards internal EOI. Update from Chair – ARC Discovery Application process has changed. The full application is not required. The team required to submit 2-page EOI and the ROPE statement. The successful EOI will be invited to submit the full application.

  CRC – Update from Prof. David Gallagher – We may not apply for rebid. If we progress through rebid, then the future bid will be scaled down.

  David is expected to generate 8 – 10 MPhil / PhD scholarships funded by industry, which will be independent of CRC.

k. Conference/Seminar/Presentations
  - UBS and Bond Conference held in Singapore and Hong Kong.
  - James Todd – Attended the Royal Statistics Society Conference and Operations Research Society Conference.

Update Tim Hasso – The conference is attended by 90 delegates.

l. Visitors
- Michael O'Neill – visited CDA.
- Professor Kuldeep Kumar is currently visiting, Centre for Computational Finance and Economic Systems, Statistics department, Rice University, Houston (USA). He is also visiting M D Anderson Cancer Centre and McWiliams School of Biomedical Informatics, UT Health Houston. He delivered a Colloquium Lecture Series at the Rice Engineering Statistics seminar on "Some Issues in Classification Problems with Application in Finance". He also delivered a seminar at the McWilliams School of Biomedical Informatics (SBMI Research Seminar). He was invited to deliver a talk on "Cancer detection through Machine Learning" at The MD Anderson Cancer Center under ENJOY SCIENCE webinar series which was developed to strengthen the connections between the scientific and medical community at MD Anderson Cancer. Kuldeep Kumar was a Keynote speaker at the International Symposium on Multidisciplinary Approach For Data Management organized by AMITY University, India. He also delivered Prof. A R Roy memorial Lecture on "Financial Fraud Detection" at Lucknow University, India and a seminar at Jaipuria Institute of Management. Kuldeep delivered an invited talk under the International Lecture series at the School of Data Analytics & School of Mathematics and Statistics, Mahatma Gandhi University, Kottayam, India.
- Research Week Event - "Australia's Super System - Past, Present and Future".
  - Panellists: Ron Bird, Jeremy Cooper, Mike O'Neill, Deborah Ralston,
  - Moderator: David Gallagher

5.0   UPDATE FROM THE DIRECTOR

4. BBS did not have any success on Research Awards.
5. Sekar will be visiting Ivey Business School, Western University – PhD collaboration initiative. It aims to elevate the position of the CDA.
6. Sekar will be visiting Simon Fraser University for the potential student exchange arrangements for the Actuarial Science Programs.

7. University has allocated funding for the strategic appointment of Prof. David Gallagher to work towards future CRC.

8. TEQSA report is competed. We are tracking well with publication and grants. We will have a Strategy to improve supervisory arrangements.

6.0 INFRASTRUCTURE
- Few new high-power machines are installed in CDA.
- We will move towards enterprise solutions for the GAI for both teaching and research.
- The key to the resource rooms is available outside of Boardroom.

7.0 ETHICS APPROVAL

Ethics committee has been rejecting applications based on the methodology. We expect this to be fixed by the new Chair.

8.0 OTHER BUSINESS

Twane Wessels has agreed to take the minutes of the meetings in 2024.

Next meeting in 3-4 months.

Attachment 1

Attachment 1 – Research Output 2023

(A) Journal Articles

1. A Big Data Framework to Address Building Sum Insured Misestimation. Roberts, C., **Gepp, A. & Todd, J.,** 2023, (Accepted/In press) In: Big Data Research. p. 1-13 13 p.

2. Adapting Deep Learning Models between Regional Markets. Tonkin, I., **Gepp, A.,** Harris, G. & **Vanstone, B. J.,** Jan 2023, In: Neural Computing and Applications. 35, 2, p. 1483-1492 10 p.

3. An investigation of data-driven player positional roles within the Australian Football League Women's competition using technical skill match-play data. Van der Vegt, B., **Gepp, A**., Keogh, J. W. L. & Farley, J. B., 5 Oct 2023, In: International Journal of Sports Science and Coaching.

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150, p. 1-24 24 p., 103594.

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B. <u>Book / Book Chapters</u>

1. Status of Women Empowerment in Pakistan: Lessons for D-8 Countries. Khan, S., Goldsmith, A. & **Rajaguru, G.**, 1 Jan 2023, Economic Integration Among D-8 Muslim Countries: Prospects and Challenges. Khalid, A. M., Feguson, R. J. & Asadullah, M. N. (eds.). World Scientific, p. 165-194 30 p.

C. <u>Conferences</u>

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2. Colon Cancer Tissue Classification Using ML. Tripathi, A., **Kumar, K.**, Misra,

A. & Chaurasia, B. K., 2023, 2023 6th International Conference on Information Systems and Computer Networks (ISCON). IEEE, Institute of Electrical and Electronics Engineers, p. 1-6 6 p. (2023 6th International Conference on Information Systems and Computer Networks, ISCON 2023).

