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Motivating postgrad research students to pitch their ideas: what have we learned from 'pitching research' competitions at UQ?

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**Motivating Postgrad Research Students to Pitch their Ideas:
What have we learned from “Pitching Research” Competitions at UQ?**

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Abstract

In each of 2015 and 2016, a “pitching research” competition was held at The University of Queensland, sponsored by the UQ Association of Postgraduate Students (UQuAPS). The UQuAPS events are truly comprehensive – they capture the full spectrum of academic discipline areas: from mining engineering to ... tourism to ... virology in 2015 and from human movements to ... chemistry to ... medicine in 2016. But what have we learned over these two editions? How can we make the 2017 event even bigger and better? Read on to find out!

Keywords: pitching research; new research ideas; pitching competition; template; research proposal; novice researcher; research mentor; Pitch Doctor

JEL classifications: G00; M00; B40; A20; B00; C00; D00; E00; F00; H00; I00; J00; L00; Q00; R00; Z00

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[#] denotes six UQ Summer Research Scholars (2016-17) working under the mentorship of Professor Faff.

1. Introduction

Academic researchers are (and have always been) under considerable pressure to publish in top tier journals. One of the consequential effects of this, is increased emphasis on the accelerated development of early career researchers. Workshops on publishing are commonplace across universities throughout Australia (and indeed globally) at Masters and PhD level. Yet, often these workshops fall short of their goal to instruct on the basic development and execution of a research idea.

The initial planning and scaffolding stage of a research idea is arguably the most crucial. Junior researchers often begin attempts at their own novel research without the skills to execute a logical, innovative and publishable project. Faff's (2015, 2017) "Pitching Research" (PR) initiative and the related stable of PR papers, aims to change this by equipping students with an effective 2-page (1,000 word) template tool, that is simple, methodical and comprehensive.^{1, 2}

Given the above context and as a companion to Faff (2015, 2017) and the related PR stable, the current paper outlines and explores insights from a "pitching research" competition aimed at PhD students enrolled at The University of Queensland (UQ). In each of 2015 and 2016, a "pitching research" competition was sponsored by the UQ Association of Postgraduate Students (UQuAPS). Notably, the UQuAPS event is truly comprehensive – it captures the full spectrum of academic discipline areas: from mechanical engineering to ...

¹ The full stable of pitching research papers comprises: Faff (2015, 2016a, 2016b, 2016c, 2017); Faff, Godfrey and Teng (2016); Faff, Ali, et al (2016); Faff, Carrick, Chen, Dallest, et al. (2017); Faff, Carrick, Chen, Escobar, Khong, Nguyen and Tunny (2017a and b); Faff and Kastle (2016); Faff, Li, Nguyen and Ye (2016); Faff, Wallin, et al (2016); Faff, Lay and Smith (2016); Teng and Faff (2017); Nguyen, Faff and Haq (2017)..

² In addition, there is a growing body of short papers that illustrate the application of the pitching template – so-called "pitching research letters" [PRLs]. The full set of such PRLs published to date are: (a) in *Journal of Accounting and Management Information Systems*: Ali (2016); Atif (2016); Beaumont (2015a, b); Brenner (2016); Ellis (2016); McKay and Haque (2016); Qureshi (2016); Rad (2016); Rahman (2016); Ratiu (2016); Ratiu (2015a, b); Rekker (2016); Shahzad (2016); Sivathaasan (2016); Unda (2015a, b); Wallin and Spry (2016) and Xue (2016) and (b) in the *Accounting Research Journal*: Lee and Turner (2017); Sinnewe (2017); Truong and Nguyen (2017); Zhang (2017).

tourism to ... virology in 2015 and from human movements to ... chemistry to ... medicine in 2016.³

The remainder of the paper is organised as follows. In the next section, a brief overview of the UQ pitching competition events is given. Section 3 then discusses the 2015 event, while Section 4 covers the 2016 event. Section 5 includes some reflections from the finalists themselves. Finally, Section 6 concludes.

2. General Structure of the Competitions

As clearly stated in the initial publicity announcement of the 2016 UQuAPS competition, reproduced in Figure 1, "... the core task requires the completion of a prescribed 2-page template – a template that provides a simple, methodical tool to confidently/succinctly “pitch” essential elements of a new research proposal to an academic expert i.e. to your PhD supervisor.” The competition is set up over several months within a calendar year framework, beginning (relatively early in the calendar year) with information sessions to explain the basic pitching concept, the rules of the competition and how the competition will evolve.

The main/general information session is run by the PitchDoctor (first author), possibly supplemented by other sessions run by faculty-based specialists/“champions”. A submission deadline is set allowing a window of around 3 months for eligible students to create their written pitches. A period of several weeks is then required to allow for the written pitches to be assessed and ranked within faculty groupings, so as to determine the Faculty Finalists. Having notified the finalists, the final event is decided in consultation with them for a mutually convenient time in the quieter period after all teaching has completed, in November.

³ Our paper legitimately involves the work of many co-authors – 25 in total. Apart from the PitchDoctor, we have: the competition winning finalists whose pitches are showcased in this paper; reflections from several of the other finalists; reflections from several PhD course attendees; and reflections from six UQ Summer Research Scholars. While a 25 co-authored paper is extreme, it is in no way anywhere near a record. There is recent publicity to a physics paper with > 5,000 co-authors in *Physics Research Letters* reporting on a more precise estimate of the size of the Higgs boson (see, Castelvecchi, 2015).

Each finalist is required to prepare a slide presentation, faithful to the pitching format, for delivery at the Final event in a confined number of minutes. The winners are determined and announced at the conclusion of the Final – based on a combined assessment of both the written and oral pitches. Significant prizemoney is offered to induce serious participation from the research higher degree cohorts.

Before looking at each edition of the competition separately, it is useful to highlight some key differences between the 2015 and 2016 events. These differences are summarised in Table 1. First, in terms of information sessions, the main/general information session is run by the PitchDoctor (first author) in both years, supplemented by other sessions run by faculty-based specialists/“champions” in 2016. Second, in terms of eligibility: in 2015 all research higher degree students enrolled at UQ were eligible, while in 2016 only pre-confirmation students enrolled can enter. Third, the submission delivery mechanism in 2015 was by Word document format delivered by email, while in 2016 a Web portal creation within dedicated competition area at “PitchMyResearch.com” is used. Fourth, prizes in 2015 are: 1st prize: \$1,500; Equal 2nd: \$750; other finalists: \$500 each, while in 2016 the prizes are scaled up considerably: 1st prize: \$3,000; 2nd prize: \$2,000; 3rd prize: \$1,000; people’s choice: \$1,000; other finalists: \$500 each. Fifth, the 2015 oral presentation guideline is 12-15 minutes for each finalist versus “8+2” minutes each in 2016. Finally, there were no formal written restrictions applied in 2015, whereas in 2016 a limit of 1,000 words + 10% was enforced by the web portal.

3. 2015 UQuAPS Pitching Competition

The inaugural Final of the UQuAPS Pitching Research competition was held on Wednesday 4th November 2015. As shown in Table 2 (Panel A), the finalists represent the following seven discipline areas: Tourism; Mining Engineering; Sociology; Education; Public Health; Virology and Food Science. The Overall Winner was Jon McCullough: “Numerical

simulation of heat transfer in confined particle suspensions: Thermo-rheological behaviour of hydraulic fracturing fluids”. Chelsea Gill and Zina Ndugwa were joint runners up.⁴ The pitches for each of these three competition winners are shown in Tables 3 to 5, respectively.⁵ Below we outline reflections from designated audience members, classified into “pros”, “cons” and suggested future directions.

3.1 The “pros”

3.1.1 General package of positives

“The presence of 100 plus audience, well organised facilities, and the follow up networking event add to the salience of the event. Incredible networking opportunities, improved self-confidence, prize money... how can you not get involved?” – Khuram Bhukari (PhD student).

3.1.2 Cross-pollination and networking

The interdisciplinary nature of the competition provided opportunities for cross-pollination of ideas that would not otherwise have occurred. Any event that brings together PhD students to talk about research should be encouraged; especially one that provides such effective cross-disciplinary tools to make it happen.

3.1.3 Applicable to all disciplines

Examining a potential research idea through the lens of the pitch template is a universal tool, one that “may be particularly useful for faculties that have less of a culture of encouraging their PhD students to present, or do not provide outlets for presentations such as a research colloquium” (Ann Wallin, student).

The competition was an effective demonstration of the power of the 2-page pitch template tool. While there is a considerable library of high quality pitches available online,

⁴ See the LinkedIn Post at: <http://bit.ly/29DA6is>

⁵ The 2015 UQuAPS pitching research competition final was video recorded and the YouTube addresses are as follows (the event introduction can be found at <https://www.youtube.com/watch?v=CQ6I6ejgy4c>):

1. Gill: <https://www.youtube.com/watch?v=aaYchX039Fs>
2. McCullough: <https://www.youtube.com/watch?v=yvgbX9oCIHo>
3. Eats: <https://www.youtube.com/watch?v=FICRGpu2P9M&feature=youtu.be>
4. Mahmud: <https://www.youtube.com/watch?v=czTkGJTWO2Y&feature=youtu.be>
5. Ndugwa: <https://www.youtube.com/watch?v=RPNfHUolx5c&feature=youtu.be>
6. Gorji: <https://www.youtube.com/watch?v=kBGEWPR1bUk&feature=youtu.be>
7. Noh: <https://www.youtube.com/watch?v=KoUWH2LRmUE>

many students found the presentation more engaging and were able to more fully understand the concept:

“Writing down ideas is an effective way of structuring thoughts and consequent communication. At the early stages of a research idea, filling out the pitch template greatly helps structure thoughts and helps to communicate your ideas effectively. However, communicating your ideas verbally adds another dimension to both the structuring of thoughts and effectiveness of communication. Not only does preparing a presentation allow you to express your ideas with more visuals to aid your ‘pitch’, it also further deepens your need to understand all aspects of your pitch in order to justify and convince your audience the value of the research idea you are pitching” – Saphira Rekker (PhD student).