3. Technical experts as managers and servant leaders. **Wessels, T.,** 11 Oct 2023, p. 1-47. 47 p.

4. Consequences of Mixed Sampling on Granger Causality – A Cautionary Note **Rajaguru, G.,** 10 Jan 2023. 25 p.

5. Automated coding of suicidal ideation in emergency department presentations: balancing interpretability and performance. **Todd, J., Gepp, A.,** Hudson, C. & **Randall, M.,** Sept 2023, p. 1-1. 1 p.

6. ESG Reporting Fog: A Way Forward for Australian Management. Staffetius, W., **Duncan, K.,** Kercher, K. & Southam, C., 15 Oct 2023, p. 31.

7. Intercultural and cross-institutional learning simulation: A relevant pedagogy for developing professional competencies and enhancing graduate work readiness in accounting programs. Hollindale, J., Kercher, K., **Duncan, K.** & Aldamen, H., 15 Oct 2023.

D. <u>Comments / Discussion/ Book Reviews/ Software</u>

1. Amy's Luck. Kumar, K., 4 May 2023, In: Journal of the Royal Statistical Society. Series A: Statistics in Society. 1 p.

2. Comments on the paper "Vintage Factor Analysis with varimax Performs Statistical Inference" by Karl Rohe and Muzhe Zeng. **Kumar, K.,** 3 Apr 2023, (Accepted/In press) In: Journal of the Royal Statistical Society. Series B: Statistical Methodology.

3. Dicing with Death Living. **Kumar, K.,** 4 May 2023, In: Journal of the Royal Statistical Society. Series A: Statistics in Society. 1 p.

4. Spatial Analysis by John T. Kent and Kanti V. Mardia, John Wiley and Sons. 2022. **Kumar, K.,** 2023, In: Journal of the Royal Statistical Society. Series A: Statistics in Society. 1 p.

5. Kuldeep Kumar's contribution to the Discussion of 'Experimental evaluation of algorithm-assisted human-decision-making: application to pretrial public safety assessment' by Imai et al.. **Kumar, K.,** 21 Feb 2023, In: Journal of the Royal Statistical Society. Series A: Statistics in Society. 186, 2, 1 p.

6. Technical experts as managers and servant leaders. **Wessels, T.,** 11 Oct 2023.

7. Advanced survival models. **Todd, J.,** 17 Apr 2023, In: Journal of the Royal Statistical Society. Series A: Statistics in Society. 186, 4, p. 899-899 1 p.

Attachment 2

<u>**Grants Approved (2023)**</u>

Rajaguru, G., Faff, R., Stern, S. and O'Neill, M. Price Discovery in Equity and Volatility Futures for Trading and Hedging, 2023 ARC Discovery Project, Australian Research Council. $382,798.

Tim Hasso, Nicolo Agliata. 2023 Research consultancy awarded - Queensland Department of Environment and Science - Investigate innovation-active firms in Queensland - $27,357.

Tim Hasso. 2023 Research consultancy awarded - Queensland Department of Environment and Science - Profiling Innovation-active firms in Queensland – 30,092.70.

Dr Simone Kelly & Dr Robyn McCormack. 2023 AFAANZ research grant awarded - Environmental, Social and Governance (ESG) Characteristics of Australian Superannuation Fund Categories – $5,300.

Simone Kelly, Claire Burns and Prof. Keitha Dunston. 2023 ABEN-ECSTRA Grant - Research grant into ethical decision making in finance markets - Australasian Business Ethics Network - $10,000.00.

Marcus Randall - 2023 Principles for Responsible Management Education (PRME) research grant awarded, Environmentally Sustainable Crop Planning: Adapting Agriculture to Climate Change in Australia, - $5,000.00

<u>**Grants Applied (2023)**</u>

Acheampong, Alex. Energy poverty and environmental change policy actions in Asia-Pacific. ARC Discovery Early Career Researcher Award. Amount requested: $475,224.

Rajaguru, G. Acheampong, Alex, Mukhopadhaya, P., Best, R., Dzator, J., Khan, S. – Energy Mix and Sustainable Economic Development for Australia. ARC Discovery Grant - Amount requested: $298,000.

Accelerating the synthesis of evidence across scientific disciplines. . CI Professor Paul Glasziou (Bond), CI Professor Tammy Hoffmann (Bond), CI Associate Professor Mark Jones (Bond), **CI Assistant Professor Belinda Barton (Bond),** CI Dr Matthew Carter (Bond), CI Mr Justin Clark (Bond), CI Professor Zachary Munn (Adelaide), PI Professor Annette O'Connor (Michigan State), PI Dr James Thomas (University College London), PI Dr Vivian Welch (Campbell Collaboration, Bruyere Research Institute Canada, University of Ottawa Canada). ARC Discovery Grant.