“Listening to the presentation of each pitcher surely gives me more understanding on how to use the pitch template more effectively and efficiently than just reading a finished pitch template written by somebody” – Maggie Liu (PhD student).

3.1.4 Incentives

By providing a competitive outlet for pitch development with monetary rewards for the winner, “the incentives are increased to further enhance the quality of pitches presented” (Saphira Rekker, PhD student). By running an annual competition, students are actively encouraged to examine their proposed project through the lens of the pitching template.

3.1.5 Framework for PhD research and support for students

In tandem with the development of the Pitching Competition, Professor Faff has introduced a new research course, *Research Process in Business*, which provides active support for new PhD students within the UQ Business School.

“I found RBUS6914 to be a really helpful general skills course for PhD students” – Ann Wallin (PhD student).

“Normalising the use of the Pitch template as a way to think about and develop new projects among students is a good way to introduce the framework to the everyday research culture of the school” – Ann Wallin (PhD student).

3.2 The “Cons”

3.2.1 Audience attendance

Over 100 people attended the first Pitching Competition held at The University of Queensland, comprising academics, PhD, Masters and Honours students. Although an excellent turnout for the first event, some expected more considering the advertising push and quality of the pitch presentations.

“I was slightly disappointed to see the audience turnover; it was very low considering the scale of the project that was introduced university wide.” – Asma Qureshi (PhD student).

3.2.2 Judging criteria

Anonymous PhD student #1 voiced concern over the lack of clear judging criteria used by the panel of judges on the day of competition. PhD student Ann Wallin suggested the audience experience would have been improved with an “audience choice” award, in addition to the panel’s decision.

PhD student Hossein Rad voiced concerns that the competition judges may focus more on presentation style than substance. The pitch template is designed not for general consumption, but as a conversation tool between student and mentor (pitcher and pitchee), thus requiring a certain level of familiarity with the topic. This “conversation” aspect is difficult to replicate in a competition setting. In this light, PhD student Anonymous PhD student #2 recommends the addition of a Q&A session after each pitch presentation, to serve as the feedback component.

3.2.3 Confidentiality

Several students raised the issue of confidentiality – by airing a novel research idea in a large competition environment, poaching becomes an issue. This is especially true when the competition is filmed and the presentations made available online. However, such exposure is little different to what occurs at the confirmation milestone for PhD students already. Moreover, an “embargo” option is offered to all participants.

3.2.4 Time commitment

Students participating in the competition may spend more time than necessary on their pitch; time which may better be spent conducting the actual research. This possibility could be more relevant to students beyond the confirmation phase of their PhD study.

3.3 Suggested Future Directions

3.3.1 Faculty-based pitching streams

PhD student Saphira Rekker suggests the introduction of faculty/school-based clusters for pitch development. By creating discipline-specific groups, there is increased likelihood for finding interested co-authors and reduced risk of idea poaching.

“... the pitching template idea should be introduced formally in the form of a 2-unit course in other faculties. This, in turn, will allow active involvement of all faculties in the research process. Also, the research pitching process will become institutionalized” – Asma Oureshi (PhD student).

3.3.2 Academic-level pitching streams

In a similar vein, introducing pitching support for undergraduate, Honours, Masters and PhD level students would be beneficial. Each stream has unique requirements and would benefit enormously from a targeted pitching course or competition. The PhD course *Research in Business* at the UQ Business School is an excellent start to tackling this issue. Anonymous PhD student #1 PhD student learned new skills from this course that he thinks should be introduced even earlier.

Introducing the concept of the pitch template during the undergraduate research week would help spread the idea to students considering masters and PhD level study. PhD student Ann Wallin says this would help to distinguish the pitch template “from the outward and more community-focused 3MT.” She also suggests that a university-wide booklet could be prepared each year based on novel pitches submitted by students from all pitching streams, further encouraging student participation.

3.3.3 Industry linkages

Connecting early career researchers with potential industry partners and funding is another excellent potential use of the pitch template. Future Pitching Competitions could actively involve industry partners and academics Australia-wide. PhD student Asma Oureshi believes this could strengthen the unique utility of the pitch template.

3.3.4 Increased social media presence

Many students at the competition would have liked to see more advertising on social media, through outlets such as Facebook and Twitter. There is now a dedicated Pitching Research portal (www.pitchmyresearch.com) and facebook page for news updates and future events. PhD student Ann Wallin further recommended spreading the word about the Pitching initiative through PhD-targeted blogs such as the Thesis Whisperer and PhD2Published.⁶

4. 2016 UQuAPS Pitching Competition

Figures 1 and 2 show the initial publicity and later general information and timelines issued for the 2016 event. The second edition Final of the UQuAPS Pitching Research competition was held on Monday 28th November 2016. Table 2 (Panel B) shows the finalists coming from six UQ Schools: Business; Architecture; Human Movement and Nutrition Sciences; Education; Medicine; and Chemistry & Molecular Biosciences. The Overall Winner & People's Choice was Shari O'Brien (School of Human Movement and Nutrition Sciences): "Training to enhance neuromuscular control of the ankle in cerebral palsy". The second and third placed winners were Gabe Foley and Kathy Dallest.⁷ The pitches of each of these three competition winners are shown in Tables 6 to 8, respectively. Below we outline reflections from the event audience classified into "pros", "cons", other considerations and suggestions.

⁶ In fact, Professor Faff was interviewed for the Thesis Whisperer and the post was released in February 2016.

⁷ See the LinkedIn Post at: <http://bit.ly/2jM4fOa>

4.1 The “pros”

4.1.1 Invaluable experience for young research scholars

Attending the competition, the UQ Summer Research Scholars⁸ were impressed not only by the outstanding performance of the finalists but also by the usefulness of pitching research template in delivering research ideas to academic audiences.

“Being in the audience of UQUAPS 2016 Pitching Research Competition Final, I felt strongly motivated by the six presenters. As an upcoming graduate next July, I found all the presenters were so outstanding for not only could they conduct research in their areas of interest through heaps of writing work, but also they were excellent enough to stand in front of the audience as the finalists giving oral presentation to express their ideas fluently” - Jia Chen

“For me, it was really interesting to see the competition in real life because it’s definitely different listening to researchers speak about their projects than just reading their templates; and to see how everything actually worked, improved my understanding of the template as well” - Marisol Escobar

Overall, the competition provided attendees an excellent experience.

“The drinks/food afterwards, presentation format and overall time work harmoniously to create a fantastic afternoon” – William Tunny

4.1.2 Well-structured tool to organize research ideas

The competition highlighted the advantage of pitching research template in planning research ideas. Although those in the audience were not familiar with the research topics, they were still able to follow and catch the main idea of the research proposals thanks to the comprehensive structure of pitching research template.

“With the key parts of the template: motivation, “IDioTs” guide and the considerations concerned, I felt myself easily able to catch the ideas and understand the significance...” – Jia Chen

“By using the template, the research proposals were exposed in a really well-structured and planned manner and that, in a certain way, helped to communicate with the audience more efficiently” - Marisol Escobar

⁸ Robin Carrick, Angel Chen, Marisol Escobar, Bo Xuan Matthew Khong, Bao Nguyen and William Tunny.

4.1.3 Ideal preparation for excellent oral presentation

The pitching research template helped pitchers have clear structure in mind when delivering their oral presentations. More specifically, “when they prepared their speech, they could have a clue in mind with “3+2+1” elements, and it would be much easier for them to memorize everything when presented” (Jia Chen). Besides, the fact that the overall winner also won the “people’s choice” award might suggest that “the better prepared is the written pitch, the more efficiently the pitcher communicates with an academic audience” (Bao Hoang Nguyen). However, it is important to note that “while the skill of oral presentation was important, the underlying factor determining how good a pitch is, actually lies more in the value of the content” (Matthew Khong)

4.1.4 Common language for all research disciplines

Although topics presented came from various fields of research, they were well-organized by using the pitching template and effectively delivered to the academic audience. This fact supported the idea that the pitching template is adaptable to a wide range of research areas.

4.1.5 Suitable time frame

A shorter format in terms of time was applied this year in comparison to last year. It was generally argued to be more efficient.

“...8-10 minutes seems sufficient for utilising the template without skipping important parts” – Willian Tunny

“The timing choice for each pitch (8 + 2 minutes) was in alignment with the goal of keeping the event relatively brief” – Robin Carrick

“... “8+2” minutes is a proper time for me to have a general idea of what the research is about and naturally I would like to start a conversation with them if I doubt the feasibility. In other words, I think I could fully concentrate in the presentation during these “8+2” minutes, rather than getting a bit distracted if each presenter was giving around 15 minutes.” – Jia Chen

4.1.6 Benefit from thinking about “Other Considerations”

As stressed by Felix Orole:

“Moving forward, presenters were focused on future improvement and enhancement of their research by looking at ‘Other Considerations’. This is one aspect of the pitching template that presents a time for posing relevant reflections on how the research could be improved. Many of the presenters specified targeted journals and collaboration and future publications as some of the things they will look at in the future.”

But as Felix noted, several pitchers were struggling for time and oral coverage of this final section of the template suffered as a result.

4.2 The “cons”

4.2.1 Audience size

The number of attendees at this year’s Final event was less than expected. The timing of competition was claimed to be the main reason.

“Audience size was quite small for such a university-wide event as the pitching research competition” – Bao Hoang Nguyen

“It would have been great to have a larger turnout considering the quality of finalists and the opportunity to experience firsthand the depth and scope of research happening at the University of Queensland. Perhaps the date was a factor causing attendance, as the University of Queensland is fairly quiet during summer semester” - William Tunny

4.2.2 Judging criteria

With regard to the comments from the 2015 event, judging criteria were introduced; however, it possibly was not clear enough.

*“Existing criteria may be a bit too general. [**clarity, meaningfulness, effort, connectivity, starting a conversation**] (Bold showing what was requested for the audience to focus on). A possible solution to this would be to subdivide the 3 important criteria in to smaller sub-sections which an audience member can tick off on a sheet listing the criteria provided to them” – Robin Carrick*

4.3 Other considerations

4.3.1 Risk of people choice award

Some raised the concern that the people's choice voting has a weakness, since it is not purely from an academic perspective.

"I also consider that there is a certain risk involved in the "audience choice" award due to the fact that the contestants could well possibly invite their friends or family with the intention of winning said award." - Marisol Escobar

However, the negative side might not be significant and the people's choice award should be considered as an efficient marketing tool to promote the competition

"As for the people's choice prize, I do recommend to continue to use this method for it would be a great marketing tool to attract a bigger audience to come and support each pitcher, and also it could increase the popularity of the pitching template, which means more people especially the novice researchers could know its significance and use it by themselves in the foreseeable future" – Angel Chen

4.3.2 The challenge of a tight presentation time

For the 2015 competition, there was a maximum time of 15 minutes, while for this year's it was cut down to 10 minutes. Some of contestants struggled a bit to limit their oration to the time given because they focused more on the first part of the template (explaining their motivations for example) and also because they took too much time explaining terminology that wasn't fully necessary, as we're assuming presenting to an expert in the field.

4.4 Suggestions

4.4.1 Changing timing of the competition

It was suggested that the time of the competition should be moved earlier, out of the Summer holiday period, as many students are not on campus at this time.

4.4.2 Possible change to the competition's format

Bao Hoang Nguyen proposed a change to format of the competition as follows:

"The current format of the competition seemed not to fully reflect the main advantage of pitching research template which is an efficient and succinct tool to start a conversation between pitcher and busy/grumpy academic expert. Therefore, I suggest that it might be a good option if the format of the competition

could be changed to the 5 + 10 minute format. More specifically, the proposed format provides 5 minutes for a pitcher to pitch her/his research and 10 minutes for the actual conversation taking place between the pitcher and his/her targeted mentors. This format is expected to force pitchers to focus on core aspects of their research (due to limited presentation time) and more importantly to show academics audiences how efficient the pitching research template helps to enable a conversation between novice researchers and their prospective research mentors”

With a similar concern about the competition format, Robin Carrick suggested:

“There should be an intermission as to refresh the audience members’ minds. In my opinion, the current format gives the first few speakers an advantage of having extra audience attention as audience concentration will certainly waver during the latter half of over an hour of consecutive academic research pitches. Short intermission could possibly be held after 3 pitches”

“A Q&A session was not included for the sake of brevity. But a Q&A would be beneficial for the judges to help them make their decision regarding the top pitches. Moreover, it would also give those who are not comfortable presenting in front of a crowd another avenue to excel in; which addresses the heavy weighting toward those who are particularly strong with verbal presentations.”

Felix Orole also made a similar comment about the potential benefit of Q&A, though he suggested that the 10 minute limit for the oral pitch is too short.

4.4.3 Industry Linkages

It would be useful to invite R&D departments from related industries to attend the competition. This would help increase visibility of pitching research, as well as increasing opportunities to reach out for funding. However, the downside of copyright and intellectual property issues needs to be considered, which can be solved with a disclaimer and participation form.

4.4.4 Video Introduction

Instead of repeating the criteria for assessment, explore possibilities of a video that introduces past events, as well as the format of the PR without losing the human touch. Given the expectations that pitching research template always is attracting new researchers, it makes sense for a video introduction which can uniformly explain the pitching research methodology quickly and accurately.

4.4.5 Undergraduate course

Matthew Khong suggested that it would be beneficial to design pitching research course for undergrad students:

“Far-fetched, but possibility of PR or methodology of PR as an elective course for undergrads? Course will be expected to be well received by the target audience: potential honours, PhD students. Will be a good way to incentivise undergrads and achieve better results (e.g. poster pitching as part of course assignment etc) Considerations of doing so, would be aligning the timing of the various competitions. Might have to create one for the course itself (undergrad pitching competition), keeping in mind the availability of academics with vested interest”.

4.4.6 Promoting the competition

There are various marketing methods to advertise the competition across the University of Queensland as follows:

- Approach student societies with larger amounts of honours/postgraduate students.
- Posters in common study areas clearly displaying the top prizes.
- Approach faculties to send emails to students promoting the event and also to post the event details on their Facebook pages with large followings.

5. Reflections from the Finalists

The 2015 overall winner, Jon McCullough (Mining Engineering) feels that overall the:

“... competition is possibly too long (roughly 6 months from information session in May to UQ final in November). By contrast it is about 3.5 months in 3MT from initial call for participants at school level to the UQ final. This means that people forget about it/put it off/start ignoring it and ultimately do not participate (unfortunately)”

According to Siti Nur Diyana Mahmud, 2015 finalist (Education):

“The cues in the pitching template assist me to structure the research and also thinking about ‘how and ‘why’ question that matter to the research problem. Furthermore, the sections ‘what’s new?’ and ‘so what?’ are really helpful to trigger my thinking of the implications and significance of the research. However, qualitative research requires a broader and less restrictive concept of “design” than quantitative research. This is because the qualitative researcher may need to reconsider or modify any design decision during the study in response to new developments or to changes in some other aspect of the design. In my opinion, the pitching template is more suitable for quantitative research. However, the

pitching template also able to assist qualitative researchers to have an early overview of their study.”

As Lisa Daunt, 2016 finalist (Architecture) another qualitative research neatly put it:

“The idea of a short 2-page template to get the ball rolling (or rolling straighter and faster) towards my confirmation submission was appealing. It was not the competition so much, but the chance to use the template tool to aid discussion with my supervisors that appealed to me - this was how Jon also presented the template at the EAIT faculty RHD group briefing...”

Further, she stated that:

“attempting to fill out the detail of my doctoral research project against the template was initially about understanding the templates headings and guiding questions - specifically how these related to my topic and research type (Queensland post-war church buildings, architectural history, theory and criticism) - but every heading did have its purpose once I understood my topic’s potential better. The tasks of penning significance, aims, contribution and defining the key research question at first proved challenging, but attempting these then lead to the most fruitful conversations with my supervisors (especially my principal supervisor). These discussions brought to light bigger gaps in the topic area and how the research could contribute within a far wider field of architectural research (than I had thought it ever could when I embarked on PhD), which proved most valuable (to my project and my confirmation submission). Less time was spent on the methodology and tools headings, as these are not so much unique to the field (to architectural history research). The template text was also my starting point for my confirmation submission’s research proposal. With the bigger picture worked through with my supervisors using the template (initially), I was able to relatively efficiently work through the finer details of the proposal (e.g. chapter outlines and an abstract for each).”

A 2016 finalist (Tourism) Nazila Babakhani, had an interesting, quite fruitful and novel strategy:

“Students’ brainstorming was such a massive help for me during writing the “pitching”. I decided to join a round table discussion among BIS students, mentored by one professor and one lecturer. They had informal meetings every week, but in that time specifically around the “pitching”. During three to four sessions we discussed “pitching”, starting from explaining each pitching template section to providing examples for each one. Finally, every one wrote her own pitch to share with other students. Those sessions were also very helpful for me in terms of understanding pitch template sections and what I am expected to put in each section. After, receiving several feedbacks I finalised my written pitch.”

Nazila also proposed a few interesting suggestions for future editions of the competition:

Before the competition:

- Providing some informal sessions where previous contestants talk about their experience.
- Setting informal round tables for new competitors for writing the “pitch” would be also helpful because they following the same path and can share their ideas more effectively.

During the competition:

- Possibly reduce the time to 5 minutes each to cut unnecessary details such as literature.
- Encourage contestants to make their presentation as simple as possible.
- Move the timetable for competition a bit backward, so students are less busy, which would also increase the number of attendees.