Making Food Labels Improve Food Choices and Consumption Behaviours. CI Professor Chris Dubelaar (Deakin), CI Professor Judi Porter (Deakin), CI Assistant Professor **Belinda Barton (Bond),** PI Professor Carolina Werle (Grenoble Ecole De Management). ARC Discovery Grant.

Randall, M., Montgomery, J. and Lewis, A. Sustainable Agriculture: Optimal Australian Crop Plans Under Climate Change, 2023 Discovery Project, Australian Research Council. Grant Applied: $316,889.

Stern, S. Engaging Science Grants Program, Advance Queensland initiative. Grant Applied: $20,000.

Todd, J.; Gepp, A.. AFAANZ "mentoring of developing researchers" - Grant Applied: $5,473.71

Todd, J. Advance Queensland Industry Research Fellowship (2023). Grant Applied: $240,000.00.

Todd, J: >30 others from QUT, Griffith, University of Newcastle, Queensland Institute of Medican Research, Garvan Institute of Medical Research, University of Texas Rio Grande Valley, Genome Institute of Singapore, Genomic Research Centre. Grant Applied: $6,781,162.00. ARC Training Centre for Genomic Technologies Research and Innovation (GenTech).

Todd, J; Gepp, A. Health Services Research Grant (HCF Research Foundation). Grant Applied: $141,465.00.

Dr Rand Low - Qld government industry linkage grant (AI-CREST {Intelligence Credit Rating and ESG Scoring Tool}, 850k grant). The grant has been submitted between Bond University, Tactical Global Management ($40B fund manager), Australian Bond Exchange, and Virtual Watchman.

Dr Tim Hasso – CPA Australia - Generative Artificial Intelligence and the Future of Accounting - $35,000.00.

James Todd; Adrian Gepp. Health Services Research Grant (HCF Research Foundation). - $141,465.00.

Attachment 3: Centre-Aligned HDR Students

Family Name	First Given Name	Supervisor 1	Supervisor 2	Supervisor 3	Panel Additions
To	Hong	Terry O'Neil	Mike O'Neill (Ext)	Geoff Warren (Ext)	
Earea	Dean	Christopher Bilson	Bruce Vanstone (Hon)		
Raut	Sneha Harichandra	Simone Kelly	Adrian Gepp	Tim Hasso	
Ahmed	Tahera	Kuldeep Kumar	Ping Ling (Ext)		
Mills	Russell	Adrian Gepp	Kuldeep Kumar		
Horrocks	Mitchell	Adrian Gepp	Bruce Vanstone (Hon)		
Stone	Corey	Kuldeep Kumar	Ping Zhang (Ext)		
Van der Vegt	Braedan	Adrian Gepp	Justin Keough		
Schiller	Karin	Marcus Randall	Andrew Lewis (Ext)		
Tonkin	Isaac	Geoff Harris	Andrian Gepp	Bruce Vanstone	
Ramesh	Shietal	Rand Low	Bruce Vanstone (Hon)		
Novykov	Volodymyr	Adrian Gepp	Geoff Harris	Christopher Bilson	Bruce Vanstone
Lafleur	Clarisse	Tim Hasso	Francesco Barbera (Ext)		
Natalia	Erline	Simone Kelly	Christopher Bilson		
Nguyen	Thu Huong	Marcus Randall	Andrew Lewis (Ext)		
Panwar	Randeep	Kuldeep Kumar	Gulasekaran Rajaguru		
Hafenrichter	Dennis Leopold	Steve Stern	Dagmar Tomanek (ISM)	Gulasekaran Rajaguru	

De Ravin	John	Robert Faff	Rand Low		
Soh	Ricky	Rand Low	Robert Faff	Colette Southam	
Malik	Sadia	Sekar Rajaguru	Sadfar Khan (Ext)	Robert Wratthall	Alex Acheampong
Senescall	Michael	Rand Low	Robert Faff		
Ryan	Jason	Christopher Bilson	Sekar Rajaguru	Steve Stern	James Todd
Beiermann	Klaus	Rajat Roy	Kuldeep Kumar	Ralf Brickau (ISM)	
Lim	Sheryl	Sekar Rajaguru	Mike O'Neill (Ext)	Steve Stern	Robert Faff
Osborne	Phillip	Simone Kelly	David Gallagher		
Filler	Francis	Tim Hasso	Mark Brosnan		
Lawrence	Scott	Terry O'Neil	David Gallagher	James Todd	
Wessels	Twane	David Gallagher	James Todd	Mike O'Neill	
Abban	Olivier Joseph	Sekar Rajaguru	Alex Acheampong		
Antoniadou	Lucia	David Gallagher	James Todd		
Scott-Davies	Rhys	Adrian Gepp	Chris Bilson	Nikki Cornwell	