Tran Le, a finalist from Education in 2016, states:

“... The submission template has proved to be useful in framing my research, and giving me a clear overall picture of what I should include in my writing. When getting lost in the literature, or wandering away from the original ideas, I kept asking myself: Can this be a piece of my research puzzle? What’s new and worthwhile about this? Does this help my research outcome become more practical or scalable? The questions from the template serve as a red thread guiding my intervention design and methodology refinement. So my project evolves, as does my competition entry.”

“... And what differentiates Pitching research from other competitions is the follow-up activities. It was such a pleasure to know the external expert and examiner of the competition wanted to have a chat with me about my project (needless to say how enlightening the talk was!). And the catch-up meeting with Robert and other finalists, as well as ideas and opportunities arising from the competition and meetings. I’m truly grateful for my learnings, and experience from the competition. And, of course, a big YES to the question whether a PhD student should enter future Pitching competitions”

6. Conclusion

In each of 2015 and 2016, a “pitching research” competition was sponsored by the UQ Association of Postgraduate Students (UQuAPS), aimed at PhD students enrolled at the University of Queensland (UQ). Notably, the UQuAPS event is truly comprehensive – it captures the full spectrum of academic discipline areas: from mechanical engineering to ... tourism to ... virology in 2015 and from human movements to ... chemistry to ... medicine in 2016. As a companion to Faff (2015, 2017) and the related “PR” stable, the current paper outlines and explores insights gained from running this “pitching research” competition. These insights will not only inform improvements in future editions of this competition at UQ, but also provide valuable information for others who might like to emulate this experience at their university.

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Table 1: Major Contrasting Elements of UQuAPS Competitions 2015 vs. 2016

	Element	2015 Competition	2016 Competition
1	Information sessions	General only, run by the PitchDoctor	General session run by the PitchDoctor, supplemented by faculty/school specific sessions run by designated “champions”.*
2	Eligibility	All research higher degree students enrolled at UQ	Pre-confirmation higher degree students enrolled at UQ only
3	Submission delivery mechanism	Word document format delivered by email	Web portal creation within dedicated competition area at “PitchMyResearch.com”
4	Prizes	1 st prize: \$1,500; Equal 2 nd : \$750; Other finalists: \$500 each	1 st prize: \$3,000; 2 nd prize: \$2,000; 3 rd prize: \$1,000; people’s choice: \$1,000; Other finalists: \$500 each
5	Oral presentation	12-15 minutes for each finalist	“8+2” minutes for each finalists
6	Written restrictions	No formal restriction applied	1,000 words + 10% limit

* champions recruited from the 2015 finalists.

Table 2: Finalists for 2015 and 2016 UQuAPS Pitching Research Competitions

Faculty/ Institute	Pitcher's Name	Discipline	Pitch Title
Panel A: 2015 Finalist Summary			
BEL	Chelsea Gill	Tourism	Exploring the role of corporate retreats in restoring directed attention
EAIT	Jon McCullough	Mining Engineering	Numerical simulation of heat transfer in confined particle suspensions: Thermo-rheological behaviour of hydraulic fracturing fluids
HABS	Jae-Eun Noh	Sociology	From a normative discourse to contextualised practices: A case study of a Human Rights-Based Approach (HRBA) in Bangladesh
HASS	Siti Nur Diyana Mahmud	Education	Systems Thinking Approach to Education for Sustainability: A Case Study of University Kebangsaan Malaysia
MABS	Nakazinga Ndugwa	Public Health	How to strengthen psycho-social Early Childhood Development (ECD) in Uganda's public health systems
QAAFI Science	Patricia Eats Sara Ghorbani Gorji	Virology Food Science	De-mystifying the Dark Art of in vitro culture of bovine respiratory tissues Development of a microencapsulation technique for fortification of hydrophobic functional components using complex coacervation in acidic beverages
Panel B: 2016 Finalist Summary			
BEL	Nazila Babakhani	Tourism	Usefulness of psychophysiological measures for sustainable tourism
EAIT	Lisa Daunt	Architecture	Communities of Faith: Modern church architecture in Queensland 1950-1980
HABS	Shari O'Brien	Human Movement	Training to enhance neuromuscular control of the ankle in cerebral palsy
HASS	Tran Le Nghi	Education	Mobile learning and professional development pronunciation training for in-service teachers of English at Vietnamese provincial universities: A design-based research study
MABS	Kathy Dallest	Medicine	Improving Telehealth value propositions for sustainability: development of a decision tool to aid health services and consumers
Science	Gabriel Foley	Chemistry	Leveraging uncertainty in ancestral sequence reconstruction using partial order graphs

Faculty/ Institute Legend

BEL	Faculty of Business, Economics and Law
EAIT	Engineering, Architecture & Information Technology
HABS	Health and Behavioural Sciences
HASS	Faculty of Humanities and Social Sciences
MABS	Faculty of Medicine and Biomedical Sciences (now Medicine)
QAAFI	Queensland Alliance for Agriculture and Food Innovation
Science	Faculty of Science

Table 3: UQuAPs 2015 Winning Pitch
Internet Appendix A46: Mining Engineering

Pitcher's Name	Jon McCullough	FoR category	Mining Engineering	Date Completed	23 July 2015
(A) Working Title	Numerical simulation of heat transfer in confined particle suspensions: Thermo-rheological behaviour of hydraulic fracturing fluids				
(B) Basic Research Question	How can the effect of heat transfer on the physical behaviour of particle suspensions such as hydraulic fracturing fluids be better resolved and understood?				
(C) Key paper(s)	Feng, Y., Han, K. and Owen, D., <i>Advances in computational modelling of multi-physics in particle-fluid systems</i> , in: E. Onate, R. Owen (eds.), Particle Based Methods, vol. 25 of Computational Methods in Applied Sciences, Springer, Netherlands, 2011, pp. 51-88, doi: 10.1007/978-94-007-0735-1_2 Hashemi, Z., Abouali, O. and Kamali, R. (2014), Three dimensional thermal Lattice Boltzmann simulation of heating/cooling spheres falling in a Newtonian liquid, <i>International Journal of Thermal Sciences</i> , 82, 23 – 33, doi: 10.1016/j.ijthermalsci.2014.03.008				
(D) Motivation/Puzzle	A considerable portion of the world's oil and gas reserves are stored in underground reservoirs of low porosity. Here stimulation techniques such as hydraulic fracturing (or 'fracking') are usually necessary to facilitate the economic extraction of the resource. Improved understanding of the physical mechanisms and phenomena occurring within this process however is necessary to improve its performance both environmentally, socially and economically. Modelling of such systems requires capturing the physics of a number of interacting behaviours such as viscous fluid flow, particle collisions, fluid-solid interactions, heat transfer mechanisms and varying geometry. Combining these considerations with sufficient accuracy, stability and efficiency is an ongoing research challenge in numerical modelling.				
THREE	Three core aspects of any empirical research project i.e. the "IDioTs" guide				
(E) Idea?	<p>The behaviour of hydraulic fracturing fluids is inherently complex due to the geometry of a fracture, the heating of the fluid by the reservoir and its nature as a suspension of solid particles within the fluid. With hydraulic fracturing operations occurring up to 4km underground it is difficult to obtain experimental data on how the fluid behaves and thus to optimise the process. An alternative approach to improving understanding of its behaviour is necessary.</p> <p>By design, continuum based numerical models solve the macroscopic variables of a system by dividing the solution domain into multiple small regions and averaging system behaviour in each of them. This approach cannot resolve features of the system that occur at length scales less than the finite cell dimensions used. On the other hand, the full resolution of the molecular interactions of a system becomes intractable for practically sized systems due to the large number of particles needing to be resolved. Direct numerical simulation techniques like the lattice Boltzmann method (LBM) and discrete element method (DEM) provide options to develop models that can capture fluid and solid interactions from a mesoscopic perspective that can minimise the need to adapt to the restrictions imposed by continuum or molecular modelling. Development of a numerical model within an LBM-DEM framework would enable physical flow behaviours of a hydraulic fracturing fluid to be better understood. The result of this would be tailored operations with existing and new formulations that minimise impacts such as pumping time, operational scope and running costs.</p>				
(F) Data?	<ul style="list-style-type: none"> - Numerical data generated by running simulations under a range of conditions for test geometry, input conditions and fracturing fluid formulation. This will occur for both the validation and verification of model components and detailed fracturing fluid investigations. - Post-processing of data likely to be done with <i>Paraview</i>, <i>MS Excel</i> and <i>Matlab/Python</i> - Validation and verification of numerical model against classical/analytically tractable layouts for each component (particularly Poiseuille flows in 2D and 3D channels/pipes). Comparison against relevant experimental data would be ideal if such information can be obtained. - Storage of data will need to be managed carefully. Even a simple simulation can easily generate gigabytes worth of information of which only a small subset may actually be of interest. Make use of existing IT hardware to store important analysed data. - Data, both analysed and raw, will need a formal framework of the associated metadata to explain what was trying to be done with each trial, the input variables, the version of the model for later review and understanding. - Output information of interest would include: velocity and temperature flow profiles, heat transfer between fluid and solid surfaces, particle migration behaviour and rheological measures (e.g. effective viscosity resulting from particle presence and heat transfer). 				
(G) Tools?	Physical apparatus necessary includes code development and post-processing software (available as open-source or through UQ IT/EAIT agreements), storage space and back-up for active and archival data, desktop computer hardware (for small simulations and code development) and access to supervisor's server (large simulations).				

TWO	Two key questions
(H) What's New?	The individual numerical components of LBM and DEM outlined in this proposal aren't new (including their combinations to varying extents) and nor is the numerical modelling of the hydraulic fracturing process. However, the development of a direct numerical model harnessing the strengths of a thermal LBM coupled to DEM to resolve a wide range of physical behaviours would combine the separate facets of existing knowledge in a more detailed manner and be an improvement on current literature. The particular application to the flow of hydraulic fracturing fluids is a further novel aspect of this research.
(I) So What?	The hydraulic fracturing process has many opponents, particularly on environmental grounds. Better understanding of the flow mechanisms of hydraulic fracturing would aid in developing operational strategies that can alleviate these concerns. Reducing the external impact of bore sites (such as through minimising the number of bores used for a reservoir and their operational time) while still enabling the economic extraction of hydrocarbon resources could be a tangible benefit of this research.
ONE	One bottom line
(J) Contribution?	The development of a numerical model within a LBM-DEM framework that can directly resolve a wider variety of thermodynamic, hydrodynamic and rheological behaviours relevant to confined particle suspensions than is achieved with existing methodologies.
(K) Other Considerations	<p>Collaboration – Supervisor has contacts with experts in the modelling of particulate systems in both UK and USA. Leveraging of these to optimise the development of the model would be desirable. There are a number of researchers within the School of Mechanical and Mining Engineering with interest and expertise in the numerical modelling of heat transfer in fluids from a 'conventional' modelling perspective. There would be potential to take advantage of their knowledge for both model development and comparison between techniques. Sourcing of experimental data to compare to numerical results would also necessitate some collaboration.</p> <p>Target Journals – <i>International Journal of Heat and Mass Transfer</i> or <i>Granular Matter</i> for initial papers depending on whether the work in the paper is focused more on heat transfer methods (IJHMT) or particle behaviours (GM). These are both A-level journals on the Australian Research Council's 'Excellence in Research for Australia' list. <i>Journal of Computational Physics</i> or <i>Computer Methods in Applied Mechanics and Engineering</i> as target A*-level journals for more significant papers produced towards the end of candidature. Such journal levels and time-frames have been seen to be met by other engineering PhD candidates.</p> <p>Risks: No Result – LOW: There is sufficient literature on the respective components to provide suitable background towards development of a complete model. The application of such a model to hydraulic fracturing would still yield informative results.</p> <p>Competitor – MODERATE: The development and application of LBM and DEM techniques is ongoing, widespread and, at times, obscure. There are some existing models that capture features of what is desired here but none (to current knowledge) that capture all of them. The ongoing development and scope of these models is unknown. It is thought that the application of such a model to hydraulic fracturing context would be novel.</p> <p>Obsolescence – LOW: Focus of project is largely the development of the model rather than its direct application to hydraulic fracturing, as such the ongoing debate over the use of such stimulation techniques is of reduced concern. Particle suspensions are also relevant to a wide variety of scientific and engineering disciplines meaning the model would be useful in other fields.</p> <p>Scope – Taking advantage of existing numerical frameworks (both from supervisor's previous research and open-source resources) reduces the potential to be over-ambitious in the aspects being developed in the model.</p>

Table 4: UQuAPs 2015 Equal Runner-Up#1 Pitch**Internet Appendix A48 Public Health****A48.1 Illustrative Pitch Template Example in early childhood development**

Pitcher's Name	Nakazinga (Zina) Ndugwa	FoR category	Public Health	Date Completed	11 Nov 2015
(A) Working Title	Psycho-social Early Childhood Development (ECD) and public health: a health systems approach.				
(B) Basic Research Question	What are the public health system requirements to adequately address psycho-social ECD? What is the capacity of Uganda's health systems to meet these psycho-social ECD requirements?				
(C) Key paper(s)	Walker, S. P., Wachs, T. D., Grantham-McGregor, S., Black, M. M., Nelson, C. A., Huffman, S. L.,... Richter, L. (2011). Inequality in early childhood: risk and protective factors for early child development. <i>The Lancet</i> , 378(9799), 1325-1338. doi: 10.1016/S0140-6736(11)60555-2 Engle, P. L., Black, M. M., Behrman, J. R., Cabral de Mello, M., Gertler, P. J., Kapiriri, L., . . . Young, M. E. (2007). Strategies to avoid the loss of developmental potential in more than 200 million children in the developing world. <i>The Lancet</i> , 369(9557), 229-242. doi: 10.1016/S0140-6736(07)60112-3 World Health Organization (WHO) & United Nations Children's Fund (UNICEF). (2012). <i>Care for Child Development: improving the care for young children</i> . Geneva, Switzerland.				
(D) Motivation/Puzzle	It has been estimated that 200 million children aged 0-5 years in Sub-Saharan Africa and South East Asia were not reaching their development potential; this was predicted to create a 20% loss of adult productivity during the later stages of life ¹ . What is concerning is 25% of children in Low and Middle Income Countries (LMICs) were exposed to psycho-social risk factors such as poor stimulation, lack of learning opportunities, parent unresponsiveness, and parental inability to understand infant behaviour ² . Each of these risk factors have been linked to caregiving practices, and can be prevented using simple public health initiatives like responsive parenting programs. Public healthcare systems have the capacity and potential to reach thousands of children between the ages of 0-5 years. As children and their caregivers access essential child health services, public healthcare systems have been identified as a key access point for ensuring caregivers are made aware of the best ways to support child development. So given the above, how can we maximise this to improve psycho-social ECD in LMICs? Accordingly the aim of this PhD is to explore how responsive and stimulative caregiving can be universally encouraged across an LMIC public healthcare system.				
THREE	Three core aspects of any empirical research project i.e. the "IDioTs" guide				
(E) Idea?	ECD has been recognised as a crucial part of human development trajectories and wellbeing. During the early years of life, responsive and stimulative caregiving interventions, have shown higher levels of cognitive functioning and, improved social behaviour, education outcomes and economic benefits amongst children and adults who received increased or greater amounts of stimulation from their caregivers. Using Uganda as an LMIC context, this PhD will explore how Uganda's public health systems can consolidate psycho-social ECD, through the support and scale up of stimulating and responsive caregiving practices at its Maternal and Child Health (MCH) services. The WHO/UNICEF Care for Child Development (CCD) intervention and the Health System Strengthening Building Blocks will be used to explore the governance and service delivery elements of MCH services and, articulate how governance, finance, service delivery, health workforce, health technology and health information capacities can be strengthened in efforts to improve psycho-social ECD.				
(F) Data?	The country research setting will be Uganda and the following data sources will be used; content analysis; key informant interviews; focus groups; and observational data collection at MCH services. A content analysis of the WHO/UNICEF CCD intervention against the six Health System Building Blocks will be used to define the minimum health systems requirements for psycho-social ECD and, to				

1. Grantham-McGergor S, Cheung YB, Cueto, S., , Glewwe P, Richter L, Strupp B. Development Potential in the first 5 years for children in developing countries. *The International Child Development Steering Group. The Lancet*. 2007;369(9555):60-70.

2. Walker SP, Wachs TD, Meeks Gardner J, Lozoff B, Wasserman GA, Pollitt E, et al. Child development: risk factors for adverse outcomes in developing countries. *The Lancet*. 2007;369(9556):145-57.

	develop a psycho-social ECD health systems framework. An additional content analysis of MCH government policies and strategies will be done to develop a narrative on Uganda's MCH and ECD priorities. To understand the public health governance and service delivery realities key informant interviews, focus groups and observational data collection will occur in Uganda. Using theoretical, purposive and venue based sampling, 20-60 MCH healthcare professionals will be recruited to partake in semi-structured interviews or focus groups. The observational data collection will occur at immunisation clinic and will include facility audits and observations of maternal and child healthcare interactions. This will involve physically observing and record healthcare facility resources and, the interactions between a health worker and mother/caregiver. The triangulation of data from the various sources will assist with the validity and representation of psycho-social ECD in Uganda's health system, however it may not guarantee completeness. Further research on maternal behaviours and multisector engagement will be required but this will be beyond the research scope.
(G) Tools?	The research frameworks and methodologies will incorporate qualitative tools of analysis. Thematic analysis and analytical memo writing will be used to conceptual code and categorise key themes, link and map codes and themes with key concepts and develop analytical reports. A qualitative thematic analysis will be employed to develop a psycho-social ECD framework tool using the WHO/UNICEF CCD intervention package and the Health Systems Strengthening Building Blocks. This will provide a comprehensive understanding of what key requirements are needed for health systems to adequately support the psycho-social elements of ECD. The framework will then be used to: 1) thematically code and analyse the data collected from the interviews, focus groups and observational data; 2) based on the findings assess Uganda's capabilities and capacities and; 3) develop recommendations. Data triangulation will use the content analysis, interviews, focus groups, and observations to provide a comprehensive picture of the governance and service delivery aspects of psycho- social ECD and public health in Uganda and ensure data validity.
TWO	Two key questions
(H) What's New?	The novelty of this research is making psycho-social ECD interventions equitably available to all children. This will be achieved by exploring how to apply current psycho-social ECD best practice into an LMIC country setting and, explicitly addressing what would be required to enable health systems to adequately support psycho-social development during the early years of life.
(I) So What?	The potential that caregiving and mother-child interactions have on improving psycho-social development and wellbeing needs to be maximised through public health systems. Using a holistic health systems approach to consolidate psycho-social ECD in LMICs health systems, can ensure it reaches millions of children and provides good foundations for psycho-social and socioeconomic development. Furthermore this can enable country or national gains with links to reductions in intergenerational poverty, improvements to socioeconomic outcomes and increased adult productivity.
ONE	One bottom line
(J) Contribution?	A LMIC health systems approach that supports the scale up of Care for Child Development, to enable every child to reach their psycho-social development potential.
(K) Other Considerations	Collaborations: Collaborations between Ugandan government agencies and health services will be vital to this research, accordingly stakeholder engagement and relationship building will be a crucial part of the data collection and analysis. Target Journal: It is anticipated that the research will be relevant to the WHO Bulletin (A grade) and Health Policy and Planning (B grade) journals. Risk: The nature of the research makes it a low risk because it will be dealing with experts and publicly available data. There is no foreseeable added risk above the risks of everyday living. There is currently limited literature addressing what is required to scale up psycho-social ECD in LMIC health systems and no direct completion has been identified. Scope: Whilst the scope is dynamic it's ideal and feasible, however key aspects will depend on participant and organisation involvement which can be unpredictable.

Table 5: UQuAPs 2015 Equal Runner-Up#2 Pitch

Internet Appendix A49: Corporate Tourism

Pitcher's Name	Chelsea Gill	FoR category	Tourism	Date Completed	June 2015
(A) Working Title	Exploring the role of corporate retreats in restoring directed attention				
(B) Basic Research Question	a) What activities and experiences at a corporate retreat lead to restorative outcomes b) What impacts on the restorative benefits being maintained back in the workplace?				
(C) Key paper(s)	Kaplan, S. (1995). The restorative benefit of nature: toward an integrative framework. <i>Journal of Environmental Psychology</i> , 15, 168-182. Ouellette, P., Kaplan, R., & Kaplan, S. (2005). The monastery as a restorative environment. <i>Journal of Environmental Psychology</i> , 25(2), 175-188.				
(D) Motivation/Puzzle	The capacity of employees to focus attention on work tasks is becoming progressively endangered and diminished due to information overload and increased competing demands. As focusing attention is crucial in order for employees to be able to perform tasks competently, organisations have a responsibility to intervene and restore, not merely deplete, this resource. Otherwise, mental fatigue or organisational ADD (attention deficit disorder) may prevail. Research into Workplace Health interventions focus mainly on aspects of general wellbeing and do not address the issue of mental fatigue. Given that corporate retreats are quite common, this research explores how such an environment could function as a restorative intervention within the workplace.				
THREE	Three core aspects of any empirical research project i.e. the “ IDioTs ” guide				
(E) Idea?	This project will explore how a corporate retreat can function as a restorative intervention and improve employees' mental wellbeing. Attention Restoration Theory, which posits that restorative environments effectively replenish fatigued cognitive faculties, will provide the theoretical framework to shape the research. This research will identify the specific activities and experiences that lead to restorative outcomes at a corporate retreat, as well as what factors influence the duration of restorative benefits being maintained once employees are back at the workplace.				
(F) Data?	The research site will consist of one Australian law firm which has their own purpose-built corporate retreat centre (located away from the workplace). Five-day retreats are held most weeks of the year. 150 participants will be sought to complete this research. A mixed methods research approach will be used in a two-phase study. Qualitative and quantitative data will be collected via diary entries completed each night for the duration of the retreat by retreat participants, along with a follow-up online questionnaire one month after returning to the workplace. The use of diaries will be explained to participants via a youtube video (where the researcher will briefly explain the research and what is asked of participants) – this will be shown at the start of the retreat. Diaries will be distributed at the start of retreat and collected at the conclusion of retreat by the retreat manager on-site. One month after the retreat, participants will receive an email with the link to the on-line follow-up questionnaire. Potential issues with the diary data collection method are that it is self-reported, subjective and may potentially result in incomplete responses. However, the benefits of participants recording the effect of each day's activities and experiences far outweigh the potential drawbacks.				
(G) Tools?	Attention Restoration Theory will influence the research design for this project. Diary template and survey instruments will be created based on the literature review. Statistical analysis of quantitative data and thematic analysis of qualitative data will follow.				

TWO	Two key questions
(H) What's New?	The novelty of this research is the application of Attention Restoration Theory in a new context – a corporate retreat setting. The diary templates and survey instruments will be developed specifically for this context. This research will also contribute to literature on workplace health interventions by exploring an avenue to specifically target mental fatigue.
(I) So What?	Understanding how to effectively restore mental fatigue will ensure organisations support their staff in performing their job roles more efficiently and effectively. This will enable an organisation to potentially maximise the benefits of something they already do (a corporate retreat) for both the organisation and the employees. An organisation's success or failure will depend on its ability to not only understand and manage attention in employees but also restore this significant, intangible and endangered resource. The findings from this research will identify the specific activities and experiences that a corporate retreat should offer in order to promote attention restoration. In addition to presenting an effective design for restorative corporate retreats, insights into how to maximise the longevity of the retreats' restorative benefits once employees are back in the workplace will also be given. These findings will enhance the value and justification of corporate retreats.
ONE	One bottom line
(J) Contribution?	The primary contribution of this research is to apply Attention Restoration Theory in a new context and identify the specific activities and experiences of a corporate retreat that lead to attention restoration.
(K) Other Considerations	Collaboration with the organisation providing the context for this research is critical. Target Journals: visitor experience, organisational management/psychology journals, environmental psychology journals There is a low risk of no result, though it is possible that minimal restorative outcomes resulting from the corporate retreat are found. There is a low risk of competitors undertaking this research first, as there has been no research into corporate retreats, though research into wellness and spiritual retreats is a growing area. Ethics approval will be sought before any field research is undertaken.

Table 6: UQuAPs 2016 Winning Pitch
Shari O'Brien, School of Human Movements and Nutrition Sciences

RESEARCH PITCH: Template modified from Faff, Robert W., Pitching Research, SSRN 246059 (11 Jan 2015) <http://PitchMyResearch.com>

(A) Working Title	Training to enhance neuromuscular control of the ankle in cerebral palsy.
(B) Basic Research Question	Does active movement training improve neuromuscular control of the ankle in cerebral palsy and transfer to functional tasks?
(C) Key paper(s)	<p>Ekblom, M. M. (2010). "Improvements in dynamic plantar flexor strength after resistance training are associated with increased voluntary activation and V-to-M ratio." <i>J Appl Physiol</i> (1985) 109(1): 19-26.</p> <p>Kirk, H., et al. (2016). "Explosive resistance training increases rate of force development in ankle dorsiflexors and gait function in adults with cerebral palsy." <i>J Strength Cond Res</i>.</p> <p>Willerslev-Olsen, M., et al. (2015). "Gait training facilitates central drive to ankle dorsiflexors in children with cerebral palsy." <i>Brain</i> 138(Pt 3): 589-603.</p>
(D) Motivation / Puzzle	Cerebral palsy is a neurological condition resulting in motor impairment which is pronounced at the extremities i.e. ankle/wrist and affects functional movements including walking. The neural mechanisms behind this poor control are unknown and difficult to assess due to the nervous systems complexity. Previous work has focused on training interventions for enhancing muscle size and strength, not how muscles are controlled by the brain and nerves. We know the brain is capable of learning in those without neurological conditions, can individuals with cerebral palsy learn to improve neuromuscular control of the ankle and will this lead to walking improvements?
THREE	Three core aspects of any empirical research project i.e. the "IDioTs" guide
(E) Idea	A novel training intervention based on motor learning principles will be implemented where participants are required to move their ankle to trace a pre-determined path shown on a screen using custom built equipment. This differs from other training interventions which use commercial gym equipment to perform resistance exercises or walking protocols which focus solely on strength gains or whole body movements and may not maximise the potential improvement in neural control at individual joints. It is hypothesised that active movement training (requiring voluntary muscular effort) will improve ankle position control and joint movement accuracy. It will then be explored whether improvements on an isolated task illicit favourable changes in the biomechanics of walking. It is hypothesised that the training intervention will lead to increases in ankle power production and the ability to lift the toes while walking.
(F) Data	Data will be collected from participant's pre and post intervention at the University. Outcome measures will include diagnosis, anthropometry (height and weight), ankle range of motion, neuromuscular assessments by recording electrical muscle activity (electromyography), dynamic ankle strength, ankle movement accuracy and functional measures (3D biomechanical analysis of walking, 10m walk speed, timed up stairs). Sample size: 10 in each group (n=20).
(G) Tools	Experimental design (2 groups: intervention and control). Custom training equipment has been designed and will be built. All testing equipment and

	software is on site and the researcher has experience performing the assessment measures. Recruitment will be sort primarily through a register to distribute information to the target population.
TWO	Two key questions
(H) What's New?	<ol style="list-style-type: none"> 1. Use of a novel training task using active movements (requiring voluntary muscular contractions as opposed to other methods of electrical stimulation or passive movement) which is specific to the muscle control required to perform the target functional activity of walking. 2. A combination of neural assessments will be performed to provide a greater understanding of potential neural mechanisms responsible for intervention outcomes (previous studies use a variety of measures, each in isolation which limits conclusion about neural adaptations).
(I) So What?	Due to a neural disruption around the time of birth, individuals with cerebral palsy have impaired movements affecting their function and independence. This already reduced function often worsens with age and results in greater reliance on assistance and healthcare. The ability to move effectively is vital for independence in the home and community. This study will provide crucial information on how this type of novel training could maintain or improve neural function in cerebral palsy. If successful there is potential for it to be integrated into traditional rehabilitation practices, used all throughout the lifespan and within other neurological conditions.
ONE	One bottom line
(J) Contribution?	Positive outcomes may contribute to the development of effective and targeted rehabilitation protocols which can be implemented all throughout life (children and adults) to improve neuromuscular control and therefore function in individuals with cerebral palsy.
(K) Other Considerations	<p>Collaborations will be formed with gyms and rehabilitation clinics in order to run the intervention in various locations to increase the accessibility of the intervention and aid recruitment.</p> <p>Risk assessment:</p> <p>"Risk to participants" - low for all assessments and training protocol, safety procedures and precautions will be in place.</p> <p>"No result" - low, a result is expected due to the nature of the training task and given what is known about the principles of learning in humans.</p> <p>"Obsolescence" - low to nil due to the minimal data published regarding neural function in cerebral palsy and a continuing need for exercise guidelines and effective rehabilitation protocols which can be implemented by allied health professionals.</p>

Table 7: UQuAPs 2016 Runner-Up Pitch
Gabe Foley, School of Chemistry and Molecular Biosciences

RESEARCH PITCH: Template modified from Faff, Robert W., Pitching Research, SSRN 246059 (11 Jan 2015) <http://PitchMyResearch.com>

(A) Working Title	Leveraging uncertainty in ancestral sequence reconstruction using partial order graphs.
(B) Basic Research Question	Can we link individual amino acid predictions together to help rank ancestral proteins and improve our ability to engineer novel proteins?
(C) Key paper(s)	<p>Bar-Rogovsky, H. et al. Assessing the prediction fidelity of ancestral reconstruction by a library approach. <i>Protein Engineering, Design and Selection</i> 28, 507-518 (2015).</p> <p>Löytynoja, A., Vilella, A. J. & Goldman, N. Accurate extension of multiple sequence alignments using a phylogeny-aware graph algorithm. <i>Bioinformatics</i> 28, 1684-1691 (2012).</p>
(D) Motivation / Puzzle	<p>We can already predict the ancestors of protein sequences and use these predictions to get a head start on which amino acid positions to mutate in order to engineer new proteins. However, the number of potential ancestors to explore quickly becomes impossible to experimentally investigate in a lab and we are forced to synthesise only a small number of potential variants.</p> <p>Instead, we could use computer-based models to better inform which positions to mutate and to rank the variants based on their probabilities. This means we could tailor the actual synthesis towards proteins identified as likely to be able to function.</p>
THREE	Three core aspects of any empirical research project i.e. the "IDioTs" guide
(E) Idea	<p>Pharmaceutical companies target existing proteins with desirable functions and attempt to improve their ability to be used on a mass scale. One way of doing this is to predict the ancestral sequence that a set of proteins evolved from. This identifies the key amino acids that must be retained and the amino acids that can be mutated to create novel proteins.</p> <p>Three problems exist with this workflow - 1) We often predict ancestors with individual positions of equally likely amino acid probabilities - leading to lots of potential ancestral variants, 2) Attempting to experimentally create lots of ancestor variants means we are forced to sample only a tiny set of the ancestral space, and 3) Current methods typically consider amino acid sites independently, when we know that amino acid sites do not evolve independently.</p> <p>The idea being proposed is that when we have ancestor variants we don't sample them in a laboratory but first screen them computationally. And to rank the variants we link the predictions of individual amino acids together.</p> <p>As we align protein sequences to construct the ancestral sequence, we create a partial order alignment graph representing the probabilities of moving from each amino acid at one position to each amino acid at any subsequent position. Rather than creating a single template with possible variable sites, we use this model to generate a large-scale number of predictions - mimicking the protein synthesis stage normally performed in the physical world.</p> <p>We use the results of this analysis to inform us of amino acid pairs that we rarely</p>

	see in the existing data and limit our protein synthesis to common variants more likely to be functional.
(F) Data	<p>Data to be used are publicly available protein sequences that have been hand-curated to ensure sampling from a wide range of species. Starting with proteins from the cytochrome P450 families, due to the expert knowledge possessed by collaborators and to pre-existing relationships with partners interested in their industrial applications.</p> <p>There will likely be issues with trying to align the proteins in a way that best represents their shared history while capturing enough diversity so that our ancestral variants exhibit novel functions.</p> <p>Testing of methods is to be performed on simulated data from existing open source benchmarking libraries such as BAliBase 3. Experimental validation will be by performing protein synthesis on the identified set of likely variants.</p>
(G) Tools	<p>The primary tool is to be constructed within this project - a probabilistic graphical model capable of aligning sequences and generating libraries of potential ancestors.</p> <p>Alignment of protein sequences will occur by extending existing Hidden Markov Model alignment frameworks for aligning partial order graphs. Various methods for graph sampling are to be investigated. Theory is well documented but will take considerable time to implement. All of the software to implement and test the tool are open source and available.</p> <p>The tool will be coded in Java with a graphical user interface in JavaScript developed concurrently.</p>
TWO	Two key questions
(H) What's New?	<p>The simple piece of additional information in the probabilities linking amino acids allows us to create graphs that let us generate and rank huge sets of potential proteins.</p> <p>We can visualise this as the overlapping of three areas - Ancestral reconstruction, linking probabilities using graphical models, and using computational models to generate large sets of data. The intersection of these areas represents the novelty in this idea.</p>
(I) So What?	<p>Pharmaceutical companies are interested in cytochrome P450 proteins as they are the key enzymes in drug metabolism - responsible for about 75% of clinical drug metabolism.</p> <p>This idea would have massive run on effects for cost effectiveness of drug manufacturing. We know that ancestral reconstruction is capable of working, but if we can improve the success rate of proteins that actually fold we can save significant amounts of time and money.</p>
ONE	One bottom line
(J) Contribution?	A novel method of generating and ranking large libraries of potential ancestors packaged in a tool with a graphical user interface to allow users to easily perform this analysis.
	There is an existing collaboration between my bioinformatics lab and a biochemistry lab knowledgeable about cytochrome P450s and capable of

synthesising and assessing protein function.

(K) Other Considerations

The most recent paper (Bar-Rogovsky et al., 2015) discussing ancestral libraries was published in Protein Engineering, Design and Selection. The most recent partial order graph application (Loytynjoja & Goldman, 2012) was published in the higher impact-factor journal Bioinformatics. Given the novel nature of the current work, these journals are reasonable lower and upper bounds.

There is a risk that this method doesn't deliver substantially better predictive power. We can mitigate the chance of failure by applying the underlying models to other areas within bioinformatics. A tool that takes sets of linked predictions and generates and ranks potential arrangements would be useful in areas such as mapping sequence reads to genomes.

The project is substantial and the modularisation of ideas and the ability to apply the concepts in other research domains means we can dynamically focus or expand the scope as the project progresses.

Table 8: UQuAPs 2016 Third-placed Pitch**Kathy Dallest, School of Medicine**RESEARCH PITCH: Template modified from Faff, Robert W., Pitching Research, SSRN 246059 (11 Jan 2015) <http://PitchMyResearch.com>

(A) Working Title	Improving Telehealth value propositions for sustainability: development of a decision tool to aid health services and consumers.
(B) Basic Research Question	How is telehealth value co-created by consumers, clinicians, health service managers and other stakeholders?
(C) Key paper(s)	<p>Frow, P., McColl-Kennedy, J. R., & Payne, A. (2016). Co-creation practices: Their role in shaping a health care ecosystem. <i>Industrial Marketing Management</i> doi:10.1016/j.indmarman.2016.03.007</p> <p>Kyratsis, Y., Ahmad, R., Hatzaras, K., Iwami, M., & Holmes, A. (2014). Health Services and Delivery Research Making sense of evidence in management decisions: the role of research-based knowledge on innovation adoption and implementation in health care. Southampton (UK): NIHR Journals Library</p> <p>McLean, S., Sheikh, A., Cresswell, K., Nurmatov, U., Mukherjee, M., Hemmi, A., & Pagliari, C. (2013). The Impact of Telehealthcare on the Quality and Safety of Care: A Systematic Overview. <i>PLoS ONE</i>, 8(8), e71238. doi:10.1371/journal.pone.007123</p>
(D) Motivation / Puzzle	Telehealth, the use of information and communications technology to deliver health care, is identified as a key enabler of improved health outcomes through timely access to appropriate services. Innovative telehealth in Australia occurs in isolation and mainstream uptake is slow. Health services literature identify barriers to uptake and sustainability are linked to uncertainty about the risks and benefits in complex highly diverse socio-technical environments with multiple stakeholders. There is a gap however in the literature about how various views on value are reconciled into an acceptable value proposition that supports a decision for a new telehealth service. This project aims to address this gap.
THREE	Three core aspects of any empirical research project i.e. the "IDioTs" guide
(E) Idea	<p>The aim of this research study is to develop a decision tool to help health professionals, consumers and health service managers co-create telehealth value propositions. Sustainable telehealth implies that the service is of value to all stakeholders. A better understanding of how that value is realised and the factors that have an impact on success will enable the right factors to be included in the decision tool to support improvement. The context for this project will be teledermatology with applicability to other health care settings. This thesis builds on theories and empirical evidence from service science, diffusion of innovation in healthcare and value co-creation in the context of telehealth innovation and implementation. Evidence from teledermatology will feature in the application of the study's concepts and outcomes.</p> <p>Central hypothesis: Health services that use consistent methods and tools to co-create value propositions are more successful at implementing innovative telehealth solutions.</p>
	<p>Both qualitative and quantitative data will be generated in Australian health services.</p> <p>The Princess Alexandra Hospital (PAH, Brisbane) Dermatology department has incorporated teledermatology into standard clinical practice with referrals from all over the state enabling people in rural areas to access expert dermatology specialists. Phase 1. Study participants will be sourced from this service to include, clinicians, consumers and health service managers from the PAH and remote sites site subject to ethics approval from UQ and Queensland Health Research Ethics Committee (HREC). The sample period will be 2016-2017.</p>

(F) Data	<p>Informants will be asked about their perceptions of value, risk and benefit, about telehealth service decision making practices they have been involved in and what types of information and evidence have been used. Data will be generated from transcribed semi-structured informant interviews and thematic analysis conducted.</p> <p>Phase 2. Analyses from phase 1 will be triangulated with findings from the literature review and the policy discourse analysis to identify factors and constructs to be incorporated into the candidate decision tool.</p> <p>Phase 3. The candidate decision tool will be pilot tested with participants recruited from the PAH Telehealth Centre and remote clinical services subject to ethics approval. Exploratory factor analysis will be conducted to test construct validity. External content validity of the tool will be tested with a delphi panel.</p> <p>Data: a) constructs and unit level concepts extracted from literature review; b) content data extracted from telehealth policy and guidelines; c) qualitative data from semi-structured interviews, document analysis, observation of meetings; d) survey data collected in the developed tool.</p>
(G) Tools	<p>A pragmatic exploratory sequential mixed methods approach will be used. To identify the most relevant characteristics to examine and include in the tool a number of research methods will be used: a) content analysis, b) discourse analysis, c) descriptive and inferential analyses, d) content, construct and face validity. Statistical analysis techniques will depend on the volume and nature of data and may possibly be either multivariate regression analysis or factor analysis. Statistical expertise input will be sought at the time.</p> <p>Software applications: NVivo, Excel, SPSS.</p>
TWO	Two key questions
(H) What's New?	<p>The novelty of this project is the development of a decision tool to help improve the value propositions of telehealth services and contribute to sustainable service change. Its development is informed by knowledge from service sciences, diffusion of innovation in healthcare, value co-creation, to be applied in telehealth and is designed to be of practical use in real world healthcare settings.</p>
(I) So What?	<p>An understanding of the processes, structures and relationships that surround the creation of telehealth value propositions by multiple stakeholders will lead to a better understanding of decision making challenges in telehealth innovation. This can identify ways to overcome difficulties to improve jointly created value propositions leading to more sustainable telehealth services and potential reduction of the negative effects of unsustainable trials, projects and pilots.</p>
ONE	One bottom line
(J) Contribution?	<p>An increased understanding of how multiple health professionals, consumers and health service managers co-create value and craft value propositions in telehealth; what processes they use, what perspectives they adopt, how they relate to others and how they adapt.</p>
(K) Other Considerations	<p>Target journals: Journal of Medical Internet Research, Implementation science, Journal of Telehealth and Telecare, BMC Health Services Research, Journal of Service Research</p> <p>Collaboration: UQ Business School, senior clinicians and service managers in public and private sector, telehealth service managers, clinicians, consumer groups</p> <p>Risk: low, no competing protocols registered and gaps exist in the literature</p> <p>Ethics: low or negligible risk HREC.</p>

Figure 1: Initial Publicity Announcement of 2016 UQuAPS Competition

ANNOUNCEMENT
Calling all Pre-confirmation UQ RHD Students
UQUAPS 2016 “Pitching Research”
Competition

ALL pre-confirmation RHD students at UQ are invited to participate in a university-wide pitching research competition in 2016. This event builds on the great success of the inaugural UQUAPS Pitching Research Competition held in 2015.⁹ Specifically, the core task requires the completion of a prescribed 2-page template – a template that provides a simple, methodical tool to confidently/succinctly “pitch” essential elements of a new research proposal to an academic expert i.e. to your PhD supervisor. For an explanation of the pitching template and its use, see the SSRN paper “Pitching Research” [Faff (2015)].¹⁰

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2462059

➤ **Information Sessions**

Information sessions will be held for prospective participants sometime in the period **March-April 2016**.

➤ **Submission Deadline**

The submission deadline will be set sometime in **July-August 2016**.

➤ **Competition Final**

As was the case last year, it is envisaged that the FINAL will comprise 7 pitchers: one finalist from each faculty, as well as one representing the UQ Institutes. The FINAL will be held in **October-November 2016**.

➤ **Prizes**

A total prize pool of up to **\$10,000** is available, subject to the volume of submissions received. The WINNING Pitcher stands to win a prize of up to **\$5,000**, subject to the volume of submissions received. The competition is proudly sponsored by the UQ Business School.

➤ **Further Information and Enquiries**

Please look out for information updates with specific details, broadcast on social media throughout the year. For any clarifications or queries regarding the competition, please email Professor Faff directly: r.faff@business.uq.edu.au

⁹ The UQAPS Pitch booklet commemorating the 2015 FINAL can be found in an online appendix under “U” - UQAPS 2015 Pitching Competition (A67) at:

<http://www.business.uq.edu.au/supplementary-material-pitching-research#faff-u>

¹⁰ NB: when on a UQ university campus, downloading can be problematic due to firewall restrictions. Alternatively, downloading from off campus should work easily by using this link.

Figure 2: Announcement of 2016 UQuAPS Competition – General Information & Timelines

UQUAPS 2016 “Pitching Research” Competition General Information & Timelines

Background

Following on from the great success of its [inaugural edition in 2015](#) ([click here for 2015 Pitch Booklet, Appendix A67](#)), Professor Robert Faff (UQ Business School) is once again co-ordinating a “Pitching Research” competition for UQUAPS in 2016.

For further context to the competition, in 2015:

Overall winner:

Jon McCullough (EAIT): “[Numerical simulation of heat transfer in confined particle suspensions: Thermo-rheological behaviour of hydraulic fracturing fluids](#) (“Mining Engineering” Appendix A46)”

Equal Runners up:

Chelsea Gill (BEL): “[Exploring the role of corporate retreats in restoring directed attention](#) (“Corporate Tourism” Appendix A49)”

Nakazinga Ndugwa (MABS): “[How to strengthen psycho-social Early Childhood Development \(ECD\) in Uganda’s public health systems](#) (“Public Health” Appendix A48)”

YouTube Video URLs for 2015 Final:

1. Gill: <https://www.youtube.com/watch?v=aaYchX039Fs>
2. McCullough: <https://www.youtube.com/watch?v=yvvgbX9oCIHo>
3. Eats: <https://www.youtube.com/watch?v=FICRGpu2P9M&feature=youtu.be>
4. Mahmud: <https://www.youtube.com/watch?v=czTkGJTWO2Y&feature=youtu.be>
5. Ndugwa: <https://www.youtube.com/watch?v=RPNfHUolx5c&feature=youtu.be>
6. Gorji: <https://www.youtube.com/watch?v=kBGEWPR1bUk&feature=youtu.be>
7. Noh: <https://www.youtube.com/watch?v=KoUWH2LRmUE>

Eligibility

This year, the competition is open to **ALL pre-confirmation** research students enrolled at UQ (eligibility determined by student status as at the time of the **opening** date for submissions, see below).

(1) Important Dates

- **Information Session (recording available:** <https://youtu.be/B6N98r6J-pw>)
 - **Date/time:** 2pm Friday 13 May, 2016
 - **Venue:** Social Sciences Building 24-S304
- **Opening of Pitch Submissions:** Friday 1 July, 2016 (via PitchMyResearch.com)
- **Pitch Submission Deadline:** Monday 12 September, 2016 12 noon
- **Finalist Decision Notification:** Monday 10 October, 2016
- **FINAL:** Wednesday 2 November, 2016 (details to be confirmed)

(2) Prizemoney

The **UQ Business School** has generously agreed to sponsor a total prize pool of up to **\$10,000** (depending on the quality/quantity of submissions).

- Overall Winner stands to win a prize of (up to) **\$5,000** (minimum \$3,000) based exclusively on **written** submission quality.
- One “people’s choice” award of **\$1,000** will be based on **oral** presentation at the final.
- More details will be publicised later in the year.

(3) Submission To Competition

All entries into the competition must be made via the web portal:

PitchMyResearch.com

The first step is to register as a user, then click on the button “pitching competitions” and follow the instructions.

(4) Further Enquiries

For any clarifications or queries regarding the pitch competition requirements, please email Professor Faff directly: UQUAPS2016.pitching@business.uq.edu.au